

**IMPROVEMENT OF FARM INCOME THROUGH SUNFLOWER  
PRODUCTION BY KIBIHU FARMERS' GROUP IN MBUGUNI, ARUMERU  
DISTRICT**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT FOR THE  
REQUIREMENTS OF THE DEGREE OF MASTER OF COMMUNITY  
ECONOMIC DEVELOPMENT OF THE OPEN UNIVERSTY OF  
TANZANIA**

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**CERTIFICATION**

The undersigned specifies that he has read and hereby recommends for the acceptance by the Open University of Tanzania a project entitled; "Improvement of farm income through sunflower production by Kibihu farmers' group in Mbuguni, Arumeru district" in partial fulfilment for the requirements of the degree of Master of Community Economic Development of the Open University of Tanzania.

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## ABSTRACT

This project reports improvement of farm income through sunflower production by Kibihu farmers' group in Mbuguni, Arumeru district. The project was selected after conducting community needs assessments (CNA) with members of MVIKIHO as the stakeholder of agriculture in Arumeru and Kibihu farmers' group in Mbuguni village in Arumeru district. The most important need identified from CNA exercise was to have an alternative on-farm source of income. CNA finding shows that most of the farmers were getting their income from only vegetable crops produced under contract farming. This situation meant there was no reliable rotational crop to be planted during available short rainy season and hence results into dependence on only vegetables as source of income. Considering the weather condition in Mbuguni area and the current situation of income sources a project to introduce and improve sunflower production was selected. Currently farmers who plant sunflower are not reaping the best possible yields because they don't have improved seeds varieties and they lack required best agronomic practices. The community needs assessment was conducted by using a participatory approach to make sure that, the project is implemented, owned and sustained by Kibihu farmers' group in Meru District. The researcher used interviews with group members, meetings with group leaders and one focus group discussion with key informants. These approaches were used to ensure successful collection of required information and thereafter enable implementation of the selected project. The project aims to expand and improve source of income of KIBIHU, as the farmers rely on contract farming only. Successful implementation of this project will ensure income for beneficiaries and encourage the expansion of small industries as will produce raw materials too.

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### LIST OF ABBREVIATIONS

ARIs	Agricultural Research Institutions
BOT	Bank of Tanzania
CNA	Community Need assessment
FAO	Food and Agriculture Organization
MCED	Masters of community economic development
MVIKIHO	Muungano wa Vikundi Kilimo cha Horticulture
MAFSC	Ministry of Agriculture, Food Security and Cooperatives
MALF	Ministry of Agriculture, Livestock and Fisheries
MITI	Ministry of Industries, Trade and Investment
NSGRP	National Strategy for Growth and Reduction of Poverty
SACCOs	Savings and Credit Co-Operative Society
SIDO	Small Industries Development Organization
SMEs	Small and medium-sized enterprises
TBS	Tanzania Bureau of Standards
TFDA	Tanzania Food and Drugs Authority
TEMDO	Tanzania Engineering and Manufacturing Design Organization
TIRDO	Tanzania Industrial Research and Development Organization
URT	United Republic of Tanzania
UNIDO	United Nations Industrial Development Organization
VICOBA	Village community bank

## **CHAPTER ONE**

### **PARTICIPATORY NEEDS ASSESSMENT**

#### **1.1 Background Information**

This study focus on improvement of farm income through introduction of sunflower production, and the group that will take the project is KIBIHU farmers in Mbuguni, Arumeru district. The project aims to expand and improve source of income of KIBIHU, as the farmers rely on contract farming only. Successful implementation of this project will ensure not only income for beneficiaries, but will encourage the expansion of small industries as will produce raw materials too.

Project will equip farmers and other community stakeholders on different soft skills such as best farming skills, marketing skills and farming entrepreneurship techniques through different capacity building sessions, the aim is to make the farmers and the community ready to own and run their own local projects. In this project community needs assessment was conducted to help the community identifying their major need and come up with the project on how to fulfill the need. The community needs assessment was conducted by using a participatory approach to make sure that, the project is implemented, owned and sustained by Kibihu farmersø group in Meru District. The methods and tools used to collect information are described well in this chapter and all the findings of the study in different forms including text, tables, bars and figures.

#### **1.2 Community Profile**

Kibihu farmers group is a registered farmersø group conducting entrepreneurial farming and livestock keeping activities. This group is in Mbuguni village in

Mbuguni ward Arumeru District in Arusha region. As a compliance of accordance for the requirement of all registered group, Kibihu farmers group has chairman, vice chairman, secretary, treasurer and has an office in Mbuguni. Therefore all major decisions of Kibihu farmers group are done through the general meeting.

The general meeting is normally held twice a year and must be attended by at least half of active members. Execution of decisions of general meeting is through four separate committees of which each have been assigned different responsibilities. These committees are Management committee, financial committee, production committee and committee for water and infrastructure. The centre of operations is at Mbuguni village which is located in the Southern part of Mt. Meru and is about 35 kilometers from Arusha town.

### **1.2.1 Demographic Features**

Kibihu farmers group has 137 active members. Among these members 79 are men and 58 are women. All these members are living in Mbuguni village and are currently actively engaged in farming activities; for the implementation of the project will sample only 40 farmers.

### **1.2.2 Ethnicity**

The most dominant tribe in Mbuguni village is Wameru who are the native residents of this area. Almost everyone in this community is a Christian of different denominations. Due to economic activities there are very few immigrants from neighboring wards and others from Kilimanjaro regions.

### 1.2.3 Economic Activities

Members of Kibihu farmers group are involved in contract farming for fine beans, green beans, chilies, baby corn and purple passions which are exported to Europe. In this project the focus crop will be sunflower. Considering the weather condition in Mbuguni area sunflower is performing very well. Currently farmers who plant sunflower are growing it conventionally whereby they intercrop it with other crops. Other crops which are also produced by members of Kibihu farmers group are tomatoes, onions, beans and early maturing maize varieties.



**Figure 1.1: Crops Cultivated by Members of Kibihu Farmers' Group**

**Source:** Survey Findings 2018

### 1.2.4 Organization and Management of day to day Activities

For the successful implementation of this project, Kibihu farmers group was selected as a host group. Kibihu farmers group is the one which will conduct all day to day activities of this project. This farmers group has been selected because of its capacity as it has been registered, have constitution, very strong leadership and an office at Mbuguni village. The management of Kibihu farmers group includes chairman and vice chairman who are the overseers and coordinators of all activities. Also the group has the secretary whose responsibility is to document and keep



records of all activities and the treasurer who is managing all financial issues. In order to increase its efficiency this farmers group has employed a manager whose major task is to make sure that the group is managed as a business enterprise. Also the group has an agronomist who helps member farmers to apply best agronomic practices in their farms.

### **1.2.5 Cultural Factors**

Kibihu farmers group is dominated by Wameru and few Wachaga. Because of the fact that the requirement to become a member is to have a capacity to manage at least 2 acres of baby corn, chili or green beans all members are small scale and medium scale farmers. This means that members have common values hence they have similar expectations to the project.

### **1.2.6 Critical Issues and Problems**

The most critical issue of members of Kibihu farmers group is to improve their income by having an alternative high value crop to rotate with other crops that they already have on contract farming. Another issue is food insecurity which is a result of inadequate local staple food production. This is because most Kibihu farmers group members are not involved much on production of maize or rice. The reason for not growing these crops is because there is no enough rains in Mbuguni area so these crop will have to be planted on farms which can be irrigated and the problem is that these farms would have more return if they are used to produce high valued crops.

## **1.3 Community Needs Assessment**

The community needs assessment (CNA) was conducted by using a participatory

approach. The researcher used interviews with group members, meetings with group leaders and one focus group discussion with key informants. These approaches were used to ensure successful collection of required information and thereafter enable implementation of the selected project. The aforementioned created the sense of project's ownership to members of Kibihu farmers' group which promises its sustainability.

The assessment focused on community socioeconomic welfare in order to identify important community needs through community needs prioritization. During this assessment available resources were identified. Then activities that will properly utilize these resources to improve income of selected community were ranked. Methods and tools used to collect information are described well in this chapter.

### **1.3.1 Objectives of Community Need Assessment (CNA)**

This section presents main objective and specific objective of conducting community need assessment to a selected community.

#### **1.3.1.1 Main Objective**

The overall objective of conducting community needs assessment was increase farm income by improving sunflower production to Kibihu farmers' group in Mbuguni, Arumeru district.

#### **1.3.1.2 Specific Objectives CNA**

- i. To describe the characteristics of Kibihu farmers' group.
- ii. To assess the livelihood of Kibihu farmers' group.

- iii. To identify important needs of Kibihu farmers' group and come up with the project to address the number one identified need.

### **1.3.2 Community Needs Assessment Questions**

In order to achieve the above objectives, the study was guided by the following questions:

- i. What are the characteristics of Kibihu farmers' group?
- ii. How is the livelihood of Kibihu farmers' group?
- iii. Which are the important needs of Kibihu farmers' group?

### **1.3.3 Community Needs Assessment Methodology**

This part describes the study design, sampling techniques, data collection methods and tools used. The study methodology also explains how the collected information was analyzed, the tools used to analyze the collected data and the presentation of the data. The researcher uses methods which helped collection of data in a quickest way and also consider the condition and situation of respondents during conducting CNA. After data collection, analysis was done using SPSS.

#### **1.3.3.1 Research Design**

This was a participatory and descriptive research that collected quantitative and qualitative information. Information was gathered from members of Kibihu farmers' group community. Primary data were collected from the targeted group which was 40 members of Kibihu farmers' group who have sunflower in their farms. The main data collection tool was a survey questionnaire and was complemented by focus group discussion and observation. Information gathered described the group and

identify what was the best project to be implemented.

### **1.3.3.2 Sampling Technique**

The sample population was based on Kibihu farmers' group in Meru district Arusha. The sampling frame was the member of Kibihu farmers group who have sunflower in their farms. The sample techniques used was purposive sampling which enable to get a sample size of 40 farmers. Purposive sampling technique was selected to enable the researcher to deal with only the targeted group. The sample was obtained by the help of the management of Kibihu farmers group. Questionnaires were distributed to the selected sample by the help of the manager and the agronomist of Kibihu farmers group. All questionnaires were filled and returned.

### **1.3.3.3 Data Collection Methods and Tools**

The methods used to collect information were survey questionnaire, focus group discussion and observation. For the survey questionnaire, a semi-structured questionnaire consisting of closed-ended and very few open-ended questions was used. The questionnaire was pre-tested before the actual exercise and corrections were made accordingly. The Focus Group Discussion was based on some guiding questions while the interviews used an interview schedule. Also as a part of community need assessment process the researcher collected information through observation method. By the use of this method the researcher observed socio-economic activities conducted by members of the project's community. The researcher specifically observed field activities related to sunflower production to justify viability of the project.

The researcher also collected information through documents review method. Through this method, information from different journals, books, pamphlets, previous researches and project reports were reviewed. Also the researcher collected some information from Kibihu farmers' group documents such as their constitution, members' registers and weather record book.

#### **1.3.3.4 Data Analysis Methods**

Data analysis exercise was both quantitative and qualitative. Primary data were analyzed by using the method of descriptive statistics. Descriptive statistics for survey includes frequencies and percentages. Collected data from structured questionnaires were verified and coded prior to analysis. Analysis was done by using Statistical Package for Social Sciences (SPSS). The software was selected because it helps to save time and provide clear frequencies and percentages, which supported the researcher to interpret correctly the collected information. Thereafter, frequency tables were generated for each variable of interest in response to the research questions.

#### **1.4 CNA Findings**

Through CNA process through the use of questionnaires the researcher managed to get information about group members' personal particulars and general views on various issues regarding economic development. Then from the Focus Group discussions with various stakeholders the researcher had an opportunity to get additional information which helps to enlarge the researcher's knowledge about the selected community and their needs. Therefore the findings of community needs assessment were as follows;

### 1.4.1 Description of the Characteristics of Kibihu Farmers' Group Community

This part will give information about distribution of respondents by different groups or categories including gender, age, marital status, and educational level. The distribution in these categories has implications on the implementation of the project chosen by the participants since they are also related to various realities of the country.

#### 1.4.1.1 Age of Respondents

Age is very important attribute in any community project like this because it is the sign of maturity and understanding. Research findings show that about 10.7% are above 45 years, this group together with the help of group leaders will help much in consult other group members, 58.0% of the Kibihu farmers aged between 20 and 30, this year is very energetic and fast, all of them are committed to work for the successfulness of the project.

**Table 1.1: Age of Respondents**

	Age	Frequency	Valid Percent	Cumulative Percent
	20 - 30	23	58.0	58.0
	31 - 45	13	31.3	89.3
	Above 45	4	10.7	100.0
	Total	40	100.0	

Source: Field Findings 2018

#### 1.4.1.2 Sex of Respondents

Gender interaction in any community works brings most positive results different from only single gender. Findings shows that 58.3% are male and 41.7% are females this ration will play a big role in the implementation of the project through

empowering each gender

**Table 1.2: Sex of Respondents**

		Frequency	Valid Percent	Cumulative Percent
	Male	23	58.3	58.3
	Female	17	41.7	100.0
	Total	40	100.0	

**Source:** Field Findings 2018

#### 1.4.1.3 Marital Status

The findings shows that 56% of the Kibihu members are married, which means they have a big population of people with responsibility as most of them have families and dependents. Other groups of single, divorced and widow, have their own needs too and those need depends on the income, so this project will improve their income situations.

