

**IMPROVING LIVELIHOOD TO FARMERS THROUGH SUNFLOWER
SEEDS PROCESSING: A CASE OF MSHANI VILLAGE - SUMBAWANGA
DISTRICT**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTERS IN COMMUNITY
ECONOMIC DEVELOPMENT OF THE OPEN UNIVERSITY OF
TANZANIA**

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CERTIFICATION

The undersigned certify that I have read this dissertation and I am satisfied that it can be submitted to the Open University of Tanzania for the dissertation titled, “Improving Livelihood to Farmers through Sunflower Seeds Processing: A case of Mshani Village - Sumbawanga District” in partial fulfillment of the requirement for the award of the Masters of Community Economic Development (MCED) of The Open University of Tanzania.

.....

Dr. Felician Mutasa

(Supervisor)

.....

Date

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DECLARATION

I, Prisila Festus Maridadi, do hereby declare to the senate of the Open University of Tanzania that this dissertation is a result of my work and has not been submitted for higher degree award in any other University.

.....

Signature

.....

Date

DEDICATION

This work is dedicated to my beloved husband Mr. JK Kipeta Kalimanzila, my love Sons Ezekiel and Elisha, my beloved daughter Eveline, my parents Mr. and Mrs. Maridadi and Parents in law Mr and Mrs Kalimanzila for their financial and social assistance during the study.

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ABSTRACT

In many societies poverty is a challenge although the government makes effort in formulating agricultural policies in creation of conducive environment for agricultural growth. Specifically in relation to development of markets and marketing systems for inputs and outputs but poor planning, knowledge and management of agricultural outputs leads the farmers to fall into the jungle of poverty. The need for poverty alleviation is important issues for any community in its economic development. The researcher used primary and secondary methods in data correction. Primary data collected through interview, questionnaire and observation and secondary data used to correct documentation data. Community needs assessment finding basically designed to present what was gather during the study. The finding presented based on the research questions which hold base the situation concerning community needs of Mshani village – in Sumbawanga. The data were obtained from Mshani village farmers, village leaders, ward leaders and district leaders and processed by Statistical Package Software Skills (SPSS). The government should make sure that the policy which made consider the oilseeds production, processing as well of market to improve it to the producers.

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ACRONYMS AND ABBREVIATIONS

AFO	: Agricultural Field Officers
ARI	: Agriculture Research Institute
AIDA	: American Indian Development Associates
ASDS	: Agricultural Sector Development Strategy
AGRA	: Alliance for a Green Revolution in Africa
CDO	: Community Development Officer
DANIDA	: Danish International Development Agency
DALDO	: District Agricultural and Livestock Development Officer
EU	: European Union
EWB	: Enterprise Works Worldwide
FCIC	: Federal Crop Insurance Corporation
FAO	: Food and Agriculture Organization of United Nations
IGA	: Income Generating Activities
IFAD	: International Fund for Agricultural Development
MT	: Metric tons
MMA	: Match Maker Associates
MAFSC	: Ministry of Agriculture, Food Security and Cooperative
PASS	: Programmers for Africa's Seed Systems
PMA	: Plan for Modernization of Agriculture
RLDP	: Rural Livelihood Development Program
REPOA	: Research on Poverty Alleviation
RLDC	: Rural Livelihood Developments Company
SAGICOT	: Southern Agriculture Growth Corridor of Tanzania

SIDO	:	Small Industries Development Organization
TBS	:	Tanzania Bureau of Standards
TOSCI	:	Tanzania Official Seed Certification Institute
TNBC	:	Tanzania National Business Council
TFDA	:	Tanzania Food and Drugs Administration
USA	:	United state of America
URT	:	United Republic of Tanzania
VAO	:	Village Agricultural Officer
VEO	:	Village Extension Officer
WEO	:	Ward Executive Officer
WAO	:	Ward Agricultural Officer
ZALF	:	Leibniz - Zentrum far Agra lands chafts frosting

CHAPTER ONE

1.0 PARTICIPATORY NEEDS ASSESSMENT

1.1 Introduction

Community Needs Assessment conducted in Mshani village, Kalambanzite ward, Mpui division, Sumbawanga district council. The assessment conducted that researcher went to the community introduced to the village leaders and asked to conduct needs assessment by participate with the community as well as community based organization. The village leaders give permission to the researcher and supported her to give out documentation concerning the village. The researcher conducted meeting with the village introduce herself and the objective of the meeting that to identify the community needs. The community accepted researcher to conduct the Community Needs Assessment.

Community Needs Assessment conducted so as to assess needs, challenges and problems facing farmers in Mshani village by participatory approach called Participatory Rural Appraisal. Mshani village profile was the first activity done which includes:- Geographical Location, Political/administrations structure, Economic Activities, Demographic Features, Social stratifications and power relations, Organizations and their activities, Cultural Factors, Social Services and Critical Issues.

Community Needs Assessment conducted through Questionnaire for officers and Farmers which divided into two parts which were background information of

respondents and economic activities questions. Apart from that researcher use questions in assessing community assessment needs which help to revealed community requirements, also simple random sampling methods used in selection of sample and the collected data analysed by Statistical Package Software Skills (SPSS). It presents in form of table, picture and figures. The study covered to a total of 138 respondents where by 1 is District Agricultural and Livestock Development Officer, 1 Ward Executive Officers, 1 Ward Agricultural Officers, 5 village leaders, 130 Farmers from two hamlets Marengo and Kisa. Out of these 102 are male and 36 are female.

The data presented accordingly like that: crops farmer need to produce oil seeds, In obtaining information concern crops farmers' needs to produce oilseeds respondents asked to mention oil seeds. This question asked in order to know the types of oilseeds which available to the selected area. The respondents mentioned sunflower, groundnuts and palm oil were crops needs in oilseeds production. Equipments farmers need in oil seed crops production and processing. According to the findings assessed that farmer engaging in oilseeds production and they needs varieties of equipments which help in farming activities. These equipments are:- Oxen, plough, Axe, Hand hoe, Tractor, Planters and Cultivator. Challenges face farmers on oilseed crop production and processing during the study the researcher investigated that community have challenges which face to engage with oilseed crop production and processing in Mshani village which includes: Low income, high distance of processing area, Poor system, Diseases, lack transport, poor oilseed markets, and unreliable rainfall, Soil infertility, Lack reliable market and lack of improved oil

seeds; Benefits farmers get from their produced goods in obtaining information on these respondents asked to mention benefits which get from oilseeds produced goods. This question help the besecher to know if there were benefits farmers get when engage with oil seeds processing business to improve standard of living. Respondents benefited as follows: To earn income, Domestic uses and Animal feeding.

Prioritization activities done by respondents after understood and take into thought according the importance of needs; accept that the presented needs are community need such as Oilseeds Processing Irrigation scheme, Oilseed Processing Machine, Seed Production, Seeds Transport, Seeds Market. After ranging needs community members ranked needs according their priority, Community needs ranking activities done by using Pairs wise ranking methods in Prioritization of community needs. Prioritization process done by the community to know which was the first needs to implement such as Oilseeds Processing was become first need, the second needs was Oilseed Processing Machine, the third needs is Oilseed production the fourth Seeds Transport ,the fifth Seed Market, The six one was Irrigation scheme. This prioritization exercise is very crucial to make understanding to the community what is going on and for which benefits. These increase we feeling and morale of work in performing community activities.

1.2 Community Profile

Mshani village profile reviews certain information to the areas such as geographical location this elaborate study area and its boundaries, Political /administrations

structure views about community leaders, economic activities elaborate income generating activities engaged by the community, demographic features, social stratification and power relation, organization and their activities cultural features, social services providing to the community and critical issues arises which include diseases, environmental degradation and political power possessed to the community. See appendix iv map of Mshani village attached.

1.1.1 Geographical Location

The village has 7105.96 square kilometers and allocated in 73 km from Sumbawanga town to Mbeya. It is situated in the East Kizumbi village, West Kalambazite village, South Lusaka village, North Mlombo Village, North East of Lake Kwela. Lake Kwela is 8 Meters deep, is the smallest lake within Sumbawanga District Council preferable for fish keeping, Lake Kwela has salt water with bicarbonate.

1.1.2 Political Administrations Structure

Mshani village is one among of six villages in Kalambazite Ward. Its administrations structure contains 25 villages councilor including 4 leaders such as village chairman, Village Executive Officer and two village hamlet leaders. Responsibility of leaders as follows: Village Chairman responsible for organizing and preparation of meeting has a last say, supervising other leaders and activities; Village Executive Officer is a peace guider of the village, supervisor of all development activities as well as secretary of the village; Village hamlet leaders responsible in directing community to development activities, giving different village information; village councilor responsible in community representatives and decision maker of village activities.

1.1.3 Economic Activities

Economic activities practiced at Mshani village are farming activities producing food crops such as Maize, millet, groundnuts, beans, sweet potatoes, finger millet and vegetables, cash crops sunflower and beans. Pastoralist activities are among of activities done by the residents of Mshani Village. Animals kept in this area are cattle, goat, poultry, dogs, donkeys, chickens and ducks. Entrepreneurs in this area engage with different petty business such as retailers, shops, food vendors. Also there is fishing activities which engaging in Lake Kwela. Table 1: illustrate types of crops farming for one acre in Mshani village

Table 1: Types of Crops Farming for One Acre in Mshani Village

Hamlet	Crops	Acre per family	Production per acre	Total of family	Total of acre	Total of product (sack)
Majeño	Maize	5	12 sack	445	2225	26,7000
	Beans	2	5 sack	445	890	4050
	Groundnuts	1	10 sack	445	445	4450
	Millet	2	6 sack	445	890	5340
	Sunflower	3	5 sack a	445	1335	6675
Kisa	Maize	5	12 sack	213	1065	18780
	Beans	2	5 sack	213	426	2130
	Grand nuts	1	10 sack	213	213	2130
	Millet	2	6 sack	213	426	2556
	Sunflower	3	5 sack a	213	639	3195

Source: Mshani Village Councilor, (2010)

1.1.4 Demographic Features

According to 2002 populations' census Mshani villages have populations 2,333, including 1,419 male and 1,568 females and 2012 projection are 2,987 including

male 1,419 female 1,568. Among of these adults 1,318 male 622 and female 696 and children are 1,669. Number of house hold 308 headed by males 274 headed by females 34, walking group 976 males 536 females 442 not walking group 296 males 124, females 172.and Disabled are 10, males 6, Females 4. Refer table 2: below elaborates hamlet population, total population and number of household in the village.