**Table 1.3: Marital Status**

		Frequency	Valid Percent	Cumulative Percent
	Single	7	18.3	18.3
	Married	22	56.0	74.3
	Divorced	9	23.3	97.6
	Widow/widower	2	2.4	100.0
	Total	40	100.0	

**Source:** Field Findings 2018

#### 1.4.1.4 Education Level

Literacy level in Kibihu farmers is very low, this is because most of the members have informal kind of education and very few have formal agriculture based education. However this is one of the reasons why Kibihu farmersø group grows, because they put together formal and informal education plus the experience during

their planning and actions. 69.7% of farmers have secondary education, and most of them learn agriculture in their secondary schools which also help them mostly in their contract farming, their knowledge and experience will help in the implementation of the project

**Table 1.4: Education Level**

	Frequency	Valid Percent	Cumulative Percent
Primary education	6	13.3	13.3
Secondary education	26	69.7	83.0
Tertiary education	5	10.0	93.0
No formal education	3	7.0	100.0
Total	40	100.0	

**Source:** Field Findings 2018

#### 1.4.1.5. Level of Income

**Table 1.5: Level of Income**

	Frequency	Valid Percent	Cumulative Percent
Below 100,000	1	6.0	6.0
Between 100,000 - 150,000	32	79.7	85.7
Above 150,000	7	14.3	100.0
Total	40	100.0	

**Source:** Field Findings 2018

Every member in Kibihu generates income, as all of them are farmers and they are in contracts with hotels and others organizations. This factor is very helpful in production implementation because many farmers group always looking for the fund to fund their projects but Kibihu they just need idea to harvest. 79.7% of the Kibihu earns between 100,000 and 150,000 per week only in high season and the same range per month during low season. Only 14.3% of farmers earn more than 150,000 during high season and the same amount per month during low season.



#### 1.4.1.6. Important Need

From Focus Group Discussing and survey, it was revealed that all concerns for Kibihu farmers group members are related to capacity building on entrepreneurship agriculture, Sunflower farming, lack of farming incentives and access to funds. 83.4% of Kibihu farmers prove that their important need in income diversification is Sunflower production, because it will help them generate more income than before without affecting their contract farming.

6.7% of kibihu members say that farming incentives and capacity building is very important too, and we are starting implement the project will makes sure farm incentives are available and capacity building on agriculture entrepreneurship too, so that to make the group sustainable. Only 3.2% of the farmers need fund/capital to improve their income, this project will teach farmers how to generate income, save and use it wisely for betterment of their own community projects.

**Table 1.6: Important Need**

	Frequency	Valid Percent	Cumulative Percent
Sunflower farming	30	83.4	83.3
Access to fund	2	3.2	86.7
Farming incentives	4	6.7	93.3
Capacity building	4	6.7	100.0
Total	40	100.0	

Source: Field Findings 2018

#### 1.4.2. Community Needs Prioritization

Focus group discussion aiming at identifying and making clarifications of needs identified and then ranking then accordingly. Discussion was first oriented on findings of the survey where it was reported that Kibihu farmers have interest on sunflower farming, farming incentives and capacity building so that to improve

production process different from other producers. After ideas and analysis of the needs by showing its importance, it has been decided to compare needs one by one in a pair wise matrix to enable ranking them. The ranking in the pair wise matrix gave results as summarized in following table:

**Table 1.7: Pair Wise Matrix**

	<b>Capacity building</b>	<b>Access to funds</b>	<b>Farming incentives</b>	<b>Sunflower production</b>	<b>Score</b>	<b>Rank</b>
Capacity building		Capacity building	Farming incentives	Sunflower production	3	2 <sup>nd</sup>
Access to funds	Capacity building		Access to funds	Sunflower production	1	4 <sup>th</sup>
Farming incentives	Capacity building	Farming incentives		Farming incentives	2	3 <sup>rd</sup>
Sunflower production	Sunflower production	Sunflower production	Sunflower production		4	1 <sup>st</sup>

**Source:** Field Findings 2018

### 1.5. Conclusion

The needs assessment conducted in Meru District has used a participatory research to identify important needs of the community for the community. Different methods were used to assist the community to identify main need and suggested measures to address the existing need. The needs assessment carries out using a survey which was accompanied by a structured questionnaire and interview for key formats which come up with the major need of the community as sunflower production, capacity building, farming incentive and access of funds. After analysis and assessment of four major needs which were identified in the Focus Group Discussion, it was pointed out that the priority for Kibihu farmers' group was to diversify their income through improved sunflower production which will help to generate more income followed by other needs which are farming incentives, capacity building and access to fund.

## **CHAPTER TWO**

### **PROBLEM IDENTIFICATION**

#### **2.1 Background of Research Problem**

Agriculture is the backbone of most African countries' economy. Most of African families use agriculture as the main economic activity, mainly small scale agriculture. Market demand for processed foods has developed in all cultures and societies as division of labor progresses and people specializing in particular skills have increasing levels of disposable income. Agro-based industries are generally the first to develop in the industrial sector of a developing economy whereby agriculture has been the mainstay of most people. Statistics suggest that the agro-based industrial sector generates 40% of all manufacturing added value, more than any other industrial activity in sub-Saharan Africa (World Bank, 1989).

Demand for vegetable oil is also growing with the rate of population growth. National requirements for edible oil can be met by engaging smallholder farmers in the production of annual oilseeds. Such production would make full use of the capacity of the domestic processing industry. Through sunflower farming this project aims to expand oilseed market, create more job opportunities and generate income at the same time to members of Kibihu farmers' group. Introduction of sunflower farming to Kibihu farmers will mostly help them to have another job opportunity while they are waiting for the season and will put them in the best place to improve their income as the vegetable oil demand is very high in and outside of Tanzania.

#### **2.2 Problem Statement**

Through this study it was revealed that improvement of income is a huge problem.

On farm income can be improved through diversification means spreading the downside risk over more than one enterprise. On farm improvement of income refers simply to an increase in the number of enterprises operated on the farm. However farmers may grow more than one field crop to spread the work over a longer planting and harvesting season. Also farmers may spread the risk over more than one enterprise (such as new crop), or you may add value to a crop currently on production. Moreover income improvement can be through utilizing resources to their optimum level through custom planting or harvesting, storing grain for others, or utilizing existing labor or management abilities to their best advantage.

This study identified various contributing factors to low income level among members of Kibihu farmers groups, major factors being lack of potential crop to be produced during rainy season. The reason for this is because the areas where members of Kibihu farmers groups are having their farms receive low rainfall which is not enough for conventional crops like maize. Other problem which was identified by CNA was lack of entrepreneurial skills. This shortcoming results into challenges in accessing funds and hence failure to manage farms as business enterprises. However this problem is currently addressed by local micro finance institutions which are providing training on regular basis.

The project introduced sunflower farming, because sunflower can grow in very few rainy areas like Mbuguni, and for sure is the hotcake in the market inside and outside of the country. Through trainings farmers will get to know sunflower and its benefits and its demand, and how can be done in crop rotation or mixed.

### **2.3 Project Description**

Name of the project is improvement of farmerø income through sunflower production to Kibihu farmerø group in Mbuguni, Arumeru district. The project is located in Arumeru district. Place of pleasant climate, surrounded by farmers and business persons. Meru district also have a series of potential markets (Tengeru, Usa and Maji ya Chai markets) which is and will still be the potential resource for the life of this project.

#### **2.3.1 Target Community**

Members of Kibihu farmerø group in Meru district are the first targeted beneficiary community; they will implement, monitor and evaluate the project. Kibihu community member familiesø will be the second target as most of them have very large family dependants. Residence of Arumeru also will benefit from this project due to the creation of new employments to the community. Local Government is also a beneficiary as will get revenues from the project through its revenue and tax collection channels.

#### **2.3.2 Stakeholders**

Stakeholders are people who have interest in project activities. These people may be affected by the project or on the contrary they may affect the project. They can be individuals, government institutions, NGOs, or community. Subgroups of these organizations may be affected by the project in different ways or may impact of the project than others. Stakeholders of this project are Kibihu community members, Local government/community leaders, and the CED student.

**Table 2.1: Roles and Expectations of various Stakeholders**

<b>Name of stakeholder</b>	<b>Role</b>	<b>Expectations</b>
Kibihu group	i. Project initiators ii. Sunflower production	i. Sunflower farming ii. Income generation and improvement iii. Improve standard of living
Local government/ Community leaders	i. Mobilize the society to participate in the project. ii. Promote the project.	i. Create new employment to others society members apart from Kibihu. ii. Livelihood improvement
CED student	i. Project coordinator	Bring possible ways to implement the project.

**Source:** Researcher, 2019

### **2.3.3 The Project Goal**

The project goal is to improve income for Kibihu farmers through Sunflower production which will result into enhancement of living standard of Kibihu community members.

#### **2.3.3.1 General Objective**

The overall objective of this project is to introduce sunflower farming to Kibihu group in Mbuguni, Arumeu district. In order to realize the project goal, the following specific objectives will be achieved.

#### **2.3.3.2 Specific Objectives of the Project**

- i. Conduction of 2 days capacity building training on sunflower production and 1 day visitation of sunflower production fields by March 2018
- ii. 20 members of Kibihu farmers group trained on sunflower production techniques and marketing skills by June, 2018.
- iii. Attaining production and selling of 800 Kg/acre of sunflower produce Kibihu farmers by September, 2018.
- iv. Improved sunflower production best practice to members of Kibihu farmers group and reliable markets by October, 2018.

## **2.4. Host Organization**

The host organization will be MVIKIHO (Muungano wa Vikundi Kilimo cha Horticulture) which is the union of horticulture farmers groups. It contains 14 farmers' groups which are registered under Meru district. This community based organization dealing with horticulture and it performs its activities in Arumeru district in Arusha region.

Members of MVIKIHO are involved in agriculture activities. This union of farmers' groups has the capacity as it has been registered, have constitution, very strong leadership and an office at USA River town. The management of MVIKIHO farmers group includes chairman and vice chairman who are the overseers and coordinators of all activities. Also the group has the secretary whose responsibility is to document and keep records of all activities and the treasurer who is managing all financial issues. The above mentioned is also the recommended skeleton structure of the member groups.

### **2.4.1 Vision**

Backward and forward linkage of member farmers to the sources of farm inputs and to the potential markets of their farm produce.

### **2.4.2 Mission**

Ensure timely availability of farm inputs and new technologies, maximum utilization of available resources and linkage to the best available market of farm produce to enable profitability and sustainability to all members.

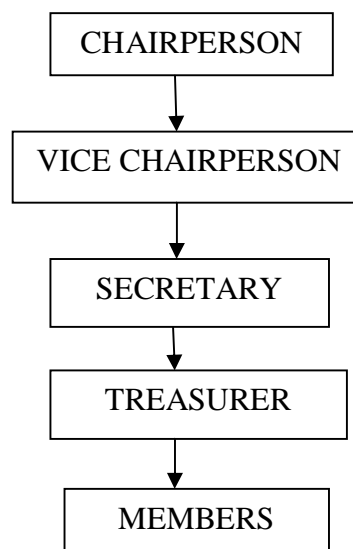
### 2.4.3 Organization Activities

MVIKIHO activities involve the following:-

- a. To conduct training in vegetable production to its farmers.
- b. To source new farm inputs and technologies which promises to improve production
- c. Find market and negotiate prices of farm products
- d. Linkage of farmers to potential markets

### 2.4.4 Organization Structure

#### MVIKIHO Structure of Organization



**Figure 2.1: MVIKIHO Structure of Organization**

**Source:** Researcher, 2018

MVIKIHO Organization structure contain of chairperson, vice chairperson, Secretary, Treasurer and other members. Everyone in organization have his/her responsibility such as Chairperson and vice chairperson in preparation of organization meeting, maintain solidarity in organization, supervision, monitoring, and evaluation of organization activities; secretary responsible to preserve



organization documents, advising chairperson different issues concerning the project, is the main communicator of the organization. Treasurer responsible in preserve all financial document and preparation and management if cash-flow.

#### 2.4.5. SWOT Analysis of MVIKIHO

**Table 2.1: SWOT Analysis of MVIKIHO**

<b>STRENGTHS</b>	<b>WEAKNESS</b>
<ul style="list-style-type: none"> <li>• Horticulture agriculture</li> <li>• Worldwide Market centers</li> <li>• Resources e.g., land, water for irrigation</li> <li>• Good leadership</li> </ul>	<ul style="list-style-type: none"> <li>• Low income per capital.</li> <li>• Inappropriate technology</li> <li>• Lack of gender balance.</li> <li>• Low level of commitment to some members</li> <li>• Inadequate continued capacity building trainings.</li> <li>• Poor infrastructure</li> </ul>
<b>OPPORTUNITY</b>	<b>THREATS</b>
<ul style="list-style-type: none"> <li>• Sunflower farming</li> <li>• Small industrial development.</li> <li>• Availability of reliable water sources and electricity.</li> <li>• Peace and stability.</li> <li>• Abundant man power</li> </ul>	<ul style="list-style-type: none"> <li>• Rural urban migration of unskilled labor</li> <li>• Low level of community contribution in cash/kind to development projects.</li> <li>• Environmental degradation</li> <li>• Poverty</li> <li>• High price of farming incentives</li> </ul>

**Source:** Field Findings 2018

#### 2.4.6. The Roles of CED Student in the Project

The role of CED student is to ensure execution of activities as were scheduled through;

- i. Creation of awareness to Kibihu community members on sunflower agriculture.
- ii. Facilitation of capacity building to Kibihu community members.
- iii. Coordination of execution of project activities.