Table 2: Hamlet Population, Total Population and Number of Household in the Village

S/N	Hamlet	Malé	Female	Children (year 0 18)		Total	Household
				Male	female		
1	Majengo	331	350	727	665	2210	445
2	Kisa	145	171	256	342	1066	213
	Total	476	521	983	1007	2987	658

Source: Mshani village councilor, (2010)

1.1.5 Social Stratifications and Power Relations

Social stratification of Mshani village is divided into the following group such as children, youth, women; men disabled, orphans, widows and widowers. Power relations in this village are male dominated. Males are the decisions in all levers of decision making it means from family leaver up to village leaver although the government encouraging gender participations by participating 8 women's out of 25 council members. But the women are in theoretical but practically men's are decisions maker and women are decision taker.

1.1.6 Organizations and their Activities

Organizations selected are village council under village chairman and Village Executive Officer. Their activities are:- To maintain peace and harmony in the village, composing by laws, formulations of different plans, Supervision of different projects intervention within the village. Conducting different meeting in the village and oversee all activities undertaken by different Community Based Organization within the village.

1.1.7 Cultural Factors

In culturally, dominant ethnic group in Mshani village is Wafipa and others are immigrant such as Wandari, WanyakyusaWakinga and Wabena. Majority of this people share ring local language called Kifipa. Kiswahili is a National language using by all people but in specific period of time such as to schools, religious, and visitors who doesn't know local language. Social believes which dominate in this area is Christians and Sunday is a worship day and everyone not allowed to work. Few people are pagans they are walking everyday and have his or her believer.

1.1.8 Social Services

(i) Education

Community of Mshani village contains people of different leavers of education from primary, secondary up to higher educational. Most of people in Mshani village are primary school leavers; few are form four leavers, professionals such as primary school teachers, Doctor, adult education, tertiary educations. This village there is one primary school and one ward secondary school; these institutions can help

community to accomplish different types of activities such as agricultural (farming and animal keeping activities).

(ii) Water Sector

Water are the hot issue to Mshani community, all the community members draw water from different sources of wells which some of it available very far to the village. Currently there are three bore holes one is broken not used, two are not enough to satisfy water needs of all the people. The present situation forced community to use tradition water well within their area without fearing their health status. This water is neither clean nor safe hence there is frequent outbreaks of water born disease such as Typhoid fever, diarrhea, and chystosomer.

(iii) Health Sector

The Tanzania government plan to allocate health service near to the people. So Mshani village is among of village which has opportunity to have dispensary and its services. The village has one Dispensary which is in constructing process but have doctor who providing health service although the building is not completed. Moreover the community members when suffering they receive advice and treatment from the doctor and if the disease is impossible he gives admission to go to the further hospital such as Sumbawanga town and Mbeya region to find health treatments and they come back when recover.

(iv) Playing ground

In Mshani village there is no village praying ground but they are using primary school praying ground. This playing ground have been using by the community in

football exercises and preparation for different village neighbor match and during the neighbors match can use but when the pupils have match allowed to post pond the match waiting pupils to finish their match and then they continue. Even Primary pupils use their praying ground exercise and for primary school neighbor match.

(v) Communication Network

In Mshani community communication is very important to have different information concerning rise and fall of markets of sunflower product in different areas including Kalambazit, Laela, Sumbawanga town and Mbeya. There is telephone communications which most of the villagers using hand set phone from cellular phone Company including Vodacom and Airtel. Also roads use by community as means of communications system. This road is the main road cross from Sumbawanga town cross to Mshani village to Mbeya region.

(vi) Power Supply

The area have no electricity supply, they are using generators, kerosene, charcoal and fire wood. The power using by the community like generators few people afford to buy generators and majorities of them using kerosene which selling by small traders in small quantity to the small and big users. Moreover community use charcoal and firewood burning brick for house building as well as for cooking but majority of them were using fire wood which was express energy for cooking.

1.1.9 Critical Issues

(i) Diseases

Diseases are the problem in this area. The following diseases which disabling Mshani people are: Malaria, typhoid fever, HIV/Aids epidemic disease, diarrhea,

sychtosomer, hernia, and cough. Typhoid fever, diarrhea, and sychtosomer caused by using and drinking unsafe and dirty water. Hernia caused by worms which present to the lake Kwela, and cough caused by weather conditions, Malaria caused by mosquitoes due to most of the community have no tendency of using mosquitoes net during the night time, HIV/AIDS the term HIV/AIDS stand for Human immunodeficiency virus/ Acquired Immune Deficiency Syndrome.

Although there were other methods of diseases transmission most of the Mshani people Get HIV/AIDS through sexual intercourse with infected person. The action done without protection/ using (Condom) which done after taking traditional bear called (Common). HIV/AIDS cause death of many people to the community.

(ii) Environmental Degradations

Environmental degradation is among of the problem which faced Mshani community due to economic activities such as farming, animal keeping and hunting. Farming, this is the main activities of community which depend in income generating activities. Many people practice poor farming system by burning lands and shifting cultivation which cause land degradation.

Also animal keeping contribute in environmental degradation due to some of them have animal such as cows, pigs and goats which not keeping in good manner leaves loitering to the streets and lands and cause land degradation. In hunting, bush rats are delicious meats to the Fipa people, so most of them who eat rats' burning bushes for hunting them hence cause environmental degradation.

(iii) Political Power

Chama Cha Mapinduzi (CCM) is only political party which exists at Mshani community. In this community there is no other branch of political power which competing each other. More over all the community members believes in one political part which is 'Chama cha Mapinduzi' (CCM) although in this country have many political parties. This leads same Mshani community to believe in one party to bring developments to them.

1.2 Community Needs Assessment

Community Needs Assessment is the initial stage of the project identification which creates awareness, ownership and sustainability. Awareness created when understood the needs and important of meeting that needs, ownerships comes when the community participated in different activities from initial stage needs identification, implementation stage up to the last stage. Sustainability comes through community participation in needs identification which creates us feeling leads ownerships. This aimed to revealed challenges and problems faced the community based on the study.

Assessment of needs in Mshani village done by MCED students in participatory approach called Participatory Rural Appraisal. She have a meeting by the village leaders asked community meeting accepted and conducted including ask community members to support MCED students to fulfill the given questionnaire and then community agreed to support her as well as to volunteered representatives in set and priotised community needs. After fulfillment of questionnaires the answer analysed in older to have challenges which leads to have needs which called community Needs assessment.

1.2.1 Community Needs Assessment Objectives

(i) Overall Objective

To assess needs, challenges and problems facing farmers in Mshani village.

(ii) Specific Objectives

- (a) To determine needs of farmers in the community.
- (b) To identify challenges of farmers in the community.

1.2.2 Community Needs Assessment Questions

1. Which crops the farmers need to produce oil seeds?
2. Which equipments the farmers need in oil seed crops production and processing?
3. What challenges do farmers face on oilseed crop production and processing?
4. Do farmers get benefits from their produced goods in what extent?

(i) Research Design

The study was designed as descriptive research due to the sunflower seeds processing combined different views from different farmers and officers to the community. The study was consumed different resources including time. Descriptive study was help to look problem and how to solve for future.

(ii) Research Methodology

The researcher in order to meet the community needs used participatory approach called Participatory Rural Appraisal. This approach used to the period of data correction due to encourage e the community members to express out their views

during the study. Participatory Rural Appraisal used in correction of data through interview, questionnaires and observation.

(iii) Sampling Techniques

(a) Targeted Population and Sample

The targeted population of the study was selected from Mshani village which sample was 150 respondents where by 1 is District Agricultural and Livestock Development Officer, 1 Ward Executive Officers, 1Ward Agricultural Officers, 5 village leaders, 130 Farmers from two hamlets Majengo and Kisa. Table 3 illustrates more the composition of the sample.

Table 3: Composition of the Sample

S/NO	CATEGORY	PLACE	POPULATION	SAMPLE SIZE	
				Number	%
1.	DALDO	SDC	1	1	100
2.	WEO	Klambanzite	1	1	100
3.	WAO	Kalambanzite	1	1	100
4.	VAO	Mshani	1	1	100
5.	VEO	Mshani	1	1	100
6.	Village chairman	Mshani	1	1	100
7.	Hamlet chairman	Marengo &Kisa	2	2	100
8.	Farmers	Mshani village	142	130	92
TOTAL			150	138	92

Source: Community Needs Assessment Finding Mshani Village, (2012)

(b) Sampling Procedures

This study was employ one sampling technique, namely simple random sampling. Simple random sampling was used to select the respondents according to the population of Mshani village. Mshani villages have populations 2,987 among of these adults 1,318. Most of population of Mshani village is children due to this condition the researcher decided to use 5% of total population as a sample.

$$\frac{2987 \times 5}{100} = 150.$$

(iv) Data Collection Methods

In older to get insight of the study primary and secondary methods were used in data correction different methods of data collection were used to correct enough information concerning the study. Primary data corrected through interview, questionnaires and observation and secondary data corrected through documentation.

(iv) Interview

Interview method used to get information concerning the area of study. In this method personal interview used to obtain data by asking farmers structured question in face to face contact by the farmers. The method used helped to have different views concerning the study such as Geographical Locations, Political administrations structure, Economic Activities, Organizations and their activities, Cultural Factors and Social Services. This study gives out certain picture of the project areas as well as real situation of the area.

(a) Questionnaire

Questionnaire method used to get information about sunflower processing seeds and its production. The method used is both structured and unstructured

questionnaire in data collection. The method done by given all respondents questionnaire and give a time to complete answering questionnaire and gathered after finish. In this exercise every participant answered questionnaire alone by directing with the researcher without copping with the neighbor answer.

(b) Observation

Participant observation used to have data like sunflower processed oil and farming activities. The community needs assessment person observed that the communities are the major producers of food and cash crops including sunflower product as well as sunflower store stored same of sunflower bags waiting for processing. Addition thing which observed including that Pig keeping group was not represent effectively due to fearing shyness because their group was not productive it remain in name only. Other things observe was good participation of Kafukoka groups due to the villagers taking example of had walking from this group.

(c) Documentation

Interview, questionnaires and observation were not enough to get sufficient information concerning the study of sunflower project. Also documentation was used to get data concerning sunflower (production, processing, packaging, dissemination) Demographic Features, economic activities and geographical location. Most of documentation presents through online. Through online obtain different document from different source including books, policies, researches, reports, profiles and projects.

(i) Data Analysis

The use of Statistical Package Software Skills (SPSS) was applied in data analysis. The raw data collected from either source handled in a systematic form including identify of errors coding and storing in appropriate form. The collected data processed in procedure which is meaningful. With the help of computer software the raw data edited, coded and entered in computer, tabulation and graphs through SPSS program for further process. Processed data analyzed so that the researchers find out the pattern that exists among the data groups. Information collected from primary and secondary source. Quantitative data analyzed by using Statistical Package for social science (SPSS) soft ware to compute %ages, tabulations. SPSS chosen because it can take data from almost any type of file and use them to generate tabulated reports. Student use graphs, tables and pie charts in presentation of analyzed data.

1.3 Community Needs Assessment Findings

Community needs assessment finding basically designed to present what was gathered during the study. The finding presented based on the research questions which hold base the situation concerning community needs of Mshani village – in Sumbawanga. The data were obtained from Mshani village, ward leaders and district leaders.

1.3.1 Respondent Profiles

The study covered to a total of 138 respondents where by 1 is District Agricultural and Livestock Development Officer, 1 Ward Executive Officers, 1 Ward Agricultural Officers, 5 village leaders, 130 Farmers from two hamlets Majengo and Kisa. Out of these 102 are male and 36 are female. Refer Table 4.

Table 4: Distribution of Respondents by Responsibility

No	Respondents	Frequency %		Valid	Cumulative
				%	%
1.	District Agricultural and Livestock Development Officer	1	.7	.7	.7
2.	Ward Executive Officer	1	.7	.7	1.4
3.	Ward Agricultural Officer	1	.7	.7	2.2
4.	Village Executive Officer	1	.7	.7	2.9
5.	Village Agricultural Officer	1	.7	.7	3.6
6.	Village Chairman	1	.7	.7	4.3
7.	Hamlet Chairman	2	1.4	1.4	5.8
8.	Farmer	130	94.2	94.2	100.0
Total		138	100.0	100.0	

Source: Community Needs Assessment Finding Mshani Village 2012

(i) The Crops Farmer Need To Produce Oil Seeds

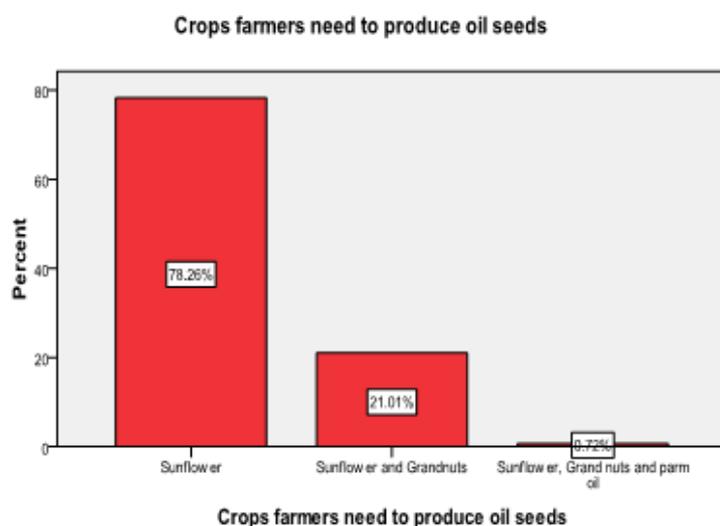
In obtaining information concern crops farmers' needs to produce oilseeds respondents asked to mention oil seeds. This question asked in order to know the types of oilseeds which available to the selected area. The respondents mentioned sunflower, groundnuts and palm oil were crops needs in oilseeds production refer Table 5. Table 5 elaborates the results of respondents who interviewed about crops which farmers need to produce oil seeds like that: 78.3 % said that they need sunflower oil seeds.

Table 5: Crops Farmers Need To Produce Oil Seeds

No	Types of oilseeds	Frequency	%	Valid %	Cumulative %
1.	Sunflower	108	78.3	78.3	78.3
2	Sunflower and Groundnuts	29	21.0	21.0	99.3
3.	Sunflower, Groundnuts and palm oil	1	.7	.7	100.0
Total		138	100.0	100.0	

Source: Community Needs Assessment Finding Mshani Village (2012)

The respondents said that due to most of the oilseeds processed in Mshani village is sunflower seeds oil; 21.0 % said that they need sunflower and groundnuts seeds to produce oilseeds, these respondents answered because few farmers they processed groundnuts in form of oil but most of farmers use pounded groundnuts instead of oil form; and 0.7 % said that they need Sunflower, Groundnuts and palm to produce oil because palm oilseeds is not produced in sample area but it produced within the district to the coastal of lake Rukwa.

**Figure 1: Crops Farmers Need To Produce Oil Seeds**

Source: Community Needs Assessment Finding Mshani Village 2012



Figure 2: Sunflower Farm in Mshani village

Source: Community Needs Assessment Finding Mshani Village, (2012)

Also Figure 1 above illustrates crops which farmers need to produce oil seeds. Moreover the photo above shows matured Sunflower seeds farm produced in Mshani village.

(ii) Equipments Farmers Need in Oil Seed Crops Production and Processing

According to the findings assessed that farmer engaging in oilseeds production and they needs varieties of equipments which help in farming activities. These equipments are Oxen, plough, Axe, Hand hoe, Tractor, Planters and Cultivator. Table 6 below shows that 59.4 percent of all interviewed respondents said that they need oxen, plough and hand hoe in production activities; while 26.1 percent of respondents said they needs oxen and plough; 17 percent said they needs hand hoe and axe in oil seeds production; 1.4 percent needs hand hoe and 0.7 percent needs Tractor, Oxen, Ploughs, Planters and Cultivator, refer Table 6 below.

Table 6: Equipments Farmers Needs in Oil Seed Crop Production

No.	Types of equipments	Frequency	%	Valid %	Cumulative %
1.	Oxen, Plough and Hand hoe	82	59.4	59.4	59.4
2.	Oxen and Plough	36	26.1	26.1	85.5
3.	Hand hoe and axe	17	12.3	12.3	97.8
4.	Hand hoe	2	1.4	1.4	99.3
5.	Tractor, Oxen, Ploughs, Planters and Cultivator	1	.7	.7	100.0
Total		138	100.0	100.0	

Source: Community Needs Assessment Finding Mshani Village 2012

Also a farmer needs equipments in order to accomplish oil seeds processing activities which include: Oil processing machine and mill. Table 7 illustrate more as shown 20.3 percent of interviewed respondents use oil processing machine and mill in oil seeds processing and 79.7 percent of respondents said that they need oil processing machine in processing activities because to use mill in seeds processing spend a lot of time to have oil but now days most of farmers use machine in order to reduce workloads and to save time.

Table 7: Equipments Farmers Needs in Oil Seed Crop Processing

No.	Types of equipments	Frequency	%	Valid %	Cumulative %
1.	Oil processing machine and mill	28	20.3	20.3	20.3
2.	Oil processing Machine	110	79.7	79.7	100.0
Total		138	100.0	100.0	

Source: Community Needs Assessment Finding Mshani Village, (2012)



Figure 3: Example of Equipment use in Processing Called Sunflower Seeds Processing Machine

Source: Community Needs Assessment Finding Mshani Village, (2012)

The above picture shows one of oil seeds equipment needs for processing. This equipment uses an electricity power control. It contain different parts such as mill part of putting sunflower seeds, oil flow part, sunflower cakes flow part beckets for flowing oil and container of water in seed watering activities before dropping to machines mill.

(iii) Challenges Face Farmers on Oilseed Crop Production and Processing

During the study the researcher investigated that community have challenges which face to engage with oilseed crop production and processing in Mshani village which includes: Low income, high distance of processing area, Poor farming system, Diseases, lack transport, poor oilseed markets, and unreliable rainfall, Soil infertility, Lack reliable market and lack of improved oil seeds. The findings are summarized in table 7 below:- 21 percent of total respondents challenged by Low income and high distance of oilseeds processing area; 13 percents illustrate that challenged by Poor farming system; 7.2 percent said that to them diseases is the problem; 26.1 percent illustrate that they Lack transport and poor oilseeds markets; 7.2 percent give out

their views that:- Low income and poor farming system challenged them. 6.5 percent said that Diseases and unstable rainfall; 8.0 percent Low income and poor markets; 8.0 percent No reason or Empty these respondents have no reason and wrote nothing; and 2.9 percent of respondents said that they challenged with Lack of capital, unreliable rainfall, Soil infertility, Lack reliable market and lack of improved oil seeds.