**2.4.7. CBO's Roles**

- i. To acquire required project equipment.
- ii. To host and attend capacity building training.
- iii. To promote the projects and its products.
- iv. Regulate the health of the project.

## **CHAPTER THREE**

### **LITERATURE REVIEW**

#### **3.1. Introduction**

This chapter will introduce theoretical aspects of the project whereby definitions and description will be provided. Also this part will present literatures from previous projects which are related to this project. Lastly this chapter will present review of policies from government and international organizations related to this project.

#### **3.2. Theoretical Literature**

In theoretical literature researcher will define the key concept of the project, i.e. sunflower, sunflower production and income diversification.

##### **3.2.1. Definitions of Key Terms**

###### **3.2.1.1. Sunflower and Sunflower Production**

The sunflower (*Helianthus annuus*) originated from America and was brought by the Spanish to Europe. It was later introduced in Russia, Ukraine, and Turkey which are up to now main production countries apart from the USA and Argentina. Sunflower was introduced in Tanzania during colonial times and it was found to grow in almost all parts of the country (URT, 2016). The crop is however very interesting as it does well in the dry weather condition where other crops, like maize and wheat, normally do not do so well. Sunflower in Tanzania is getting attention because of its contribution on pro-poor or welfare perspective as most of it is grown by small or middle scale farmers.

United Nations Industrial Development Organization (UNIDO) ranked Tanzania among the top ten sunflower oilseed producers in the world (UNIDO, 2016).

Tanzania produces around 350,000 tons of sunflower oilseeds equivalent to 90,000 tons of oil (UNIDO, 2016). According to the Ministry of Agriculture, livestock and fisheries in Tanzania sunflower is ranked as the healthiest vegetable oil with high value in terms of quality and consumer's preferences. However; the production of sunflower is still low due to different factors depending on the area of field. (URT, 2016).

Sunflower represents one of the key sub-sectors of agriculture in Tanzania (RLDC 2008). According to the Ministry of Agriculture, Food Security and Cooperative (2008), sunflower is a drought tolerant crop, and can survive in areas with low to medium rainfall. The crop is less susceptible to diseases and cheaper to cultivate compared to other oilseeds crops like sesame as well as food crops like sorghum and maize. Accordingly, sunflower is grown in many parts of the country by small-scale farmers.

For this reason, development of the sunflower sub-sector has a great potential for improving welfare of poor households in Tanzania. Significant potential also exists for the sunflower sub-sector to contribute to the overall economic performance due to a number of opportunities:-

- i. Sunflower has many economic uses - production of edible oil, biofuel, animal feed and potentially in latex/rubber production. In view of its diverse application, the subsector has vast investment and employment opportunities.
- ii. Sunflower oil commands significant demand - The crop contains a higher level of healthy nutrients than most other natural and synthetic edible oils. For this reason, there is a strong preference for sunflower seed oil as

compared to other edible oil types.

- iii. Sunflower crop has notable drought resistance capabilities largely due to its deep tap root system. It can therefore be planted in less fertile and semi-arid areas. In addition, it can be intercropped with food crops such as maize, sorghum, and other cereals.
- iv. Processing technology is generally affordable and available ó mostly from China, India, as well as from local manufacturers such as Small Industries Development Organization (SIDO), Tanzania Engineering and Manufacturing Design Organization (TEMDO), Tanzania Industrial Research and Development Organization (TIRDO) among others.
- v. There is a tremendous scope for the expansion of sunflower production in many parts of Tanzania as land for cultivation is abundant.

#### **3.2.1.2 Diversification**

Diversification is a risk management technique which emphasize on mixing a wide variety of investments within a portfolio. In many countries of Sub-Saharan Africa, farm household income is already highly diversified, although the number and quantity of agricultural items produced explicitly for sale from any one farm tends to be low (Delgado, 1997). Low productivity per unit area is because most of these small scale farmers are doing subsistence production.

Current knowledge suggests that climate change affects both biotic and abiotic attributes of crop systems which threatening crop sustainability and production (Matson, 1997). In the past half a decade climate change has been a major topic by United Nation agencies and other national and multinational organization because

the current massive increment of human activities is tremendously threatening the climate. Diversified agro-ecosystems which provide broader range of crop traits and functions promises better performance under changing environmental conditions (Altieri, 1999).

According to Ellis income diversification refers to expansion of the range of rural activities outside the farm. Income diversification is considered as a dynamic adaptation process created from pressures and opportunities (Ellis, 2000). For the sake of this study income diversification has been differentiated from crop diversification. In this study crop diversification has been used as one of the means of income diversification.

Crop diversification is critical not only for production but also for it is an important determinant of the total biodiversity in the farm system (Matson, 1997). With a wide range of plant species richness and diversity in spatial and temporal distribution of crops, diversified agro-ecosystems mimic more natural systems (Altieri, 1999). Therefore a diversified agro-ecosystems is able to maintain a greater diversity of crop variety and animal species of which many are natural enemies of crop pests. Farm diversification and hence income diversification acquires more strategic aspect as an economic issue in areas where agriculture is still a large share of the economy.

Households expand their activities in order to increase farm income or to reduce income variability by exploiting new or existing market or non-market opportunities, including waged employment in the local nonfarm sector and the exploitation of natural resources (World Bank, 2001). Diversification might be a deliberate

household strategy or as an involuntary response to crisis. Diversification can be used both as a safety provision and means of accumulation for households (Ellis, 1998). Often rural households diversify out of necessity. Households which moved out of poverty were those who diversified their farming activities, growing food crops for their own consumption, cash crops for sale and keeping livestock. Several literatures found a positive correlation between diversification into commercial farming/livestock keeping and household income status in Sub Saharan Africa (Dercon and Krishnan 1996).

### **3.2.1.3 Income Diversification**

Income diversification can either be a matter of necessity or choice. The poorest households are the ones who are more likely to diversify their incomes in order to sustain their lives (Dimova and Sen, 2010) When income diversification is a matter of choice it would mostly undertake by richer households who have the necessary level of income and assets to make the transition into nonfarm activities where there are high entry costs (FAO, 2003).

Income diversification may be more important from a policy point of view to stress public investments in agricultural activities such as roads, electricity and agricultural extension services, along with the removal of impediments to engaging in high value agricultural activities such as producing horticultural and other non-traditional products for export markets. Therefore a greater emphasis on fostering the growth of incomes in agriculture sector, especially among poorer households is required. Those efforts would generate the necessary capital to diversify sources of income through agriculture of which the whole process suit to be considered as a policy objective.

Income diversification as one of the adaptation efforts should involve effective governance of natural resources because natural resources function as safety nets to vulnerable groups. Governments in developing countries have an intense interest in promoting increased income from output diversification at both the farm and national levels (Petit and Barghouti, 1992; Siamwalla (1992).

According to Paavola (2008) when using the case study of Morogoro said that agricultural households have extended cultivation, intensified agriculture, diversified livelihoods and migrated to gain access to land, markets and employment as a response to climatic and other stressors. In order to facilitate income diversification policy makers focuses on strengthening of national markets by infrastructure investments and institutional reforms which would give incentives to intensification and diversification in agriculture (Paavola, 2008).

Policies which facilitate the movement of members of poor households out of high risk and low return agricultural activities into either less risky and high return agricultural activities or non-farm wage employment and self-employment are of paramount importance (Dimova and Sen, 2010). Income diversification is supposed to be strategic because overall economic development depends on finding a viable way to commercialize agriculture and a coordinated policy approach for sub-sector development (Delgado, 1997).

According to the proceeding of FAO workshop said that numerous studies showed that the major bottlenecks to income diversification are the human resource capacity for adoption of new concepts and management tools. However in areas where



farming partially commercialized major agricultural markets for goods do not work well and level of technical progress is low because of structural reasons which can be improved through establishment of proper policies. In an exploratory research about Diversification as a Survival Strategy for Marginal Farms said that one of the most common strategies in rural areas development programs is to support the adoption of new on-farm activities. The rationale behind this strategy is that farm diversification is a way to assure rural dwellers an appropriate level of income from their farms.

Another challenge of income diversification is the absence of policies addressing legal impediments to market development and creation of the supportive environment for emergence of new types of private small-scale rural enterprises (FAO, 2003). Small scale entrepreneurs and new enterprises who want to diversify also face barriers to entry and growth because of the challenges brought by contravention of national legislation and policy declarations (FAO, 2003). Also most rural farmers lack knowledge of market opportunities, prices and standards and production technologies.

### **3.3. Empirical Literature**

This section studies similar project of income diversification and sunflower farming from different counties.

#### **3.3.1. Production of Sunflower**

##### **3.3.1.1. Global Production of Sunflower**

The global production of oil and seed shows that, sunflower industry is dominated

by a few large global players, characterized by large, mechanized farms with easy access to inputs and funding. The largest producers are Russian Federation and Ukraine accounting for 25.0% and 22.0% of the total world production, respectively.

Other notable major producers are United States of America and Brazil. African countries account for only 5.5% of the world's production of sunflower oil (BOT 2017) Low contribution by Africa is mainly attributed to reliance on smallholder farmers, who have limited access to quality inputs, improved seeds and financial services. Globally, during the recent years, global trend of sunflower seeds production has been increasing. The production has doubled in the past 20 years (1994/95 - 2014/15) mainly driven by improved yields and expanded acreage and increasing demand for sunflower related products

#### **3.3.1.2. Production of Sunflower in Africa**

According to FAO (2015) data, South Africa is the largest sunflower seeds producer accounting for 46.1 percent of total continent's production, followed by Tanzania which constitutes 35%. Tanzania is also continent's second largest producer of sunflower oil, with 23.1% of total oil production in the continent. Despite being second in production of sunflower seeds and oil in the continent, Tanzania is a vegetable oil deficit country and its production is mostly characterized by domestic consumption, with low levels of exports.

Driven by the notion of lack of awareness about the commercial, nutritional and medicinal potentials of sunflower, ( Torimio 2014) assess the extent of engagement in sunflower activities among smallholder farmers in two South-Western States

(Ogun and Ekiti) of Nigeria and two Districts (Southeast and Kgatleng) in Botswana. A total of two hundred smallholder farmers were randomly chosen from each district. The results showed that 49 % and 84% of the respondents were aware about sunflower crop in Nigeria and Botswana respectively.

However, of these, only 10% and 25% respectively cultivated the crop. The results further showed that all those 25% that cultivate the crop in Botswana utilized it as animal feed only, while their Nigerian counterpart utilized for variety of purposes including animal feed (6%), manure/fertilizer production (7%), cake production (2%), traditional usage (5%), ornamental purpose (8%) and seed extraction (6%). The study concluded that although higher proportion of smallholder farmers from Botswana knew about and cultivated sunflower, yet, their Nigerian counterpart utilized the crop more.

The study recommended for the need to continuous popularization of the production and utilization of sunflower crop among the smallholder farmers in both Nigeria and Botswana. (Trotter 1973) conducted a study on potentials of sunflower in the United States by:-

- i. Characterizing sunflower potential uses
- ii. Estimating trends in edible oils markets and the possible place of sunflower oils in these markets
- iii. Estimating productivity in sunflower production (yield per acre) and price required for sunflower to make it competitive, and
- iv. Estimating costs and profitability of processing sunflower seed relative to cottonseed.

### **3.3.1.3 Performance**

In Tanzania, sunflower grows in many areas, some of which are semi-arid and semi-humid areas. Generally, sunflower production is largely small scale, rain fed-based and commonly intercropped with staple food crops (URT, 2016). The main sunflower growing areas are central zone, which is popularly known as the Central Sunflower Corridor, comprising of three regions namely Singida, Dodoma and Shinyanga, Northern and Southern Eastern parts of Tanzania. Northern corridor areas have arid zone weather with low and poorly distributed rainfall, suitable for a relatively drought tolerant crop like sunflower (SNV, 2010).

According to URT (2016), sunflower cultivation in Tanzania occupies an estimated area of 1.7 million hectares, with average yield for local varieties of 1.6 tons per hectare. Like other countries in Africa, there are number of challenges identified such as lack knowledge of improved farming methods and access to modern technologies and poor seed quality (Gabagambi and George, 2010).

Oil seeds production has been increasing from 5.5 million tons in 2013/14 to 5.9 million tons in 2014/15. It is estimated that the production will reach 6.3 million tons in 2015/16. Average production of oil seeds for 2013/14 to 2015/16 has been dominated by sunflower with 48.5%, followed by groundnut (30.9%) and sesame (19.8%). During the past decade, area under sunflower cultivation has been increasing steadily. Area under cultivation has increased from 313.1 thousand hectares in 2009/10 to 1.7 million hectares in 2013/14. Sunflower yield has also increased from 0.7 tons per hectare in 2009/10 to 1.6 tons per hectare in 2013/14. Yield for groundnuts has also been increasing, reaching 1.8 tons per hectare in

2013/14 from 1.0 tons per hectare in 2009/10.

#### **3.3.1.4. Imports and Exports of Sunflower**

Total annual demand for edible oil is estimated at 330,000 tons (FAO, 2015). Despite the increase in sunflower seeds production, which had enabled the country to satisfy a larger portion of demand, Tanzania has deficit in the edible oil (FAO, 2015). Currently total extracted oil contributes to about 40.1% of the national edible oil requirement, while the remaining portion is imported.

Imports of crude edible oil have been increasing annually, from 0.3 million tons in 2012, reaching 0.5 million tons in 2015. The main imports source countries are Singapore, UAE, Indonesia and India. Crude palm oil dominates the imports of edible oils, accounting for 44.1% of the total during 2015. Sunflower (crude) oil imports account for 1.6% of total imports of crude edible oil, annually. The other types of crude edible oil imports are palm oil, olive oil, vegetable oil and sesame. (BOT 2017)

### **3.4. Policy Reviews**

#### **3.4.1. Policy Issues and Performance of Sunflower Sub-Sector**

##### **3.4.1.1. Policy Background**

The evolution of the agricultural policy in Tanzania started in the 1960s and has continued to be strongly influenced by changes in economic policy regime. The post-independence period (1961-1967) was marked by an emphasis on improved peasant farming through extension services and the provision of credit and marketing structures. Following the Arusha Declaration in 1967, the Government became the

sole driver of the economy with private sector playing insignificant role.

However, following multiple distortions and macroeconomic imbalances that resulted from planned economic system, the Government embarked on structural reforms, undertaking macroeconomic policy measures from the early 1980s which were consistent with free market system. Sectorial policies were developed in line with the new policy regime and accordingly, the Statement of Development Policy for Agriculture was adopted in 1983. In line with this policy, some market oriented measures were undertaken as a key step for promoting development of agricultural sector. These include; liberalization of marketing of food grains and price structures for major export crops; removal of the monopoly export powers of crop boards; and restructuring agricultural parastatals. More efforts towards strengthening the sector led to formulation of a more comprehensive Agricultural and Livestock Policy in 1997. Key element of this policy was framework for addressing challenges that were affecting the agricultural sector.

Agricultural and Livestock Policy (1997), was replaced by the National Agriculture Policy (2013), which took into account opportunities inherent in the agricultural sector. In addition, it aimed at addressing challenges that continued to hinder development of the agricultural sector. Among others, they include low productivity in the sector, vulnerability to unfavorable weather, and inadequate support services. (NAP 2013) provided a framework for implementation of the National Strategy for Growth and Reduction of Poverty (NSGRP), Tanzania Development Vision 2025 as well as meeting the Millennium Development Goals.

For the purpose of promoting exports of agricultural products National Export Strategy was formulated in 2009. The strategy articulates on having a modernized, commercialized, competitive and effective agriculture and cooperative systems in place with a special focus on food and commodity crops. The strategy outlines on provision of support measures including better access to finance; use of appropriate seeds, fertilizers and pesticides. It also provides conducive environment for the establishment of sectorial associations, of which the oilseed sector was given a particular attention.

#### **3.4.1.2. Laws and Regulations Governing Agricultural Sector**

Parallel to formulation and implementation of agricultural policies, a number of regulations were put in place to govern the conduct of agricultural sector. These include;

##### **i. The Seeds Act (2003)**

Amended in 2007, governs seed production and certification in the United Republic of Tanzania. It controls and regulates all standards related to agricultural seeds, and established the National Seeds Committee, which has the responsibility of acting as a stakeholder forum that can advise the Government on all matters relating to the development of seed industry. The Act protects the interests of both the seed buyer and producer by requiring that the seed is properly labeled and meets minimum standards of quality, and by establishing clear regulations and procedures that level the playing field between seed producers and traders to curb the proliferation of counterfeit seeds on the market.

**ii. The Atomic Energy Act (2003)**

Established the Tanzania Atomic Energy Commission under this Act, all processed food imports and exports in the United Republic of Tanzania must be tested for radiation by the Commission and obtain a radioactivity analysis certificate, which must demonstrate that the goods are radiation-free for their successful import or export.

**iii. The Tanzania Food, Drugs and Cosmetics Act (2008)**

Was enacted to regulate food and other manufactured or imported products, the Act establishes the Tanzania Food and Drugs Authority (TFDA) as the executive agency for controlling the quality and safety of food, drugs, poisons and cosmetics; and regulating the importation, manufacturing, labeling, storage, promotion and general distribution of these items. Regulation is mainly through a system of permits and licenses issued by this body.

**iv. The Produce Export Act (2013)**

Provides for the grading, inspection, regulation and preparation of agricultural produce to be exported from the United Republic of Tanzania, the law defines produce to mean any article produced or derived from farming, agricultural operation or stock-keeping. It restricts importation of products regulated under the Act, except through designated points of entry, and subject to inspection or grading in the manner provided for under the inspection rules.



#### **3.4.1.3 Institutional Setup**

In Tanzania, policy formulation and regulation for value chain in crops is mainly organized under two ministries namely the Ministry of Agriculture, Livestock and Fisheries (MALF) and the Ministry of Industries, Trade and Investment (MITI). The MALF is the main overseer of the agricultural sector including the sunflower industry. In the value chain, which runs from production to marketing, the MALF is largely involved in production-oriented policies and regulations. For issues related to marketing, the MITI takes the lead to formulate policies and regulations related to all food and cash crops. The ministry aims to promote industrial development and maintaining trade relations with foreign countries and formulate relevant policy framework.

#### **3.4.1.4. Regulatory Framework and Value Chain**

Regulatory activities of agricultural sector particularly on standards of products are handled by the Tanzania Bureau of Standards (TBS), under the MITI. TBS is charged with the role of enacting, formulating and implementing the national standards that various sectors of the economy should abide by. These include quality control, testing, calibration and training. On the other hand, TFDA is mandated to control issues affecting human health and also involved in standard formulation and enforcement. TFDA regulates the promotion of such material, undertakes laboratory analyses, and also controls their import and export. They are also responsible for issuing permits and licenses.

In addition, there are several government departments that provide supportive roles in the supply chain of food crops, mainly research and extension services under

MAFC. Other research institutions include the Agricultural Research Institutions (ARIs) under the crop research department, Sokoine University of Agriculture which undertakes crop-related researches as well as NGOs and farmer organizations. The Small Industries Development Organization (SIDO), under the MITI, plays an important role in improving capacities of SMEs, at processors and traders level.

#### **3.4.1.5 Sunflower Sector Development Strategy (2016-2020)**

Tanzania developed Sunflower Sector Development Strategy in March 2016. The strategy outlines comprehensive approaches on how to promote sunflower sector in the country. It further identifies the role of each stakeholder in the development of the sunflower sector. It stresses the importance of sunflower sub-sector for the development of the economy as well as the source of welfare for the majority of the population. It further recognizes the role of both public and private stakeholders in the development of the sunflower sector and implementation of coherent and supportive policies that are in line with the national development objectives.

#### **3.5 Literature Review Summary**

Different studies in the world show that sunflower is very potential crop, in term of cultivation and income generation. But poor performance of this crop is due to few challenges especially in developed countries includes, poor farming practices, inadequate extension services, poor access to finance, depressed prices of sunflower products payable to farmers, inadequate processing facilities, threat from imported edible oils, and inadequate technology including packaging and branding facilities. This project will makes sure of the income diversification and reduce the threats by giving and sharing the knowledge of successful sunflower growth.

## **CHAPTER FOUR**

### **PROJECT IMPLEMENTATION**

#### **4.1. Introduction**

This chapter explains the process of achieving project inputs and outputs, it present time and schedule of activities to be done during the implementation project. This chapter will present all stakeholders who participated in this project and their responsibilities toward achievement of project goals. MVIKIHO assisted in project implementation as they have more experience in assisting such projects and the researcher only facilitated implementation. The implementation started with the CNA conducted in Mbuguni village, Arumeru district by identifying the need of KIBIHU farmers group and implement solution idea which is farm income improvement through sunflower production.

#### **4.2. Project Outputs**

Project aiming to produce sunflower in quality and quantity soon after the training on how to produce it. Training will motivate Kibihu farmers to add sunflower in their farming circle which will help them to improve their annual income. The increment of enterprise will create excess income/revenue than before. The main project output is to improve farm income through sunflower production. This would be achieved after realization of income from the sales of sunflower and its products. By connecting the overall objectives and the objectives of the project as defined in the second chapter, we can define the outputs of the implementation of this project as follows:

- a) Conduction of 2 days capacity building training on sunflower production

and 1 day visitation of sunflower production fields by March 2018

- b) 20 members of Kibihu farmers group trained on sunflower production techniques and marketing skills by June, 2018.
- c) Attaining production and selling of 800 Kg/acre of sunflower produce Kibihu farmers by September, 2018.
- d) Improved sunflower production best practice to members of Kibihu farmers group and reliable markets by October, 2018.

**Table 8: Project Outputs**

OBJECTIVES	OUTPUT	ACTIVITIES
<b>Objective 1:</b> To organize 3 day capacity building for sunflower production by the end of March 2018.	<b>Output 1:</b> 2 days capacity building on sunflower production	<b>Activity 1:</b> Studying different types of sunflower <b>Activity 2:</b> Studying best ways to grow sunflower
	<b>Output 2:</b> 1 day visiting sunflower farming sites	<b>Activity 1:</b> See sunflower production sites <b>Activity 2:</b> Select sites to cultivate sunflower
<b>Objective 2:</b> To train 20 farmers on sunflower production techniques and marketing skills by June, 2018.	<b>Output 1:</b> 20 Kibihu farmers trained on sunflower production	<b>Activity 1:</b> Train sunflower growing techniques <b>Activity 2:</b> Train sunflower harvesting and storage techniques
	<b>Output 2:</b> 20 Kibihu farmers trained on marketing techniques	<b>Activity 1:</b> How to market farm product <b>Activity 2:</b> Demo training on marketing
<b>Objective 3:</b> To execute 800 Kg/acre of sunflower production to Kibihu farmers by October, 2018.	<b>Output 1:</b> Sunflower harvest	<b>Activity 1:</b> Prepare storage facilities <b>Activity 2:</b> Harvesting
	<b>Output 2:</b> Selling sunflower skills	<b>Activity 1:</b> Market research <b>Activity 2:</b> Selling
<b>Objective 4:</b> To impart sunflower production best practice to members of Kibihu farmers group and reliable markets by October, 2018.	<b>Output 1:</b> 5 people participated in the project monitoring	<b>Activity 1:</b> Conducting monitoring <b>Activity 2:</b> Documenting and submitting monitoring report
	<b>Output 2:</b> 6 people participated in mid-term and full term annual evaluation	<b>Activity 1:</b> conducting mid-term and full term evaluation <b>Activity 2:</b> Documenting and submitting mid-term and full term evaluation

Source: Survey Findings, 2018

## **4.2. Project Planning**

Successful achievement of this project's goals requires proper planning to enable execution of activities to bring the project into the reality. This part involves implementation plan, participants structuring and budget assessment. Project implementation includes supervision and evaluation of activities and the contribution of each stakeholder. Project stakeholders who are responsible are Kibihu farmers, Mbuguni village executive officer (VEO) and MCED student.

### **4.2.1. Project Implementation Plan**

Project Implementation plan is all about different plan activities and resources needed in order to achieve the mentioned project objectives in a specific period of time which different resources.

Table 9: Project Implementations Plan

OBJECTIVES	OUTPUT	ACTIVITIES	PROJECT MONTH												RESOURCES NEEDED	RESPONSIBLE PERSON		
			J	F	M	A	M	J	J	A	S	O	N	D				
<b>Objective 1:</b> To organize 3 day capacity building for sunflower production by the end of March 2018.	<b>Output 1:</b> 2 days capacity building on sunflower production	<b>Activity 1:</b> Studying different types of sunflower														Human resource Financial resource Stationery Venue	MCED Student KIBIHU group Farm expert	
		<b>Activity 2:</b> Studying best ways to grow sunflower															Human resource Financial	MCED Student KIBIHU group Farm expert
	<b>Output 2:</b> 1 day visiting sunflower farming site	<b>Activity 1:</b> See sunflower production sites															Human resource Transport	MCED Student KIBIHU group Farm expert
		<b>Activity 2:</b> Select sites to cultivate sunflower															Human resource	MCED Student KIBIHU group Farm expert
<b>Objective 2:</b> To train 20 farmers on sunflower production	<b>Output 1:</b> 20 Kibihu farmers trained on sunflower	<b>Activity 1:</b> Train sunflower growing techniques														Human resource Financial resource Stationery Venue	MCED Student KIBIHU group Farm expert	

OBJECTIVES	OUTPUT	ACTIVITIES	PROJECT MONTH												RESOURCES	RESPONSIB	
techniques and marketing skills by June, 2018.	production	<b>Activity 2:</b> Train sunflower harvesting and storage techniques														Human resource Transport Facilities	MCED Student KIBIHU group Farm expert
	<b>Output 2:</b> 20 Kibihu farmers trained on marketing techniques	<b>Activity 1:</b> How to market farm products														Human resource	MCED Student KIBIHU group Marketing Expert
		<b>Activity 2:</b> Demo training on marketing														Human resource Financial resource	MCED Student KIBIHU group Marketing Expert
<b>Objective 3:</b> To execute 800 Kg of sunflower production to Kibihu farmers by October, 2018.	<b>Output 1:</b> Sunflower harvest	<b>Activity 1:</b> Prepare storage facilities													Human resource Financial resource	MCED Student KIBIHU group	
		<b>Activity 2:</b> Harvesting													Human resource Financial	MCED Student KIBIHU group	
	<b>Output 2</b> Selling sunflower skills	<b>Activity 1:</b> Market research														Human resource Financial resource	MCED Student KIBIHU group
		<b>Activity 2:</b> Selling														Human resource	MCED Student KIBIHU group

OBJECTIVES	OUTPUT	ACTIVITIES	PROJECT MONTH										RESOURCES	RESPONSIB		
<b>Objective 4:</b> To impart sunflower production best practice to members of Kibihu farmers' group and reliable markets by October, 2018.	<b>Output 1:</b> 5 people participated in the project monitoring	<b>Activity 1:</b> Conducting monitoring <b>Activity 2:</b> Documenting and submitting monitoring report													Human resource Financial resource	MCED Student KIBIHU group
	<b>Output 2:</b> 6 people participated in mid-term and full term annual evaluation	<b>Activity 1:</b> conducting mid-term and full term evaluation <b>Activity 2:</b> Documenting and submitting mid-term and full term													Human resource Financial resource	MCED Student KIBIHU group

Source: Survey Findings, 2018

#### 4.2.2 Project Logical Framework

Logical Framework presents linkages and relationship between project means and their respective ends. This tool has been selected because it consists vertical logic which shows the hierarchy of objectives. It presents objectives by starting with goal followed by objective, then outputs and activities.