Table 8: Challenges Face Farmers in Oilseed Production and Processing

No	Challenges	Frequency	%	Valid %	Cumulative %
1.	Low income and high distance of oilseeds processing area	29	21.0	21.0	21.0
	Poor farming system	18	13.0	13.0	34.1
2.	Diseases	10	7.2	7.2	41.3
3.	Lack transport and poor	36	26.1	26.1	67.4
4.	oilseeds markets				
5.	Low income and poor farming system	10	7.2	7.2	74.6
6.	Diseases and unstable rainfall	9	6.5	6.5	81.2
7.	Low income and Poor markets	11	8.0	8.0	89.1
8.	No reason or Empty	11	8.0	8.0	97.1
9.	Lack of capital, unreliable rainfall, Soil infertility, Lack reliable market and lack of improved oil seeds.	4	2.9	2.9	100.0
	Total	138	100.0	100.0	

Source: Source: Community Needs Assessment Finding Mshani Village, (2012)

Figure 4 adds that the challenges which faces farmers have highest percentages 36% than others challenger this illustrate that this affects most of the farmers in the villages

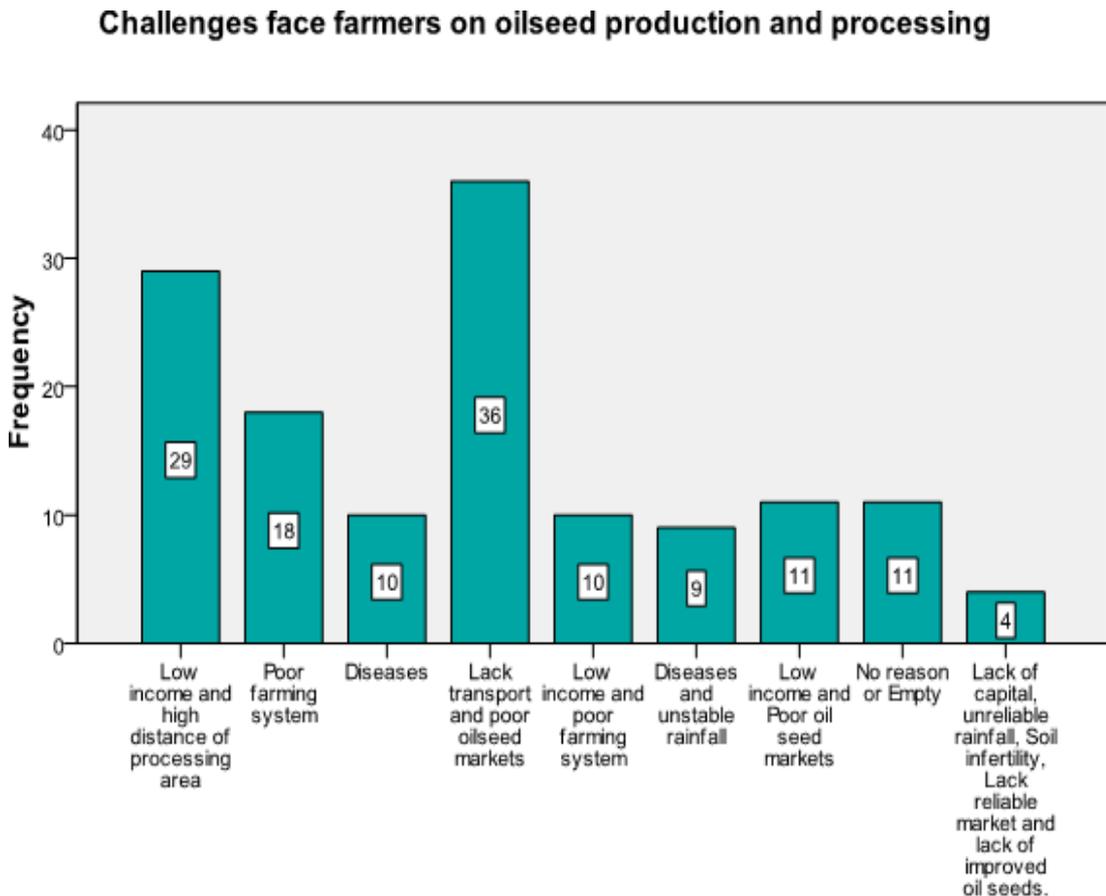


Figure 4: Challenges Face Farmers on Oilseed Crop Production and Processing

Source: Community Needs Assessment Finding Mshani Village, (2012)

(iv) Benefits Farmers Get from their Produced Goods

In obtaining information on these respondents asked to mention benefits which get from oilseeds produced goods. This question help the besecher to know if there were benefits farmers get when engage with oil seeds processing business to improve standard of living. Respondents benefited as follows: - To earn income, Domestic uses and Animal feeding. Refer Table 9 below.

Table 9: Benefits Get Form Oil Seeds Produced Goods

No	Benefits	Frequency	%	Valid %	Cumulative
					%
1.	To earn income	39	28.3	28.3	28.3
2.	Domestic uses	30	21.7	21.7	50.0
3.	To earn family income and domestic uses	46	33.3	33.3	83.3
4.	To earn Family income, Domestic uses and Animal feeding	13	9.4	9.4	92.8
5.	No Benefits	10	7.2	7.2	100.0
Total		138	100.0	100.0	

Source: Source: Community Needs Assessment Finding Mshani Village, (2012)

From the table above observed that 28.3 percent of respondents' oil seeds goods help farmers to earn income; 21.7 percent benefits for domestic uses; 33.3 percents oilseeds help to earn Family income, Domestic uses and Animal feeding; 9.4 said that oilseed helps to earn Family income, Domestic uses and Animal feeding and 7.2 said that there is no benefits which get from oilseeds goods which produced.

Addition to that table 10 below elaborates the price of seeds oil (sunflower and grand nuts seeds) which farmers sold. 38.4 percent said that an oil seed which is Sunflower sold 15,000shillings per bag, 30.4 percent contribute that oil seeds namely Sunflower and groundnuts sold 20,000 shillings per bag; 23.9 percent said that oil seeds Sunflower sold 25,000 shillings per bag, 7.2 percent of respondents viewed out that Sunflower and Groundnuts seeds sold 30,000 shillings. This amount is very low to compare with production cost especially seeds which sold during harvesting season.

The real situation shows that most of farmers are still under the poverty line although engaging with oil seeds production.

Table 10: Price of Oilseeds per Bag

No	Price of oilseeds	Frequency	%	Valid %	Cumulative %
1.	Sunflower 15,000	53	38.4	38.4	38.4
2.	Sunflower and groundnuts 20,000	42	30.4	30.4	68.8
3.	Sunflower 25000	33	23.9	23.9	92.8
4.	Sunflower and Groundnuts seeds 30,000	10	7.2	7.2	100.0
Total		138	100.0	100.0	

Source: Source: Community Needs Assessment Finding Mshani Village, (2012)

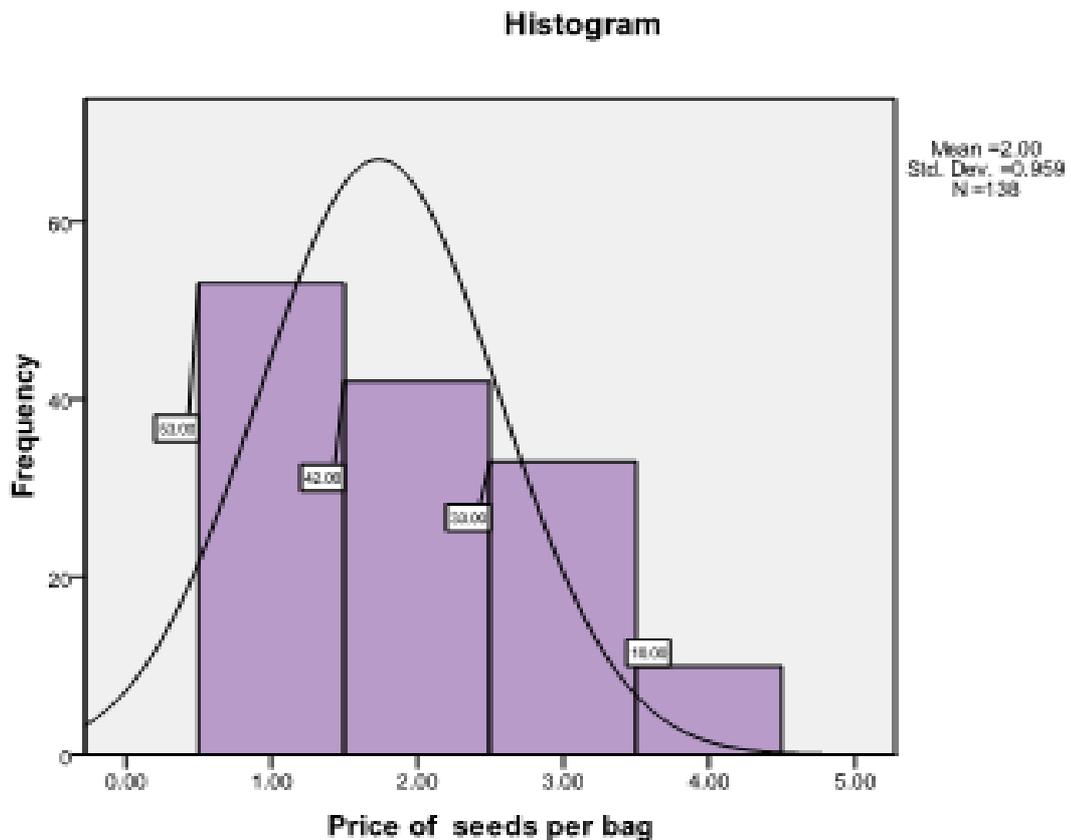


Figure 5: Price of Oil Seeds per Bag

Source: Community Needs Assessment Finding Mshani Village, (2012)