**Table 4.3: Project Logical Framework**

<b>Hierarchy of Objectives</b>	<b>Objectively Verifiable Indicators (OVIs)</b>	<b>Means of verification (MOV)</b>	<b>Assumptions</b>
<b>Goal :</b> Improvement of farm income through sunflower production by Kibihu farmers group in Mbuguni, Arumeru district	Income improvement for Kibihu farmers	Quality and quantity sunflower production	Successful adaptation of sunflower
<b>Objective 1:</b> To organize 3 days capacity building on sunflower production by the end of March 2018.			
<b>Output 1.1:</b> 2 days capacity building on sunflower	Kibihu farmers attend the session	session attendance list	Successful session
<b>Activities</b>			
1.1.1: Studying different types of sunflower	Sunflower identified	session pictures	Sunflower identified Successful
1.1.2: Studying best ways to grow sunflower	Training delivered	session pictures	Successful Training delivering
<b>Output 1.2:</b> 1 day visiting sunflower farming sites	Farming sites visited	Visiting pictures Practical Training report	Farming sites visited and selected Successful
<b>Activities</b>			
1.2.1: See sunflower farming sites	Sites Visited	Attendance list and pictures	Successful site visitation
1.2.2: Select sunflower farming sites	Sites Selected	Attendance list and pictures	Successful site selection
<b>Objective 2:</b> To train 20 farmers on sunflower production techniques and marketing skills by June, 2018.			
<b>Output 2.1:</b> 20 Kibihu farmers trained on sunflower production	20 Kibihu members attend the training	Attendance list and pictures	Successful training
<b>Activities</b>			
2.1.1: Train sunflower growing techniques	20 Kibihu members attend the training	Training attendance list	Successful training
2.1.2: Train sunflower harvesting and storage techniques	20 Kibihu members attend the training	Session pictures	Successful training
<b>Output 2.2:</b> 20 Kibihu farmers trained on marketing techniques	20 Kibihu members attend the training	session pictures	Successful training
<b>Activities</b>			
2.2.1 Train how to market farm product	Training delivered	session pictures	Successful training
2.2.2: Demo training on marketing	Training delivered	Training attendance list	Successful practical
<b>Objective 3:</b> To execute 800 Kg/acre of sunflower production to Kibihu farmers by October, 2018.			
<b>Output 3.1:</b> Sunflower harvest	Harvesting	Pictures	Successful harvesting

Hierarchy of Objectives	Objectively Verifiable Indicators (OVIs)	Means of verification (MOV)	Assumptions
<b>Activities</b>			
3.1.1: Prepare storage facilities	Preparation of all facilities	Project report	Successful preparation
3.1.2: Harvesting	Work on the field	Project report	Successful harvesting
<b>Output 3.2: Selling sunflower</b>	Selling sunflower	Project report	Successful selling
<b>Activities</b>			
3.2.1: Market research	Market searching	Project report	Successful market searching
3.2.2: Selling	Selling	Project report	Successful selling
<b>Objective 4: To impart sunflower production best practice to members of Kibihu farmers group and reliable markets by October, 2018.</b>			
<b>Output 1: 5 people participated in the project monitoring</b>	5 people were trained about project monitoring	Training Report	Successful training and documentation of report
<b>Activities</b>			
4.1.1. Conducting monitoring	Work on the field	Monitoring Report	Successful monitoring
4.1.2. Documenting and submitting monitoring report	Paperwork in the office	Monitoring Report	Successful preparation of monitoring report
<b>Output 2: 6 people participated in mid-term and full term annual evaluation</b>	6 people participated on mid-term and full term evaluation	Mid-term and full term evaluation report	Successful evaluation
<b>Activities</b>			
4.2.1. conducting mid-term and full term evaluation	Work on the field	Mid-term and full term evaluation report	Successful evaluation
4.2.2. Documenting and submitting mid-term and full	Paperwork in the office	Mid-term and full term evaluation report	Successful evaluation

**Source:** Survey Findings, 2018

#### 4.2.3. Inputs

Smooth implementation requires different human and material inputs. For human resources the project utilized resources availed by the management of Kibihu farmers group. Where by their chairman, secretary, accountant and other experts were fully involved. Some material resources were provided by other stakeholders as the part of their contribution to the project.

**Table 4.4: Inputs**

<b>Input</b>	<b>Quantity</b>	<b>Unit Price</b>
Pens	50	200
Notebooks	20	1,450
Flipchart	1	12,000
Marker pen	1 Box	10,000
Hiring tractor	1	50,000
Seeds	2kg	8,000
Pesticides	200mils	10,000
Fertilizer	2 Bag	60,000
Facilitator allowance	2	100,000
Transport Cost	6	30,000
Lunch	20	10,000
Harvesting cost	1	35,000

**Source:** Survey Findings, 2018

#### 4.2.4. Staffing Pattern

This project is under the management of Kibihu farmersø group. Kibihu farmersø group has an office and staffs in Mbuguni area. These staffs are the ones who were managing the project and daily activities.

**Table 4.5: Project Staffing Pattern**

<b>Staff</b>	<b>Responsibility</b>
<b>Chairman</b>	General overseer of project activities
<b>Manager</b>	Controller of project activities
<b>Accountant</b>	Control financial funds allocated for the project
<b>Agronomist</b>	Monitors day to day activities of the project

**Source:** Survey Findings, 2018

#### 4.2.5. Project Budget

Estimated budget of the project was TZS 2,288,000/=. Out of this budget TZS 1,500,000/= was funded by the host organization, TZS 210,000/= cost of seeds and storage facilities from farmers and the remaining cost amounting 578,000 which was for stationeries and training materials was from other stakeholders and MCED student.

**Table 4.6: Project Budget**

OBJECTIVES	OUTPUT	ACTIVITIES	RESOURCES NEEDED	QUANTITY	UNIT PRICE	TOTAL
<b>Objective 1:</b> To organize 3 day capacity building for sunflower production by the end of March 2018.	<b>Output 1:</b> 2 days capacity building on sunflower production	<b>Activity 1:</b> Studying different types of sunflower	Flip chart	1	12,000	12,000
		<b>Activity 2:</b> Studying best ways to grow sunflower	Marker pen	1box	10,000	10,000
	Note books		20	1,450	29,000	
	<b>Output 2:</b> 1 day visiting sunflower farm class	<b>Activity 1:</b> See sunflower farming site	Facilitator	1	100,000	100,000
Lunch			20	10,000	200,000	
<b>Objective 2:</b> To train 20 farmers on sunflower production techniques and marketing skills by June, 2018.	<b>Output 1:</b> 20 Kibihu farmers trained on sunflower production	<b>Activity 1:</b> Sunflower growing techniques	Transport	1	150,000	150,000
			<b>Activity 2:</b> Select sites to cultivate sunflower	Lunch	20	5,000
	<b>Output 2:</b> 20 Kibihu farmers trained on marketing techniques	<b>Activity 1:</b> Sunflower growing techniques		Flip chart	1	12,000
			Marker pen	1box	10,000	10,000
		<b>Activity 2:</b> Sunflower harvesting and storage	Note books	20	1,450	40,000
			Facilitator	1	100,000	100,000
<b>Activity 1:</b> How to market any product	Lunch	20	10,000	200,000		
	<b>Activity 2:</b> Practical training on marketing	Marketing demo	1	100,000	100,000	
<b>Objective 3:</b> To execute 800 Kg of sunflower production to Kibihu farmers by October, 2018.	<b>Output 1:</b> Sunflower harvest	<b>Activity 1:</b> Prepare storage facilities	Marketing demo	1	100,000	100,000
			<b>Activity 2:</b> Harvesting	Marketing demo	1	100,000
	<b>Output 2:</b> Selling sunflower skills	<b>Activity 1:</b> Market research	Storage facilities	1	150,000	150,000
			<b>Activity 2:</b> Selling	Human resource	1	35,000
		Transport		1	50,000	50,000
		Human Resource	1	100,000	100,000	
<b>Objective 4:</b> To impart sunflower production best practice to member of Kibihu farmers, group and reliable market by October, 2018	<b>Output 1:</b> 5 people participated in the project monitoring	<b>Activity 1:</b> Conducting monitoring	Transport	1	50,000	50,000
			Human resource	2	50,000	100,000
	<b>Output 2:</b> 6 people participated in the mid-term and full term annual review	<b>Activity 1:</b> Documenting and submitting monitoring report	Human resource	5	20,000	100,000
			Transport	5	20,000	100,000
		<b>Activity 2:</b> Documenting and submitting mid-term and full term evaluation	Human resource	5	20,000	100,000
			Human resource	6	20,000	120,000
Transport	5	20,000	100,000			
Human resource	6	20,000	120,000			
<b>TOTAL</b>						<b>2,288,000</b>

Source: Survey Findings, 2018

### **4.3. Project Implementation**

This section describing of actually implemented project activities started at the end of May 2018. The implemented activities were among those which were planned during project design phase. Many of the planned activities were actually implemented as reflected in the implementation plan. The project implementation is into two major subsections which are project implementation report and project implementation Gantt chart as shown below.

#### **4.3.1 Project Implementation Report**

The Project implementation report based on two aspects, the first aspect is capacity building through workshops, theoretical and practical and the second aspect are production process. The training involves best farming practice and marketing techniques. Different activities have been conducted, some of them have been accomplished and some are still going on.

**Table 4.7: Project Implementation Report**

PLANS			ACCOMPLISHMENTS	
OBJECTIVES	OUTPUT	ACTIVITIES	Means of Verification	Comments
<b>Objective 1:</b> To organize 3 day capacity building for sunflower production by the end of March 2018.	<b>Output 1:</b> 2 days capacity building on sunflower production	<b>Activity 1:</b> Studying different types of sunflower	session attendance list Practical Training report	Activity carried out by MCED student, facilitator and KIBIHU Farmers
		<b>Activity 2:</b> Studying best ways to grow sunflower		
	<b>Output 2:</b> 1 day visiting sunflower farming sites	<b>Activity 1:</b> See sunflower production sites	session pictures Visiting pictures	
		<b>Activity 2:</b> Select sites to cultivate sunflower		
<b>Objective 2:</b> To train 20 farmers on sunflower production techniques and marketing skills by June, 2018.	<b>Output 1:</b> 20 Kibihu farmers trained on sunflower production	<b>Activity 1:</b> Train sunflower growing techniques	session pictures Training attendance list	Activity carried out by MCED student, farm expert and KIBIHU Farmers
		<b>Activity 2:</b> Train sunflower harvesting and storage techniques		
	<b>Output 2:</b> 20 Kibihu farmers trained on marketing techniques	<b>Activity 1:</b> How to market farm product	session pictures Training attendance list Project report	
		<b>Activity 2:</b> Demo training on marketing		
<b>Objective 3:</b> To execute 800 Kg/acre of sunflower production to Kibihu farmers by October, 2018.	<b>Output 1:</b> Sunflower harvest	<b>Activity 1:</b> Prepare storage facilities	Picture of Storage Facility Picture of farmers harvesting	Activity carried out by MCED student and KIBIHU Farmers
		<b>Activity 2:</b> Harvesting		
	<b>Output 2:</b> Selling sunflower skills	<b>Activity 1:</b> Market research	Project report	
		<b>Activity 2:</b> Selling		
<b>Objective 4:</b> To impart sunflower production best practice to members of Kibihu farmers group and reliable markets by October, 2018.	<b>Output 1:</b> 5 people participated in the project monitoring	<b>Activity 1:</b> Conducting monitoring	Project monitoring report	MCED student and selected monitoring team
		<b>Activity 2:</b> Documenting and submitting monitoring report		
	<b>Output 2:</b> 6 people participated in mid-term and full term annual evaluation	<b>Activity 1:</b> conducting mid-term and full term evaluation	Project evaluation report	
		<b>Activity 2:</b> Documenting and submitting mid-term and full term evaluation		

**Source:** Survey Findings, 2018



**Figure 4.1: CED Student, Local Leaders and Some Representatives of KIBIHU Farmers During the CNA Process**  
Source: Survey Findings, 2018



**Figure 4.2: KIBIHU Farmers During the Training on Sunflower Production**  
Source: Survey Findings, 2018





**Figure 2.3: The Sunflower Field at Mbuguni**

Source: Survey Findings, 2018



**Figure 4.4: CED Student and Some of KIBIHU Leaders on the Field**

Source: Survey Findings, 2018

#### **4.3.2. Project Implementation Gantt Chart**

The following table below shown the objectives, output and activities and specific period of time during the implementation of the project



**Table 4.8: Project Implementation Gantt Chart**

OBJECTIVES	OUTPUT	ACTIVITIES	PROJECT MONTH											
			J	F	M	A	M	J	J	A	S	O	N	D
<b>Objective 1:</b> To organize 3 day capacity building for sunflower production by the end of March 2018.	<b>Output 1:</b> 2 days capacity building on sunflower production	<b>Activity 1:</b> Studying different types of sunflower												
		<b>Activity 2:</b> Studying best ways to grow sunflower												
	<b>Output 2:</b> 1 day visiting sunflower farming site	<b>Activity 1:</b> See sunflower production sites												
		<b>Activity 2:</b> Select sites to cultivate sunflower												
<b>Objective 2:</b> To train 20 farmers on sunflower production techniques and marketing skills by June, 2018.	<b>Output 1:</b> 20 Kibihu farmers trained on sunflower production	<b>Activity 1:</b> Train sunflower growing techniques												
		<b>Activity 2:</b> Train sunflower harvesting and storage techniques												
	<b>Output 2:</b> 20 Kibihu farmers trained on marketing techniques	<b>Activity 1:</b> How to market farm products												
		<b>Activity 2:</b> Demo training on												
<b>Objective 3:</b> To execute 800 Kg of sunflower production to Kibihu farmers by October, 2018.	<b>Output 1:</b> Sunflower harvest	<b>Activity 1:</b> Prepare storage facilities												
		<b>Activity 2:</b> Harvesting												
	<b>Output 2:</b> Selling sunflower skills	<b>Activity 1:</b> Market research												
		<b>Activity 2:</b> Selling												
<b>Objective 4:</b> To impart sunflower production best practice to members of Kibihu farmers group and reliable markets by October, 2018.	<b>Output 1:</b> 5 people participated in the project monitoring	<b>Activity 1:</b> Conducting monitoring <b>Activity 2:</b> Documenting and submitting monitoring report												
	<b>Output 2:</b> 6 people participated in mid-term and full term annual evaluation	<b>Activity 1:</b> conducting mid-term and full term evaluation <b>Activity 2:</b> Documenting and submitting mid-term and full term												

Source: Survey Findings, 2018

## **CHAPTER FIVE**

### **PARTICIPATORY MONITORING, EVALUATION AND SUSTAINABILITY**

#### **5.1. Introduction**

This chapter will explain participatory monitoring, evaluation and sustainability of farm income improvement through sunflower production by Kibihu farmers' group in Mbuguni, Arumeru district. All methods used in monitoring and evaluation will be explained in detail, including, participatory monitoring and participatory evaluation, in which performance indicators, evaluation participatory methodology and project evaluation summary are covered. Project sustainability will be covered too whereby institutional, financial and political sustainability will be discussed.

Monitoring is the continuous or periodic review of program or project implementation to assess delivery, identify difficulties, ascertain problem areas and recommend remedial actions. It is a systematic and continuous collecting and analysing of information about the progress of a piece of work over time. Monitoring is a basic and universal management tool for identifying strengths and weaknesses in any project or programme.

Evaluation is a periodic assessment of relevance, performance, efficiency and impact of a piece of work in the context of its stated objectives. The aim is to determine the relevance and fulfilment of objectives, developmental efficiency, effectiveness, impact and sustainability. An evaluation can be done during implementation at its end (final evaluation) or afterwards, either to help directing the project or to draw lessons for the future projects and programming. An evaluation should lead to a

decision to continue, rectify or stop a project and the conclusions and recommendations, should also be taken into account when planning and implementing other similar future project. The role of evaluation is to determine program effectiveness, to show impact, strengths and weaknesses of a project, and to promote replication of successful interventions.

Monitoring and evaluation are linked together since monitoring sets benchmarks for evaluation. Thus monitoring and evaluation help to gather information needed to keep the project on schedule and predict problems as well as formulate solutions, measure progress and evaluate program success. This chapter is divided into different parts which are participatory monitoring methods, participatory monitoring plan and participatory evaluation plan and project sustainability.

## **5.2. Participatory Monitoring**

Participatory monitoring is the process of routinely gathering information on all aspects of the project activities that involves group members in project implementation. The role of participatory monitoring is to understand objectives of local development project, to identify activities to achieve objectives, measurements to assess results or show extent of progress achieved. It also helps to develop measurement indicators, methods and techniques of collecting information.

In this project, participatory monitoring activities from started since conducting CNA to production process. Participatory monitoring action involves all stakeholders of the project from the beginning to the end of the project. This helps participants become aware of the project development and growth. It also helps to understand the health of the project whether it will die or be sustained regardless of

changes in external support or internal resources. During the implementation of this project the participatory monitoring was conducted after every two weeks month to see whether activities are implemented as planned. The participatory monitoring aims to monitor all planned activities include all meetings, selection of farmers for training and capacity building, visiting day and the whole implementation plan.

### **5.2.1 Monitoring Information System**

Monitoring information system is the designed to collect and report information on different project activities that enable a project supervisor to plan, monitor, evaluate and report on operations and performance of the project. The Monitoring information system was needed to keep the project focused and measure the project progress.

The monitoring information system was prepared by involving different stakeholders such as MCED student, MVIKIHO staff members, Village agricultural officer and Village executive officer. The information gathered were analyzed, compiled and reported back to the group and stakeholders for various use. The information found in monitoring information system includes categories of information and activities to focus on, types of records to keep responsible personnel, output and achievements.

Various methods and techniques used to involve stakeholders in monitoring of project activities. Before gathering information including structured conversational interviews which used to gather information on best seeds, seed company, pesticides, techniques of sunflower production and other information regarding sunflower treatments.

**Table 5.1: Project Monitoring Information System**

<b>Categories of information and activities</b>	<b>Elements to be monitored</b>	<b>Types of Records kept</b>	<b>Responsible Person</b>	<b>Target group to use collected information</b>	<b>How to use collected information</b>	<b>Decision to be made and output to be achieved</b>
Project work plan	Available resources , Activities implementation timing	Monthly project activities	CED student, Project committee Secretary	Kibihu farmersøgroup, Kibihu Village government, project committee members.	Identifying activities to implement and required resources	Redirect activities implementation in accordance with the plan and available resources
Project Cost and expenditure	Amount of funds required to implement different project activities	Financial reports, financial receipts	Project treasurer	Key project stakeholders	Ensuring funds are present for implementing different project activities	Manage financial resource and operate within budget
Staffing and supervision	Project staff attitude and skills for project implementation	Roles and responsibilities of project staffs	Project chairperson, MCED students and leaders of Kibigu and MVIKIHO.	Project team, MVIKIHO, MCED student, leaders of Kibihu farmersøgroup	Assessing the performance of project implementers	Assess capacity of involved human resource and advise accordingly
Other inputs	Other additional inputs	The additional inputs required	Project chairperson, MCED students and leaders of Kibigu and MVIKIHO.	MCED student, MVIKIHO, project committee members and management of Kibihu farmers group	Assess the planned resources for implementation and other additional resources required	Determine requirement of additional resources to finish project activities

### 5.2.3 Participatory Monitoring Plan

This kind of monitoring was designed to trace the project implementation progress through the planned activities. Therefore, the MCED student in collaboration with stakeholders monitored the implementation of the conducted meetings and trainings in order to meet short term results as shown below in the table summary.

**Table 5.2: Participatory Monitoring Plan**

OBJECTIVES	OUTPUT	ACTIVITIES	OUTPUT INDICATORS	DATA SOURCE	METHODS	PERSON RESPONSIBLE	TIME FRAME
<b>Objective 1:</b> To organize 3 day capacity building for sunflower production at the end of May 2018.	<b>Output 1:</b> 2 days capacity building on sunflower production	<b>Activity 1:</b> Identifying types of sunflower <b>Activity 2:</b> Best ways to grow sunflower	Training	session attendance list Practical Training report	Project implementation report	CED Student KIBIHU group Farm expert	May 2018
	<b>Output 2:</b> 1 day visiting sunflower farm class	<b>Activity 1:</b> See types of sunflower <b>Activity 2:</b> Select one type to cultivate	practical visit Training	session pictures Visiting pictures	Observation	CED Student KIBIHU group Farm expert	May 2018
<b>Objective 2:</b> To train 20 farmers on sunflower production techniques and marketing skills by June, 2018.	<b>Output 2:</b> 20 Kibihu farmers trained on sunflower production	<b>Activity 1:</b> Sunflower growing techniques <b>Activity 2:</b> Sunflower harvesting and storage	Training practical workshop	session pictures Training attendance list	Project implementation report	CED Student KIBIHU group Farm expert	June 2018
	<b>Output 2:</b> 20 Kibihu farmers trained on marketing techniques	<b>Activity 1:</b> How to market any product <b>Activity 2:</b> Practical training on marketing	Field practical workshop	session pictures Training attendance list	Observation	CED Student KIBIHU group Marketing Expert	June 2018
<b>Objective 3:</b> To harvest 800 Kg of sunflower	<b>Output 1:</b> Sunflower harvest	<b>Activity 1:</b> Prepare storage facilities <b>Activity 2:</b> Harvesting	Field preparation Planting Harvesting Sunflower	Project report	Harvesting report	CED Student KIBIHU group	October 2018.

production to Kibihu farmers by October, 2018.	<b>Output 2:</b> Selling sunflower skills	<b>Activity 1:</b> Market research <b>Activity 2:</b> Selling	Practical marketing and selling	Project report	Observation	CED Student KIBIHU group	October 2018.
<b>Objective 4:</b> To impart sunflower production best practice to members of Kibihu farmers group and reliable markets by October, 2018.	<b>Output 1:</b> 5 people participated in the project monitoring	<b>Activity 1:</b> Conducting monitoring  <b>Activity 2:</b> Documenting and submitting monitoring report	Human resource Financial resource	Project report	Project evaluation report	CED Student KIBIHU group	October 2018.
	<b>Output 2:</b> 6 people participated in mid-term and full term annual evaluation	<b>Activity 1:</b> conducting mid-term and full term evaluation <b>Activity 2:</b> Documenting and submitting mid-term and full term evaluation	Human resource Financial resource	Project report	Project evaluation report	CED Student KIBIHU group	October 2018.

### 5.3 Participatory Evaluation

Participatory evaluation is the collectiveness of examination and assessment of achievements of project objectives by project stakeholders. Its role is to determine program effectiveness, showing impact, Strengths and weaknesses of a project and promoting replication of successful interventions. This project will be evaluated twice, the mid-term at the end of October 2018 and summative evaluation on February 2019.

#### 5.3.1 Performance Indicators

The performance indicator shows what was done and what the outcomes of the implemented activities, in other words, performance indicators measure the success of the implemented objectives. Performance indicators are determined through outputs and outcomes as follows:-

- i. **Input indicators** describe the means by which project are implemented, such as the number of hours of training, the amount of money spent and the amount of resources used.
- ii. **Output indicators** describe the extent to which the project is delivered, what is intended to be delivered and activities to be carried out such as the number of group members trained, number of customers served and the number of participants involved in the project.
- iii. **Impact indicators** measure actual change of group members involved in the project such as number of KIBIHU farmerø members who improved their income as the result of project implementation.



**Table 5.3: Performance Indicators**

<b>Objectives</b>	<b>Output</b>	<b>Activities</b>	<b>Resources Needed</b>	<b>Performance Indicators</b>
<b>Objective 1:</b> To organize 3 day capacity building for sunflower production by the end of March 2018.	<b>Output 1:</b> 2 days capacity building on sunflower production	<b>Activity 1:</b> Studying different types of sunflower <b>Activity 2:</b> Studying best ways to grow sunflower	Human resource Financial resource Stationery Venue	Training
	<b>Output 2:</b> 1 day visiting sunflower farming sites	<b>Activity 1:</b> See sunflower production sites <b>Activity 2:</b> Select sites to cultivate sunflower	Human resource Financial resource Transport	practical visit Training
<b>Objective 2:</b> To train 20 farmers on sunflower production techniques and marketing skills by June, 2018.	<b>Output 1:</b> 20 Kibihu farmers trained on sunflower production	<b>Activity 1:</b> Train sunflower growing techniques <b>Activity 2:</b> Train sunflower harvesting and storage techniques	Human resource Financial resource Stationery Venue	Training practical workshop
	<b>Output 2:</b> 20 Kibihu farmers trained on marketing techniques	<b>Activity 1:</b> How to market farm product <b>Activity 2:</b> Demo training on marketing	Human resource Facilities	Field practical workshop
<b>Objective 3:</b> To execute 800 Kg/acre of sunflower production to Kibihu farmers by October, 2018.	<b>Output 1:</b> Sunflower harvest	<b>Activity 1:</b> Prepare storage facilities <b>Activity 2:</b> Harvesting	Human resource Financial resource tools	Field preparation Planting Harvesting Sunflower
	<b>Output 2:</b> Selling sunflower skills	<b>Activity 1:</b> Market research <b>Activity 2:</b> Selling	Human resource Financial resource tools	Practical marketing and selling
<b>Objective 4:</b> To impart sunflower production best practice to members of Kibihu farmers group and reliable markets by October, 2018.	<b>Output 1:</b> 5 people participated in the project monitoring	<b>Activity 1:</b> Conducting monitoring <b>Activity 2:</b> Documenting and submitting monitoring report	Human resource Financial resource	Number of monitoring activities conducted
	<b>Output 2:</b> 6 people participated in mid-term and full term annual evaluation	<b>Activity 1:</b> conducting mid-term and full term evaluation <b>Activity 2:</b> Documenting and submitting mid-term and full term evaluation	Human resource Financial resource	Number of evaluation activities conducted

### 5.3.2 Project Evaluation Summary

The table below indicates the project evaluation summary based on the project goals, objectives, performance indicators, expected outcomes and actual outcome. Focusing on project goals, objectives and activities planned and those have been met with

expectations of mid and annual evaluation that will be done after five month of the project implementation.