Figure 6: Sunflower Seeds Bagged and Stored Ready for Processing

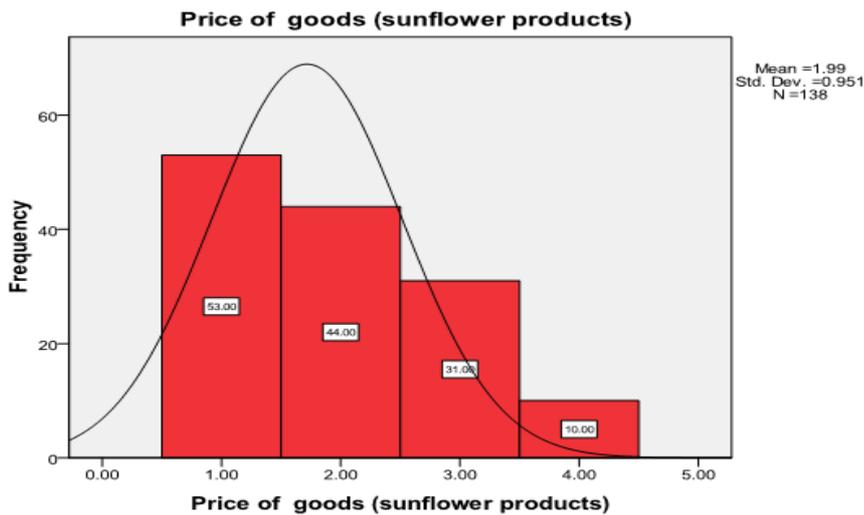
Source: Community Needs Assessment Finding Mshani Village, (2012)

Also Figure 5 above illustrates price of oil seeds per bag which sold by farmers. Moreover the figure 6 above shows Sunflower seeds bagged and stored ready for processing. One among the farmers sunflower store which preserved for processing. Moreover during the study the respondent asked to mention the price of oil seeds goods so as to know if the oil seeds when sells processed goods is profitable. according to the Mshani village profile the oilseeds which produced and processed in form of oil is sunflower, due to that the respondents gives out sum of the price of sunflower goods such as during the harvesting season sunflower bag which sold 15,000 shillings when processed can get 50,000 shillings , sunflower bag which sold 20,000 shillings when processed can get 60,000 shillings and sunflower which sold 30,000shillings when processed can give out can give out 65,000 or 80,000 shillings. This goods price is reasonable and profitable to the oil seed farmers. The Table 11 and figure 7 below elaborate more.

Table 11: Price of Goods (Sunflower Products)

No	Price of goods	Frequency	%	Valid %	Cumulative %
1.	50,000	53	38.4	38.4	38.4
2.	60,000	44	31.9	31.9	70.3
3.	65,000	31	22.5	22.5	92.8
4.	80,000	10	7.2	7.2	100.0
Total		138	100.0	100.0	

Source: Source: Community Needs Assessment Finding Mshani Village, (2012)

**Figure 7: Price of Goods (Sunflower Product)**

Source: Community Needs Assessment Finding Mshani Village, (2012)

The above table and figure 4 elaborate that 38.4 percent said that oilseeds goods (sunflower seeds products) sold 50,000 shillings; 31.9 percent suggest that oil seeds goods (sunflower seeds products) sold 60,000 shillings; other 22.5 percent support that oil seeds goods (sunflower seeds products) sold 65,000 shillings and 7.2 percent said that oil seeds goods (sunflower seeds products) sold 80,000 shillings this price is seasonal price which occur during the rainy season but to other season there is moderate price.

1.4 Community Needs Prioritization

Community needs addressed by the community members by looking their needs concerning production and processing oil seeds to their village. Prioritization exercise done after the respondent give out community problems which leads to address their needs. The following are the list of Mshani community needs as follows:-Seeds Processing, Irrigation scheme Oilseed Processing Machine, Seed Production, Seeds Transport and Seeds Market.

Prioritization exercise done by respondents after understood and take into thought according the importance of needs; accept that the presented needs are community need which followed by ranking needs activities. Community needs ranking activities done by using Pairs wise ranking methods in Prioritization of community needs. Table 12 below elaborated.

Table 12: Pairs Wise Ranking Matrix

NEEDS	Seeds Processing	Oilseed Processing Machine	Oilseed production	Seeds Transport	Seeds Markets	Irrigation scheme	Rank	Position
Oilseeds Processing		Oilseeds Processing	5	1				
Oilseed Processing Machine			Oilseed Processing Machine	Oilseed Processing Machine	Oilseed Processing Machine	Oilseed Processing Machine	4	2
Oilseed Production				Oilseed Production	Oilseed Production	Oilseed Production	3	3
Seeds Transport					Seeds Transport	Seeds Transport	2	5
Seeds markets						Seeds markets	1	4
Irrigation scheme							0	6

Source: Community Needs Assessment Finding Mshani Village 2012

The result from Pairs wise Ranking Matrix methods, prioritizations process results comes as follows:

1. Oilseeds Processing
2. Oilseed Processing Machine
3. Oilseed Production
4. Seeds Transport
5. Seeds Market
6. Irrigation scheme

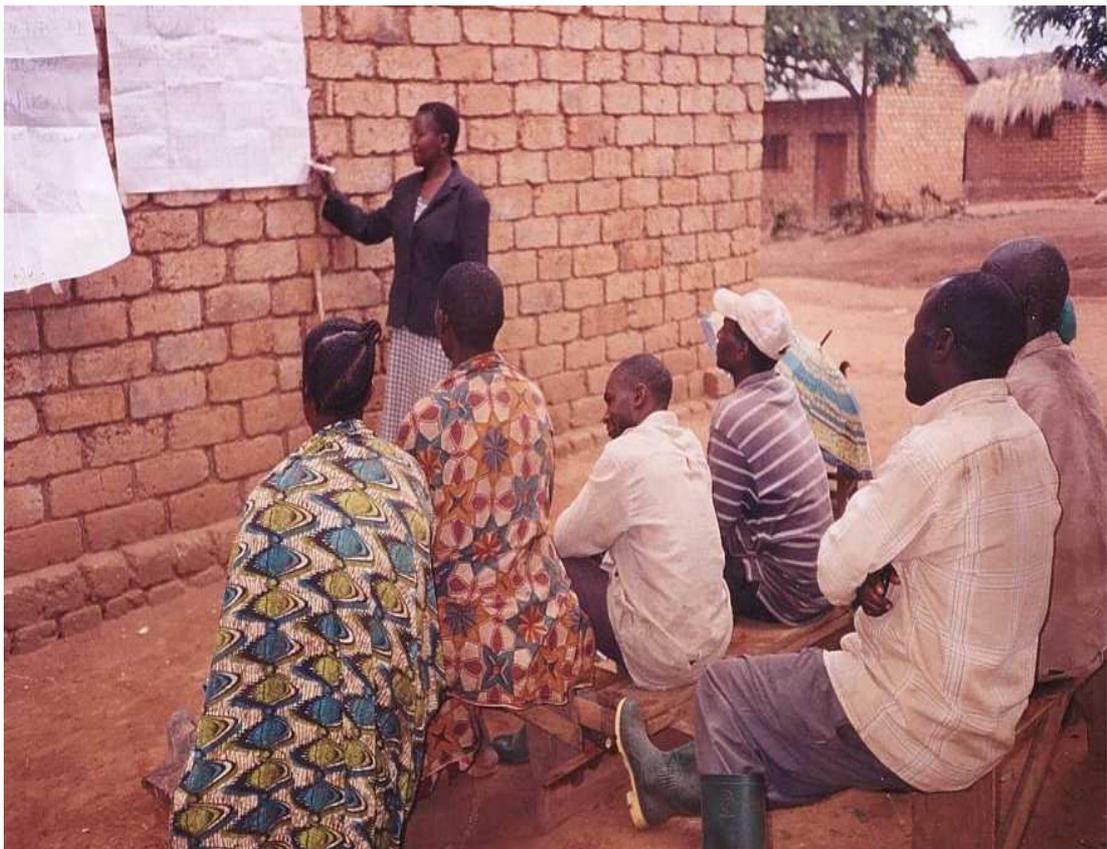


Figure 8: Groups' Representative who Participated in Process of Prioritizations of Needs

Source: Community Needs Assessment Finding Mshani Village, (2012)

The result of prioritization process from Table 12 above shows that Oilseeds Processing was become first need, the second needs was Oilseed Processing Machine, the third needs is Oilseed production the fourth Seeds Transport ,the fifth Seed Market, The six one was Irrigation scheme. Also community representatives said that due to the problem that producing to higher cost and selling lower cost unprocessed seeds, when processed in form of oil, value of product increased which lead oilseeds product to be profitable. The picture 3 below shows the participants who participate in prioritization of community needs. Refer Picture 4 below.

1.5 Conclusion

Mshani community is the farmers community which engaging with different farming activities including oilseeds cultivation. Sunflower productions engage as cash crop production. The products were profitable when the farmer practice good farming system and sell processed product which can able to improve their standard of living. Challenges which face to engage with oilseed crop production and processing in Mshani village were Low income, high distance of processing area, Poor farming system, Diseases, lack transport, poor oilseed markets, and unreliable rainfall, Soil infertility, Lack reliable market and lack of improved oil seeds.

CHAPTER TWO

2.0 BACKGROUND TO RESEARCH PROBLEM

Sunflower is important oil seeds crops which growing in many part in Tanzania for direct consumption as well as cash crops. The Sunflower crops growing in the area are black and white sunflower. The community was faced with different problems which hinder them to engage with sunflower production such as: Low income, Poor farming system, Diseases, Poor market of sunflower seeds and unstable rainfall.

Some of farmers are practice poor farming system makes them to harvest low sunflower seeds. Moreover the harvested seeds sold unprocessed which increase loss. These prices are very low compare production cost which is 100,000 shillings per acre. Poor market of sunflower seeds leads sunflower seeds product to be not profitable after sold. Markets are poor due to lack market structure and permanent buyers from different areas such as Sumbawanga, Laela, Tunduma and Mbeya. These small buyers are buying sunflower seeds from the farmers for low prices of 15,000 /-minimum and 30,000 maximum per bag. Also the small buyer sold processed product like oil and sunflower cakes which gives them more profits of 50,000 minimum and 80,000 maximum. Mshani village have productive area, fertile land which producing different types of crops including sunflower seeds crop. Most of the farmers are producing for domestic uses as well as for sell the excess although it is not reasonable prices.

The purpose of choosing this area is that, the area is productive of different farming crops production. Among of this crops sunflower is the most crop which is highly

produced in the area and mainly as cooking oil seed as well as cash crop product. Production of this crop involve high cost of production but when come to returns there is no benefit to farmers as they sells sunflower seed in low price without adding any value to increase the price of this crop. This situation is among the factor that draws them back economically. Community allows looking on the increase of the value by increasing sunflower processing to cells sunflower products instead of seed which may be one of the solutions to reduce the sharpness of the problem.

2.1 Statement of the Problem

The traditional marketing systems have negative impact of farmers which cause Mshani farmers to remain behind in development of farming activities. The experience shows that sunflower seeds not given first priority to the market price compared its oil and cakes which leads to sunflower seeds sold in low price but its oil and cakes sold in high price.

In many societies poverty is a challenge although the government makes effort in formulating agricultural policies in creation of conducive environment for agricultural growth, specifically in relation to the development of markets and marketing systems for inputs and outputs but poor planning, knowledge and management of agricultural outputs leads the farmers to fall into the jungle of poverty. The need for poverty alleviation is important issues for any community in its economic development. So promotion of cash crop agricultural seeds processing, industries, foreign trade and the general social life of human beings. The most affect of this problem are farmers that if are to be supported themselves with team spirit they should be promoted.

In attempt to solve the problem of poverty the government of Tanzania provides agricultural intensive and Field officers to provide education to the farmers important of selling sunflower processed goods in order to improve life standard of farmers especially in the rural areas.

2.2 Project Description

Sunflower seeds processing project cover 24 sunflower producers of Mshani village Kalambazite ward Sumbawanga district. In this project sunflower producer (farmers) are the main implemental of the project due to participate in all activities concerning the project such as production, processing, packaging and distribution. Every farmer allowed participating in sunflower seeds activities project which helps the farmers to produce for their own benefits and create self help including sustainability. Production, processing, packaging and distribution activities engage in different season whole the year.

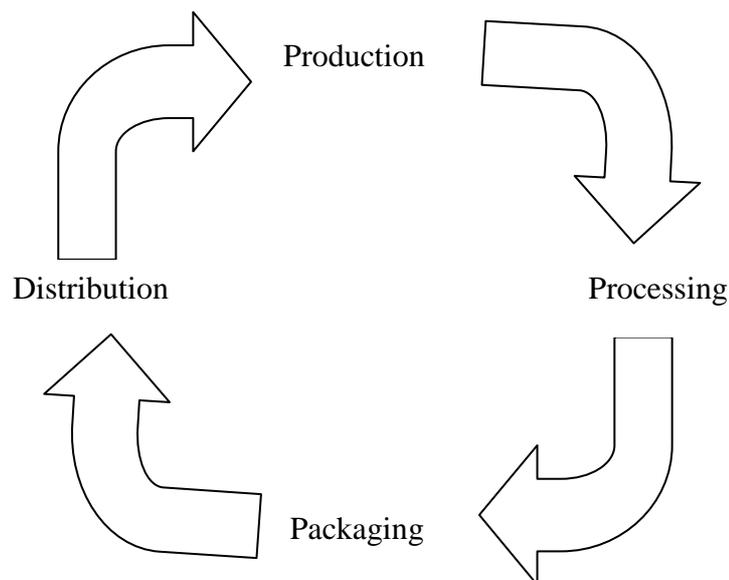


Figure 9: Sunflower Seeds Processing Project Cycle

Source: Community Needs Assessment Finding Mshani Village, (2012)

2.2.1 Production

Sunflower Production engages by the farmers themselves. Production activities practice during rainy season. Farmer has his /her own sunflower farms at least one to three acres and producing sunflower seeds for domestic uses and for business. Farmers should able produce sunflower seeds in their farms by in participatory way during cultivation, weeding and harvesting. They use oxen drought in participatory way by neighbors or relatives whether have oxen drought or not and some of them use human labour during production. Farmers can prepare their farm in December and early January and if the land is not fertile they put cow dung manure or industrial manure to their farms to fertile land; Planting to the end of January up to the early 15 in February. Farmers use record and modern seeds types of sunflower seeds in production of sunflower to their farms. Weeding activities done two weeks after sunflower seeds germination period. Diseases like fungus prevention during germination period as well as whole growing process; Birds, Insects and Rats hearing activities done in different season in planting, flowering and sunflower mature stage. Sunflower harvesting take place after sunflower seeds to be matured and stored waiting for processing.

2.2.2 Processing

Activities of Sunflower processing practice by farmers in June after harvest season. Stored sunflower seeds dried and become ready for processing. Farmers send sunflower seeds to the processing area such as Kalambazite neighbor village Kantembo Mission sunflower processing Machines, Sumbawanga municipal, Laela, and Mbeya Vwawa. Among these place community prefer to process in Mbeya

Vwawa due to machine perform two activities to the same time that is processing activities goes together with filtration of sunflower oil to be good and clean oil ready for sale or for domestic uses. Also Kalambazite Kantembo Mission, Sumbawanga town and, Laela sunflower processing Machines these machines have no filter of oil so the farmers to have clean oil for sell and domestic uses allowed to boil sunflower oil after processing.

2.2.3 Packaging

The farmers packaging sunflower oil and cakes in processing area as well arrived home. In the area of processing producers pack sunflower oil in large quantity such as in big containers or large quantity for large users such as plastics container of 20 litters, plastics container of ten litters, and plastic container of five liters. Some time packaging activities done at home after boil sunflower oil so as to filtrate due to some of machine have no filtration which went to gather with processing activities so farmer allowed filter themselves to attract the users. Also oil cakes packed in sack after sunflower processing to be ready to the markets.

2.2.4 Dissemination to the Users

Dissemination of goods takes place to the areas of processing and also to the village. Distribution of sunflower oil starts after packaging of different quantity according to the users in small and large quantity. Sometimes producers can sell black oil, the oil which is neither filtrated nor boiled to the area of processing according to the markets condition. Other sunflower oil sold to the villagers and remains same amount of oil for domestic uses. Moreover sunflower cakes are sold in different ways

such as selling to the area of processing and others sent to their home for animal feeding. In this activities farmers search markets information, the place which have good price is one of the place which send sunflower seeds for processing depend to dissemination of sunflower product.

2.3 Target Community

Mshani community is the targeted and beneficiaries of the project which contain population approximately 2,987 including male 1,419 and female 1,568. Community participate to the process of production, processing, Packaging and distributions. Every farmer should engage in whole process of sunflower project cycle as they can. Sunflower seeds processing project owned by the community themselves. Community allowed participating to the whole process of project cycle. Sunflower seeds processing project will empower community by selling sunflower products by profits. By doing in action helps the sustainability of the project. Also sunflower seeds processing product primary targeted to economic empowerment of farmers in Mshani village. The secondary benefits of project are the owners of sunflower seeds processing machines of Laela, Kalambazite, Sumbawanga municipal and Mbeya - Vwawa and the small and big traders. More over our country is among of tertiary beneficiary due to when increase production and benefits this benefits go to the national in another way and bring development.

2.3.1 Stakeholders in Sunflower Seeds Processing Project

Table 13: Sunflower Seeds Processing Project Stakeholders

No	Stakeholder category	Requirements	Roles in sunflower seeds processing project
1	Farmers	Ability to Produce more and have excess.	The main sunflower producers and processing for sales
2	Small businessmen	Have capital to buy Sunflower seeds oil.	To buy sunflower seeds oil from farmers and sells.
3	Buying agents	Have large capital to buy Sunflower seeds oil in large quantity.	The buyer of sunflower seed oil from the farmers and sells
4	Community based Organisations	Economic groups which existing in Mshani village such as Kafukoka and Pig keeping group.	Initiator of the sunflower seed processing project.
5	Professionals	Specialized people	To train the community about sunflower seed production, processing and packaging and dissemination.
6	Hamlets and Village leaders	Authorized people to maintain community peace and harmony	Maintain peace and harmony in the village and hamlets composing by laws to the whole life span of the project.
7	Laela Agricultural Centre	Production skills	To give community different sunflower production skills.
8	Sunflower seeds processing machine owners	Equipments using in sunflower processing	The place where sunflower processing take place so as to have oil and cakes.

Source: Community Needs Assessment Finding Mshani Village, (2012)

2.3.2 Project Goals

- (a) To increase Sunflower seeds production to the family lever
- (b) To increase amount of sunflower processing products dissemination
- (c) To improve standard of living for farmers through sunflower seeds processing project.