**Table 5.4: Project Evaluation Summary**

Objectives	Output	Activities	Performance Indicators	Expected Outcomes	Actual Outcomes
<b>Objective 1:</b> To organize 3 day capacity building for sunflower production by the end of March 2018.	<b>Output 1:</b> 2 days capacity building on sunflower production	<b>Activity 1:</b> Studying different types of sunflower <b>Activity 2:</b> Studying best ways to grow sunflower	Conduct 2 days capacity building	Members of Kibihu farmers group have the capacity to manage sunflower	Successful Training delivering
	<b>Output 2:</b> 1 day visiting sunflower farming sites	<b>Activity 1:</b> See sunflower production sites <b>Activity 2:</b> Select sites to cultivate sunflower	Human resource Financial resource Transport	Willingness to incorporate sunflower in farm production	Farm class visited Successful
<b>Objective 2:</b> To train 20 farmers on sunflower production techniques and marketing skills by June, 2018.	<b>Output 1:</b> 20 Kibihu farmers trained on sunflower production	<b>Activity 1:</b> Train sunflower growing techniques <b>Activity 2:</b> Train sunflower harvesting and storage techniques	Human resource Financial resource Stationery Venue	20 Kibihu members attend the training	Successful training
	<b>Output 2:</b> 20 Kibihu farmers trained on marketing techniques	<b>Activity 1:</b> How to market farm product <b>Activity 2:</b> Demo training on	Human resource Facilities	Training delivered	Successful training
<b>Objective 3:</b> To execute 800 Kg/acre of sunflower production to Kibihu farmers by October, 2018.	<b>Output 1:</b> Sunflower harvest	<b>Activity 1:</b> Prepare storage facilities <b>Activity 2:</b> Harvesting	Human resource Financial resource	Preparation of all facilities	Successful preparation Successful harvesting
	<b>Output 2:</b> Selling sunflower skills	<b>Activity 1:</b> Market research <b>Activity 2:</b> Selling	Human resource Financial resource	Market searching	Successful market searching
<b>Objective 4:</b> To impart sunflower production best practice to members of Kibihu farmers group and reliable markets by October, 2018.	<b>Output 1:</b> 5 people participated in the project monitoring	<b>Activity 1:</b> Conducting monitoring <b>Activity 2:</b> Documenting and submitting monitoring report	Farmers positive attitude and higher understanding regarding sunflower production	Good monitoring Report	Monitoring conducted and currently on progress
	<b>Output 2:</b> 6 people participated in mid-term and full term annual evaluation	<b>Activity 1:</b> conducting mid-term and full term evaluation <b>Activity 2:</b> Documenting and submitting mid-term and full term evaluation	Commitment of members of Kibihu farmers group toward successful implementation of the project	Good midterm report Waiting full term evaluation report	Midterm evaluation conducted while full term evaluation not yet conducted

### **5.3.3 Participatory Evaluation Methods**

Different methods were used to evaluate the project effectively, including stakeholders meetings, training and focus group discussion which was done at the end of the training. The meeting were reviewed the objectives, activities and the discussion focused on how far the project has gone and what works and what does not work. In focus group discussion different insights method were used to evaluate the effectiveness of the training by asking the participants to share new learning and insights during and after the training. Also review of different project reports, project implementation plan and meeting minutes will be used as the tools for the project evaluations.

## **5.4 Project sustainability**

Project Sustainability refers to the ability of the project to live even after the stakeholders and other external supporters withdraw from funding the project. Sustainability also means being able to mobilize resources in terms of human, money and material from internal and external donors and managing them accordingly. KIBIHU project itself aims to be very sustain in very short time, depends on the farmers willingness and experience. Project sustainability requires following elements financing sustainability, management sustainability and political sustainability.

### **5.4.1 Financial Sustainability**

Financial sustainability is the economic status of the group on ability to generate funds and resources that will help project to run itself, without outside funds. KIBIHU group sustainability of the project will depends on the selling of harvested

sunflower and sunflower products. Also most of KIBIHU farmers are involved in contract farming which also will contribute on the sustainability of the project. The project treasurer will be responsible for keeping funds received from selling the produced sunflower. The project committee meetings will decide the use of funds on different farming matters.

#### **5.4.2 Management Sustainability**

Management sustainability is ability of the project to plan, manage, adapt and monitor the progress of the project. Leadership issues, honesty, accountability and transparency are very important in management. MCED student connect the group with community development office who promise to link the group on different capacity building inside and outside the village, Village agricultural officer also will continue providing farming advice and monitoring on different farming activities of the project. Other stakeholders which will continue providing support to the project implementation include project committee members and Village executive officer.

#### **5.4.3 Political Sustainability**

Sustainability of the project depends on the peacefulness of the village and the country at all. The goal of the project is to improve farm income of Kibihu farmers group in Mbuguni through sunflower production. This goal will play a big role in political sustainability because even the politicians and government leaders always searching different ways of improving income of the community members in order to reduce poverty.

## **CHAPTER SIX**

### **CONCLUSION AND RECOMMENDATIONS**

#### **6.1 Introduction**

This chapter will present the entire results of the project from the Community needs assessment, literature review, project implementation and monitoring and evaluation. The chapter focuses on the report of the achieved objectives and those partially achieved as well as the summary of the project findings. It also covers the contribution of the project to specific community and the nation at large, recommendations on participatory assessment, literature review, project planning, monitoring and evaluation and some useful sustainability methods to be employed.

#### **6.2 Conclusion**

Sunflower was introduced in Tanzania during colonial times and it was found to grow in almost all parts of the country. However sunflower is very interesting as it does well in the dry weather condition where other crops like maize and wheat, normally do not do so well. Sunflower in Tanzania is getting attention because of its contribution on pro-poor or welfare perspective as most of the sunflower is grown by small or middle scale farmers.

Hand hoe remains dominant means of farming in this subsector followed by oxen-plough. Production is characterized by small area of cultivation and low yield. For example, on average cultivation is limited to 4 acres per farmer, producing only 0.6 tons of sunflower seeds per acre in most surveyed areas. This level was found insufficient to meet processors demand and is far below normal productivity of 2 to 3 tons per acre. Indeed, the role of farmers in the value chain is only confined at

production level and selling sunflower seeds. Processing is characterized by many small and medium scale processors and is limited to sunflower oil and animal cake only.

Tanzania is ranked among the top ten sunflower oilseed producers in the world according to United Nations Industrial Development Organization (UNIDO). In Tanzania sunflower is ranked as the healthiest vegetable oil with high value in terms of quality and consumer preferences, however the production of sunflower is still low due to different factors depending on the area of field. Kibihu farmers group is a registered farmers group conducting entrepreneurial farming and livestock keeping activities. This group is in Mbuguni village in Mbuguni ward Arumeru district in Arusha region. As a compliance of accordance for the requirement of all registered group, Kibihu farmers group has chairman, vice chairman, secretary, treasurer and has an office in Mbuguni. Kibihu farmers group has 137 active members. Among these members 79 are men and 58 are women.

Members of Kibihu farmers group are involved in contract farming for fine beans, green beans, chilies, baby corn and purple passions which are exported to Europe. In this project the focus crop will be sunflower. Considering the weather condition in Mbuguni area sunflower is performing very well. Currently farmers who plant sunflower are growing it conventionally whereby they intercrop it with other crops. The most critical issue of members of Kibihu farmers group is to improve their income by having an alternative high value crop to rotate with other crops that they already have on contract farming. Another issue is food insecurity which is a result of inadequate local staple food production.

During the early stage of the project CED student as researcher and some members of KIBIHU found that the main important need is to improve their income. Through Community Needs Prioritization assessment shows that KIBIHU farmers group prioritize sunflower farming, farming incentives and capacity building so that to improve their income. Through this study it was revealed that improvement of income is a huge problem.

On farm income can be improved through diversification means spreading the downside risk over more than one enterprise. On farm improvement of income refers simply to an increase in the number of enterprises operated on the farm. However farmers may grow more than one field crop to spread the work over a longer planting and harvesting season. Also farmers may spread the risk over more than one enterprise (such as new crop), or you may add value to a crop currently on production. Moreover income improvement can be through utilizing resources to their optimum level through custom planting or harvesting, storing grain for others, or utilizing existing labor or management abilities to their best advantage.

This study identified various factors contributing to low income level among members of Kibihu major factors being lack of potential crop to be produced during rainy season. The reason for this is because their farms receive low rainfall which is not enough for conventional crops like maize. Other problem which was identified by CNA was lack of entrepreneurial skills. This shortcoming results into challenges in accessing funds and hence failure to manage farms as business enterprises. However this problem is currently addressed by local micro finance institutions which are providing training on regular basis.

The overall objective of this project is to introduce sunflower farming to act as the source of income improvement to KIBIHU farmers. To realize project goal the following specific objectives will be achieved, 3 day capacity building for sunflower production at the end of May 2018, 20 farmersØ training on sunflower production techniques and marketing skills by June, 2018 and execution of 800 Kg of sunflower production by Kibihu farmers by October, 2018. Host organization of the project is MVIKIHO which is the union of horticulture farmers groups. This community based organization dealing with horticulture and it performs its activities in Arumeru district in Arusha region. The whole project is good example of team work, because it was not only KIBIHU and MVIKIHO, but CED student local government office in Arumeru played a big role to make project alive. Different monitoring and evaluation methods take place to make sure the accomplishment implementation of the project.

### **6.3. Recommendations**

Training is required to the farmers on how to undertake modern farming techniques including the use of improved seeds, fertilizers, and proper sowing, also strengthening microfinance institutions at all levels of the chain starting from the farmers. In particular, platforms such as SACCOs, VICOBA, and other microfinance institutions need to be established and provide financial services to all players in sunflower value chain.

Currently industrialization is the language in Tanzania, president and the government insists and encourages citizens to think about industrialization of the country very good. These industries need more than operators and workers to operate, they need



raw materials. Most of raw materials are farm and livestock products. Agro-based industries are generally the first to develop in the industrial sector of a developing economy whereby agriculture has been the mainstay of most people. Statistics suggest that the agro-based industrial sector generates 40% of all manufacturing added value, more than any other industrial activity in sub-Saharan Africa.

Agriculture is the backbone of most African countries' economy. Most of African families use agriculture as the main economic activity, mainly small scale agriculture. Market demand for processed foods has developed in all cultures and societies as division of labor progresses and people specializing in particular skills have increasing levels of disposable income. Efforts to speed up agriculture and manufacturing growth, is important to understand the characteristics of the changes that have already happened in those sectors and the factors behind the success of the emerging subsectors and sunrise firms.

Understanding the forces behind the realized achievements is significantly important to industrial policy-making, knowledge dissemination, and hence growth and development to support the goal of Our President of making Tanzania the country of industries and Vision 2025's industrial component i.e. to become a diversified and semi-industrialized economy with a substantial industrial sector comparable to that of the typical middle-income countries.

The sustainability of the manufacturing industries becomes vital if the country has aspirations to develop into an industrial nation. It has been argued that for sustainability purposes, the manufacturing value chain should be well defined,

especially with regard to production linkages across industries; from the supply of raw materials to intermediate inputs and final goods. Many other factors have to be in balance if the agricultural sector is to become sustainable. First, the policy environment should be conducive for agriculture to hence industrial performance. Sustainability of the manufacturing sector necessitates a stable macroeconomic environment, and the sector is ultimately underpinned by the stance of the country's macroeconomic policies.

The study recommends the use of different approach during the assessment like Participatory Rural Appraisal, Participatory Action Research, Appreciate Enquiries, and Sustainable Livelihood Approach. These approaches contribute both to the practical community concerns in an immediate problematic situation and further goals of social science simultaneously. Participatory assessment is very important step for establishment of the project, this is because the members of community are fully involved in the process of identifying their needs hence they will provide strong cooperation during the project implementation for meeting the identified needs. In order to have the exactly needs of the community, the participatory assessment should be well conducted by involve different groups in the community.

There is dual commitment in action research to study systems and concurrently to collaborate with members of the system in changing together the desirable direction. Hence in order to conduct research or implement the project different experience and Literatures should be reviewed in order to increase knowledge of researchers or project implementers for improvement of their works. Accomplishing this twin goal requires the active collaboration of researcher and client, and thus it stresses the

importance of co ó learning as a primary aspect of the research process. Action researching is learning by doing where by the community learns to identifying their problems and create purposely solutions.

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## APPENDICES

### Appendix 1: Structured Questionnaire

#### Part A: Introduction

**INSTRUCTION:** *Round the number of your answer.*

1. Age of respondent
  - i. 20 ó 30
  - ii. 31 ó 45
  - iii. Above 45
2. Sex of respondent
  - i. Male
  - ii. Female
3. Marital status of respondent
  - i. Single
  - ii. Marriage
  - iii. Divorced
  - iv. Widow/ widower
4. Education level of Respondent
  - i. Primary education
  - ii. Secondary education
  - iii. tertiary education
  - iv. no formal education
5. What is your Income level per month (In Tshs)?
  - i. Below 100,000
  - ii. Between 100,000 ó 150,000

iii. Above 150,000

6. What is most important need in your current economic activities

- i. sunflower farming
- ii. Access to fund
- iii. Farming incentives
- iv. Capacity building

## **APPENDIX 2: FARM LEASE AGREEMENT**

This is a Farm Lease Agreement (öAgreementö), dated as of [\_\_\_\_\_, 20\_\_], between [.....] (öLandlordö), a member of Kibihu farmer group, and Kibuhu Farmer Group (öTenantö), a farmersø group.