2.3.3 Project Objectives

- (i) Sunflower seeds processing increase to the family lever from one sack per hectare to 6 sacks per acre in 2013.
- (ii) Amount of processed sunflower products sells increased to the family lever from 20 liters to 120 liters at the end of 2013.
- (iii) Family income increase from lower standard of living to middle high standard of living at the end of year 2013

2.4 Sunflower Seeds Processing Organization profile

Sunflower seeds processing Organization engage with sunflower production, processing, packaging and distribution of products. It contains 24 members 12 are males and 12 females and it is not registered. This community based organization is sunflower farmers' organization performs its activities in Mshani village, Kalambazite ward at Sumbawanga district. The organization found in village which has 7105.96 square kilometers and allocated in 73 km from Sumbawanga town to Mbeya. It is situated in the East Kizumbi village, West Kalambazite village, South Lusaka village, North Mlombo Village, North East of Lake Kwela. Lake Kwela is 8 Meters deep, is the smallest lake within Sumbawanga District Council preferable for fish keeping, Lake Kwela has salt water with bicarbonate.

Organization members should be a permanent and a person who engage with sunflower production and processing activities within or neighbor village. Characteristics of sunflower seeds processing organization members as follows:- should be sunflower producers who living Mshani village; should engage in sunflower seeds processing what produced; should be mentally fit, should be a hard workers; should pay organizational fee of 10,000 per year. The organization formulated to the purpose of improves farmer's livelihood through processing which increase family income.

Moreover Organization contains leaders which are:- chair person, vice chairperson, Secretary and Treasurer. The responsibility of leaders includes monitoring organization activities, to conduct meeting ant to maintain organization solidarity.

2.4.1 Vision

To produce and to supply more sunflower seeds products.

2.4.2 Mission

To increase production, processing, packaging and distribution of sunflower seeds profitability and sustainability.

2.4.3 Organization Activities

Sunflower seeds processing organization will ensure to implement the following activities by participation with consultancy.

1. Sunflower seeds processing increase to the family lever from one sack per hectare to 6 sacks per acre in 2013.

- (i) To conduct training in sunflower production to 24 farmers. Training based in Farm preparation, cultivation, planting, weeding, types of manure, Bird and Rats hearing and sunflower harvesting.
 - (ii) To participate Sunflower cultivation activities. Farm preparation, tillage of land Planting and weeding, Bird and rats hearing and sunflower harvesting.
 - (iii) To conduct training in family health for 24 farmers. The training based in different diseases including stomach and HIV/AIDS and its effect.
2. Amount of processed sunflower products sells increased to the family lever from 20 liters to 120 liters at the end of 2013.
- (i) To conduct training in sunflower processing to 24 farmers. This training based Sunflower seed processing and packaging
 - (ii) To engage with Sunflower processing, processing, Equipment of processing, packaging containers
 - (iii) T engage with Sunflower oil and cakes dissemination
 - (iv) Family income increase from lower standard of living to middle high standard of living at the end of year 2013
 - (v) To conduct training in agribusiness to 24 farmers. Farmer's family plan and division of resource to gender Family utilization of resource

2.4.4 Organization Structure

Sunflower Seeds Processing Organization structure contain of chair person, vice chairperson, Secretary, Treasurer and other members. Everyone in organisation 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 money document, responsible direct in money audit and preparation of budgets ; Also organization members responsible. Employed treasurer of farmer organization will responsible to accomplish the following financial activities such as General financial oversight, Funding, fundraising and sales, Financial planning and budgeting, Financial planning and budgeting, Financial reporting, Banking, book-keeping and record-keeping, Control of fixed assets and stock. Also Treasurer and employed Treasurer and four cooperate members each other for money audit and present reports to organisation members.

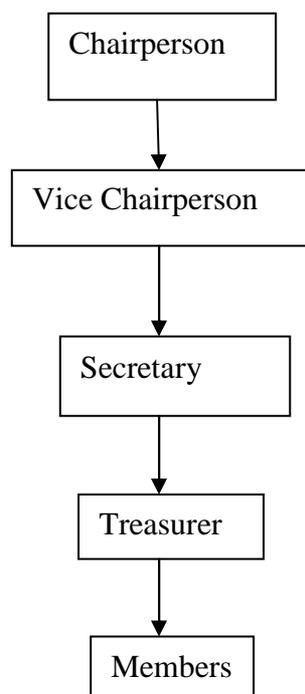


Figure 10: Structure of Organisation

Source: Community Needs Assessment Finding Mshani Village, (2012)

2.4.5 Sunflower Seed Processing Organization Strength, Weakness, Opportunity and Threats

Table 14: SWORT Analysis

No	SWORT	Hind	Description
1	Strength	Production	Production of sunflower seeds engage by the community themselves
		Processing	Processing activities done by the community sent sunflower seeds to the area of processing such as Kalambazite, Sumbawanga, Laela if have small amount of sunflower but they went to process Mbeya if have large amount of sunflower
		Packaging	Packaging engages to the area of processing as well as to the village. it depend quantity of sunflower oil
		distribution	Distribution to the users practice in both to the processing area as well as village.
2	Weakness	Processing machines allocated far	There were no processing machines in the village. Due to that community allowed to go far to find processing services.
		Low income	Some of the villagers have low income to afford transport cost and processing price so suggest to sell sunflower seeds
		Lack of transport	Community lack transport (Lorry) to help them transfer sunflower seeds from village to processing areas.
		High cost of imputes	Imputes like fertilizers were selling in high prices which same farmers not able to buy due to that they cultivating without using fertilizers.
3	Opportunity	Land	Farmers have their own land which using in sunflower farming activities.
		Extension officers	Village has extension officer who gives them advice concerning farming activities including sunflower farming.

		Availability of processing machine	Processing machines is available although it were not allocated to the village and the nearest is allocated 6 kilometer from the village.
		Availability of sunflower seeds	Farmers themselves have sunflower seeds produce and stored sunflower seeds for processing.
4	Threats	Unreliable rainfall	Farmers cultivating during rainy season. There was no irrigation sunflower farming system so its activities done once per year depending rainfall.
		Poor markets	There was no stable markets for sunflower products
		Pest, rats and birds	Pest, rats and birds are fear in production leads to reduce product after planting and before cultivation.
		Diseases	Different diseases attack sunflower during germination and flowering period
		Low capital	Same farmers have low capitals they can't able to afford different costs of production, processing, packaging and distribution.

Source: Field Data, (2012)

2.4.6 Animator Role to the Project

Adviser/ consultancy/ facilitator of the community concern sunflower processing during the life span of the project implementation. Animator allowed to facilitate and sensitize community self understanding and implementing as well as to promote we feeling among the people before starting the project, after starting the project and whole life span of the project. Animator allowed sharing experience concerning the project with different session such as production, processing, packaging and distribution. During production process animator can advice the farmers the issues concerning sunflower production such as to contact direct by faming extension office in older to give them good sunflower farming system. Processing, farmers' advised to follow processing step. Also farmer advised to pack in clean container so as to

attract the users of sunflower oil product. More over education concern distribution of product is very important in order to know the markets of product.

2.4.7 Sunflower Seeds Processing Organization Role

Organization role as follows: - production of sunflower seeds, processing, packaging and distribution of sunflower product in order to earn income. Production, farmers are the main producers of sunflower for business after processing. Processing, farmers organizations suppose to process sunflower seed in order to sell processed products which is valued than seeds. Packaging, addition to that packaging is another role of sunflower seeds processing organization due to after processing allowed to pack products in different containers already for distribution. Distribution, this is the last stage of the sunflower seeds processing project. In this stage they allowed to find market or the buyer of the products so as to run the project.

2.5 Summary

Sunflower seeds processing improving livelihood to farmers due to engage themselves due to engage themselves in different stage of project such as identification of the needs, implementation of the project as well as monitoring and evaluation. In identification farmers participate in conducting community needs assessments through participatory approach called Participatory Rural Appraiser. Project implementation passes through four stages such as sunflower seeds production, processing packaging and distribution. This approach creates sense of ownership which leads sustainability to the community.

Farmers produce sunflower seeds in high cost but they sold in low price maximum 15,000 per bag, this sunflower seeds when processed sold in form of oil and cakes sold maximum 80,000 which gives them profits. Also farmers challenged with lack of funds, poor farming system, and lack of transport, unreliable rainfall, diseases and high distance of sunflower seeds processing areas.

CHAPTER THREE

3.0 LITERATURE REVIEW

3.1 Introduction

This chapter covers the different parts as follows: Theoretical literature, Empirical Literature, Policy Reviews and Literature review summary.

3.2 Theoretical Literature

The theoretical literature of this study is to improving farmer's livelihood through sunflower seed processing. Economic, social, Agricultural and Cultural sustainability comes to Sunflower production and processing. This increase cash incomes and stimulate asset accumulations among households throughout the village as well as Tanzania at large. In studying Sunflower seeds processing, communities living in Mshani village producing sunflower seeds in high cost and sold in lower cost. Farmers change situation by practice sunflower seed' processing in order to sells sunflower seeds product such as sunflower seed oil and sunflower cakes instead of sunflower seeds.

3.1.1 Problem was Identified

URT (2006) support that major constraint facing the agriculture sector is the falling labour and land productivity due to application of poor technology and dependence on irregular weather condition. Poor farm-gate pricing and unreliable cash flow among farmers continue to frustrate the agricultural sector. Because of poor market linkages, inadequate information and poor infrastructure, decisions concerning prices

of sunflower products are decided by few players in the value chain. The middlemen, processors and end users of sunflower products control the Sunflower market (Ugulumu, 2008).