### **Background**

Landlord is the owner of property located in í í í í í í í .. Tanzania, comprising approximately í í í í .. acres (the "Property"). Landlord and Tenant desire that Tenant lease the Property for agricultural use on the terms set out in this Agreement.

### **Landlord and Tenant agree as follows:**

#### **1. Lease, Term, and Rent**

1.1 **Lease.** Landlord leases to Tenant the Property for the use set forth in Section 2.1.

1.2 **Term.** Tenant has the right to use the Property for one year, starting on [\_\_\_\_\_, 20\_\_] and ending [\_\_\_\_\_, 20\_\_] ("Term").

1.3 **Rent.** Tenant will pay Landlord rent in the amount of TZS\_\_\_\_\_ (öRentö) for use of the Property during the Term.

#### **2. Use and Operations**

2.1 **Tenant Use.** Tenant may use the Property only for the purpose of planting, growing, and harvesting of Sunflower.

2.2 **Farming Practices.** Tenant will cultivate the Property in a timely, diligent, thorough, and farmer-like manner in accordance with good farming practices. Tenant will take care to not cause waste or damage to the Property or create a nuisance.

Tenant is responsible for weeding, managing pests, preventing soil degradation, and irrigating responsibly.

**2.3 Maintenance.** Tenant will maintain the Property in a good and organized condition, including, without limitation, free of trash, debris, and unused equipment.

**2.4 Improvements.** Tenant may not place sheds, hoop houses, or otherwise install permanent or moveable structures on the Property without first obtaining Landlord's written approval. Landlord will not unreasonably withhold such approval.

**2.5 Management Responsibility.** Tenant is responsible for the planning, management, and carrying out of Tenant's operations on the Property. Tenant will pay all expenses, fees, and charges Tenant incurs in the process of maintaining and using the Property. Tenant is responsible for procuring necessary tools and equipment, seeds, and fertilizers, and for hiring, monitoring, and paying for any labor Tenant uses on the Property.

**2.6 Storage.** Tenant may store on the Property farming equipment and other personal property used for normal farming operations on the Property. Tenant may not store any materials that may be hazardous or that may cause damage to the Property (other than fuel for equipment), or that are not used for such farming operations. Tenant is responsible for the security of equipment, supplies or any other personal property stored on the Property. Landlord will not be liable for any claims arising from theft, loss, or damage of personal property left or stored on the Property.

**2.7 Compliance with Law.** Tenant will at Tenant's expense comply with all laws, including, without limitation, environmental, labor and employment, and occupational safety laws, applicable to Tenant's operations on the Property.

**2.8 Prohibited Uses.** Tenant may not conduct any non-production activities on the



Property, including, without limitation, selling produce from a farm stand, camping, cookouts, renting out for events, or engaging in or hosting other recreational or income-generating activities, or do any burning on the Property, without first obtaining Landlord's written approval. Landlord will not unreasonably withhold such approval.

**2.9 Inspection.** Landlord may enter the Property at any reasonable time to inspect the Property and for the purpose of taking any other action Landlord believes is appropriate to confirm Tenant's compliance with this Agreement or protect Landlord's interest in the Property.

### **3. Water Use and Utilities**

**3.1 Irrigation System.** Landlord will provide and maintain an irrigation hookup on or near the Property. Tenant is responsible for building and maintaining all infrastructure necessary to carry water from the hookup to and throughout the Property, including, without limitation, piping, drip tape, sprinklers, and valves. Tenant is responsible for maintaining Tenant's irrigation infrastructure and using the irrigation hookup in a responsible manner. If Tenant's use of the irrigation hookup results in damage beyond ordinary wear and tear, then Tenant will be responsible for paying any repair or replacement costs. Tenant will use water responsibly and sustainably including taking actions necessary to prevent erosion on the Property and to control the flow of excess irrigation water and runoff.

**3.2 Utilities.** Tenant is responsible for arranging for utilities and paying all utility costs relating to Tenant's use and possession of the Property, including, without limitation, water, electricity, gas, propane, water, sewer, waste removal, recycling,

and garbage pickup.

#### **4. Other Property Matters**

**4.1 No Representations.** Landlord is not making any representations or warranties to Tenant about the Property including the suitability of the Property for Tenant's farming activities. Tenant is responsible for making Tenant's own inspection of farming conditions on the Property before entering into this Agreement. Tenant accepts the Property on an "as-is" basis as of the date of occupancy, subject to any easements, servitudes, rights of way, or other land rights.

**4.2 Assignment, Subleasing, and Licensing.** Tenant may not assign, sublease, or license all or any part of the Property without first obtaining Landlord's written approval. Landlord will not unreasonably withhold such approval.

**4.3 Liens and Encumbrances.** Tenant will not incur, create, or assume any lien or encumbrance on any portion of the Property, including any mechanic's or materialmen's liens, except any liens or encumbrances created under this Agreement. Nothing in this Section 4.3 will prevent Tenant from entering into customary crop financing and other financing arrangements and granting security interests in Tenant's crops, inventory, equipment, supplies, and other assets.

**4.4 Taxes.** Tenant is responsible for all tax returns and payments arising from Tenant's occupation and use of the Property, including without limitation, income, sales, and personal property taxes. Landlord will pay real property taxes.

**4.5 Sale by Landlord.** If Landlord should sell or otherwise transfer title to the Property, Landlord will require the transferee to recognize and take the Property subject to this Agreement. Tenant will recognize the purchaser as the owner and take such actions to that end as are appropriate, including entering into an agreement in

customary form in which the Tenant recognizes and attorns to the purchaser.

## **5. Indemnification, Release and Insurance**

**5.1 Indemnification by Tenant.** Tenant will indemnify and hold Landlord and Landlord's respective directors, officers, partners, shareholders, members, employees, and affiliates (collectively, "Landlord Parties") harmless against all claims, liabilities, losses, damages, expenses, and attorneys' fees that may be suffered or sustained by a Landlord Party arising directly or indirectly from: (a) Tenant's use or occupancy of the Property; (b) any claims by third parties Tenant invites onto the Property; (c) sale and consumption of food grown on the Property; or (d) any breach by Tenant of this Agreement, except to the extent the liability is caused by the gross negligence or willful misconduct of such Landlord Party.

**5.2 Indemnification by Landlord.** Landlord will indemnify and hold Tenant and Tenant's respective directors, officers, partners, shareholders, members, employees, and affiliates (collectively, "Tenant Parties") harmless against all claims, liabilities, losses, damages, expenses, and attorneys' fees that may be suffered or sustained by a Tenant Party arising directly or indirectly from Landlord's use or presence on the Property or any breach by Landlord of this Agreement, except to the extent the liability is caused by the gross negligence or willful misconduct of such Tenant Party.

**5.3 Waiver and Release of Claims by Tenant.** To the fullest extent permitted by law, Tenant waives any and all claims against Landlord and all other Landlord Parties resulting from death of or injury to Tenant or any other person arising

directly or indirectly from Tenant's use and occupancy of the Property, regardless of the cause and even if caused by negligence, whether passive or active. Tenant agrees not to sue any Landlord Party on the basis of these waived and released claims. Tenant understands that the releases and waivers in this Agreement extend to claims that Tenant does not know of or does not expect to exist at the time Tenant signs this Agreement. Tenant waives the protections of Section 1542 of the California Civil Code.

**5.4 Insurance.** Throughout the Term, Tenant will maintain in full force and effect a comprehensive general liability insurance policy applicable to Tenant's occupation of the Property with limits of liability of at least [TZS \_\_\_\_\_] aggregate combined single limit for bodily injury and property damage liability, and [TZS \_\_\_\_\_] combined single limit per occurrence. Tenant's general liability statement will name Landlord as an additional insured. Tenant will also maintain such other insurance as required by law, including, without limitation, workers' compensation insurance.

## **6. Termination**

**6.1 Termination by Landlord.** Landlord may terminate this Agreement if: (a) Tenant fails to make a rent payment within \_\_\_ [three] days of when payment is due; (b) Tenant abandons or vacates the Property for \_\_\_ [fifteen] consecutive days; or (c) Tenant breach any other provision of this Agreement and the breach continues for more than \_\_\_ [fifteen] days after Tenant receives written notice of the breach from Landlord, it being understood that if the breach cannot by its nature be cured within such \_\_\_- day period, then Tenant will have an additional reasonable period (which will not in any case exceed 30 days) to attempt to cure the breach. Such a

termination will be effective \_\_\_ [ten] days after delivery by Landlord to Tenant of a notice of termination. Tenant must then leave, quit, and surrender the Property to Landlord, but Tenant will remain liable for damages to the extent permitted by law. Landlord retains all rights to recover damages to the extent permitted by law and permissible under Section 1951.2 of the California Civil Code including, without limitation, unpaid rent for use of the Property until termination, rent to be paid for the remainder of the Term, and any amount necessary to compensate Landlord for charges incurred by reason of Tenant's failure to perform its obligations under this Agreement. All of Landlord's rights and remedies under this Agreement are cumulative and not alternative and will be in addition to all rights, powers, and remedies given to Landlord at law or in equity.

**6.2 Termination by Tenant.** Tenant may terminate this Agreement at any time. Such termination will be effective \_\_\_ [60] days after delivery by Tenant to Landlord of a notice of termination. Tenant may also terminate this Agreement upon (a) a failure of the water supply, whether in terms of quantity, reliability or quality, or occurrence of fire, flood or other similar physical event, that materially interferes with Tenant's ability to farm the Property, or (b) a material breach of this Agreement by Landlord. Such a termination will be effective \_\_\_ [15] days after delivery by Tenant to Landlord of a notice of termination.

**6.3 Holdover.** This Agreement terminates without further notice at the expiration of the Term. Any continued occupancy by Tenant of all or a portion of the Property after the expiration of the Term will be construed by the parties to be a tenancy from month-to-month on the terms set out in this Agreement, cancellable by either party

upon 30 days written notice. Any holding over is not a renewal or extension of the Term.

**6.4 Surrender of the Property.** Upon termination of this Agreement, Tenant will at Tenant's expense surrender the Property in good order and condition, reasonable wear and tear excepted, and will remove all of Tenant's personal property. Except as may otherwise be agreed in writing by Landlord and Tenant at the time of installation, all permanent improvements and alterations to the Property other than trade fixtures will belong to Landlord. Tenant may retain ownership of, and will remove, all sheds, mobile greenhouses, signs, and other non-permanent improvements Tenant may have made to the Property.

**6.5 Personal Property.** If Tenant leaves any of Tenant's personal property on the Property after the termination of this Agreement, Landlord may store it at a warehouse or any other location for Tenant's account and at Tenant's risk and expense. Landlord will release the property only when Tenant pays all charges relating to storage and all other amounts Tenant owes Landlord under this Agreement. If Tenant does not reclaim the property within the period permitted by law, Landlord may sell it in accordance with law and apply the proceeds of the sale to any amounts Tenant owes to Landlord under this Agreement, or retain Tenant's property, granting Tenant credit for the reasonable value of the property against any amounts Tenant owes to Landlord.

**6.6 Survival.** Sections 4.4, 5, 6, and 7 of this Agreement will survive termination of this Agreement.

## **7. General Provisions**

**7.1 Entire Agreement.** This Agreement, together with its exhibits, is the entire agreement between Tenant and Landlord and supersedes all prior or contemporaneous written and oral agreements. This Agreement may be amended only by a document signed by both Tenant and Landlord and reciting that it is an amendment to this Agreement. If there are any inconsistencies between this Agreement and its exhibits, this Agreement will control.

**7.2 Severability; Waiver.** If any provision in this Agreement is held invalid or unenforceable, the other provisions will remain enforceable, and the invalid or unenforceable provision will be considered modified so that it is valid and enforceable to the maximum extent permitted by law. Any waiver under this Agreement must be in writing and signed by the party granting the waiver. Waiver of any breach or provision of this Agreement will not be considered a waiver of any later breach or of the right to enforce any provision of this Agreement.

**7.3 Relationship.** Tenant and Landlord are independent contracting parties. Nothing contained in this Agreement will create a partnership, joint venture, fiduciary, or employment relationship between Tenant and Landlord. Neither Tenant nor Landlord have the power or authority to act on behalf of the other or in the other's name directly or indirectly in any manner. Landlord will not be responsible for any debts, liabilities, or obligations Tenant contracts or incurs in carrying out Tenant's farming operations on the Property or otherwise.

**7.4 No Third Party Beneficiaries.** Except as provided in Section 5.1 and 5.2, this Agreement is for the exclusive benefit of Tenant and Landlord and not for the

benefit of any third party.

**7.5 Binding on Heirs.** This Agreement will be binding upon the heirs, executors, administrators, and permitted assignees or successors in interest of Landlord and Tenant.

**7.6 Notices.** Notices and consents under this Agreement must be in writing and delivered by mail, hand, fax, or e-mail to the addresses set out on the signature page of this Agreement or other addresses given by one party to the other in writing. Notices given in the manner will be considered given two business days after deposit in the mail, or the first business day after delivery to a courier, delivery by fax or transmission by e-mail.

**7.7 Governing Law; Jurisdiction.** This Agreement will be governed by California law. Tenant and Landlord consent to the exclusive jurisdiction of the state and federal courts for United Republic of Tanzania.

**This Agreement was signed by Landlord and Tenant as of the date stated in its first paragraph.**

**Landlord** .....

**Tenant** .....

**Landlord address:**  
Mbuguni Arusha  
Tanzania

í í í í í í í í í í í í í í  
**Tenant address:**  
Mbuguni Arusha  
Tanzania