Tanzania National Business Council (TNBC) (2009) looks that Bank of Tanzania 2007 Report shows that Commercial Bank loans to the Agricultural Sector amounted to only 10% of the total loans to the Private Sector! Besides, such loans are currently available at rates, which are above 20%. And most of these loans are short term for buying and selling and not production! Only 8% of the 10% went into agricultural production (or 0.8 % of total lending by commercial bank in Tanzania. There is also evidence of funds earmarked for the Agricultural Sector being un-utilized/ mismanaged by some Commercial Banks when channeled through them. The lack of or inadequate supply of equipment and machinery has been one of the causes of the failure of agriculture in Tanzania. According to available figures, in the 70's, the Tanzania had an estimated 17,000 tractors; today the total number of tractors in the country is estimated at 8,000 less than half of those the existed, when, in the meantime, Tanzania's population has doubled.

Despite of the initial success and great potential of the sunflower seeds oil sector in Tanzania, it also faces many challenges for scaling up. These include: Unavailability of technology/machines; Lack of awareness of TBS (Tanzania Bureau of Standards) Standards and Procedures. Awareness of the sunflower oil standards is needed to all stakeholders in the whole value chain (supplier of quality seeds, farmers, processors, and traders; weak associations and poor marketing systems; Poor infrastructure;

Majority of the small processors are working at their backyard and not oriented to Good Hygienic Practices (GHP) (MITM, 2011).

FAO (2010) Said that “many other commodity markets, the global financial crisis seriously affected oilseed farmers, traders and processors through lower liquidity and increased cost of financing. After the extraordinary rise of sunflower seed prices in the spring of 2008 due to a poor sunflower seed crop in 2007 and overall global agricultural commodity price increases, sunflower seed prices started declining as crop production fully recovered in 2008.

(Hamilton, 2010) Suggest about “Market constraints due to the fluctuating market prices and the competition with other imported vegetable oil products; Low productivity of the smallholder producers as a result of limited capacity and access to inputs; Poor infrastructure that hampers the development of the whole sector.

At the production level, the sunflower subsector in the Southern Highlands is characterized by smallholder farmers on less than 5 acres. On these Small plots there is usually mixed cultivation, with the most popular combination being maize, beans, sunflower and groundnuts. Sunflower is usually intercropped with maize, and pure stand cultivation is seen only in a few cases. When harvested, the sunflower crop is usually sold to local traders either at the farm gate or at the local markets. These traders are either on commission from local processors or are acting independently. The independent traders may then locate buyers for the seeds, or negotiate with the processors, while the commissioned collectors usually work based on an order from the processor (SAGICOT, 2010).

FAO (2012) Add that factors affecting sunflower productivity include poor agronomic practices, affordability of improved seed varieties, lack of access to inputs including fertilizer, manure, disease and pest control chemicals, and adequate machinery, limited or no access to extension services, an unreliable market and low prices for seed among others (Business Care Services Limited and Center for Sustainable Development Initiatives, 2012). As such, sunflower is an untapped sector with significant potential and its relatively poor productivity is a strong argument for the government to find a range of measures to boost this sector and to support rural development in general.

REPOA (2012) revealed that edible oil industry in Tanzania was seriously damaged by cheap palm oil imports from Asia as a result of the trade liberalization, looks that “before the economic reforms, Tanzania was self sufficient in domestic supply of edible oil of various kinds including ground-nut oil, sunflower oil, coconut oil, cotton seed oil, soya beans oil and palm oil based on the variety of oil seeds produced in respective regions. After trade liberalization during the early 1990’s, imported palm oil from Malaysia and Indonesia started to dominate the market and production of local seeds oil significantly declined.

The sunflower sector has faced a number of challenges, which to some extent have affected the intervention’s achievements. In implementing the collateral management system it was difficult to secure warehouses which met the required standards in terms of size and other conditions; it has been noted that implementing partners lack capacity in forming farmers groups; hence farmers groups which were formed are

still weak. This hampered delivery of some services to farmers. ; Having reliable partners is still a challenge as some still cannot honor the agreements; as a result of this, one partnership (Agro Acre) had to be terminated (Rural Livelihood Development Company, 2012).

The main constraints to improved marketing are: Finance - poor in businesses, little disposable income to spend on advertising (a major constraint especially for new products). Attitude - little market orientation among entrepreneurs, who do not see the value of active marketing, poor relationships with customers and retailers, no feedback, demand-led distributor mentality. Knowledge and skills - information on consumer requirements is not sought, information is not sought from retailers, lack of specialist marketing skills to design and organize marketing campaigns;. Infrastructure and materials - poor storage, refrigeration and distribution systems, problems of acquiring attractive packaging; Market trends in Uganda include increased demand for flour, bakery products, soft drinks, dairy products, fruit juices, cooking oils, snack foods and convenience foods (including supplies to restaurants and fast-food outlets in Kampala), and bottled water. In Tanzania, trends are similar but the level of purchasing power is considerably lower. (Dietz, Matee and Ssali, W et al, 2000).

3.1.2 The Existence of the Problem

Enterprise Works Worldwide Programs & Strategy (1985) Revealed that Tanzania Oilseeds & Staple Foods Project production of sunflower is relatively well known in Tanzania, having been promoted in different parts of the country since at least the

early 1980s. This promotion has however not affected all geographic areas equally, with some regions receiving the much attention. Other regions have been less fortunate. They suffer from poor quality planting seed as the original foundation seed has cross-pollinated and gradually declined in oil content, resulting in reduced yields per hectare and low oil content seed. In spite of these factors, sunflower is much appreciated by farmers for its cash value, its low input requirements, and the high value oil that can be extracted.

FAO (2006) support that Market access has always been the crucial fulcrum upon which the whole process of agricultural transformation has pivoted. Any prospects of achieving a green revolution, is critically dependent on reliable and competitive market for the surplus of the small scale farmer or the production of the commercial farmers. There are serious distortions in the market for major commodities in Tanzania, in particular cereal and grains. In the past, small or large producers were accustomed to the Produce Boards which had also relied on Cooperative Unions. The National Milling Corporation also played a vital role as a major market for Tanzanian farmers. The end of operations of these entities and the inability of many Cooperatives to handle the affairs of its members efficiently, created market uncertainties until the onset of liberalization.

Bonn (2009) accept that the recent decline in the US\$1-a-day poverty rate in all developing countries, from 28 % in 1993 to 23 % in 2002, has been due mainly to falling rural poverty (from 37 % to 30 %) while the urban poverty rate remained nearly constant (at 13 %) (IMF 2006). More than 80 % of the decline in rural poverty

is attributable to better conditions in rural areas rather than to out-migration of the poor (Hazell / Diao 2005; Scoones / Devereux / Haddad 2005; UN 2005). Evidence consistently shows that agricultural growth is highly effective in reducing poverty. Gallup et al. (1997) reported that every 1 % increase in per capita agricultural output led to a 1.61 % increase in the incomes of the poorest 20 % of the population. Thirtle et al. (2001) concluded from a major cross-country analysis that, on average, every 1 % increase in agricultural yields reduces the number of people living on less than US\$1 a day by 0.83 %.

REPOA (2012) investigated that Dodoma Model of Sunflower Oil Cluster sharp increase since the 2005/06 crop season was achieved largely thanks to the promotion and mass-production of Quality Seeds (QS). The effect of high quality seeds had been known to farmers but had not been popular due to limited quantity and its high price. Steady joint efforts of pro-poor NGOs and the Ministry of Agriculture broke this barrier by mass-production of quality seeds through contract farming with small farmers. By the introduction, sunflower seeds production sharply increased in 2004/05 cropping season in Dodoma, and a number of entrepreneurs, such as retired officers or ex-taxi owners, entered to the sunflower oil processing business which could be started with relatively little capital and low technology. A group of oil expellers in Dodoma formed an association in 2006 and systematically introduced a contract farming model, where each of the oil processors has 300 to 700 contracted farmers and provides high quality seeds and tractor tilling services in return for guaranteed procurement of harvested sunflower. Sunflower oil processing has been identified as one of the growing industries in more than ten regions.

Dietz, Matee and Scale W *et al.* (2000) looks that “business registration, regulatory and reporting environment in Tanzania is one of the worst in the whole of Africa and, more than any other factor, has driven the bulk of small- and medium-scale enterprises (SMEs) to operate in the informal sector (Calcopietro, 1999). The Tanzania Investor (roadmap) showed that procedures for registration and licensing in Tanzania amount to four or five times the number of documents and forms needed to complete the process, compared with other African nations.

In addition, in most cases the registration/ licensing process is centralized in Dar es Salaam, involves several authorities /institution and is time-consuming, expensive and cumbersome. Other complications for SME operators include paying provisional taxes even before a company goes into production; and the requirement to pay several other taxes such as stamp tax, sales tax, VETA tax, payroll levy, municipal and regional taxes, industrial trading tax, etc. It is generally agreed that by reducing the number of taxes and simplifying the process, more SMEs will be registered and the tax collections will increase.

3.1.3 The Extent of the Problem

Mpagalile, Ishengomand GillahSokoine (2007) add that the sunflower sub-sector is faced with a number of constraints which include: Lack of improved and sufficient seeds; this force farmer to use own seeds; Unreliable market and low prices for sunflower seeds; Diseases such as downy mildew; Insect pests and other pests before and after germination; Inadequate improved tillage implements such as ox-plough or tractors; Unreliable rainfall; Inadequate knowledge on improved sunflower

production techniques due to poor extension services; Stiff competition from edible oil imports.

Local firms that produce and distribute locally bred seed have been slow in taking a central role in seed production and marketing. In addition most seed companies are located in the northern and southern highlands leaving vast areas in the south and western part of the country with little or no access to quality seed. Slow development of local seed companies is mainly because of lack of capital to invest in sound seed production. PASS has given grants to 5 seed companies to assist in seed production. Substantial impact (especially on cassava multiplication in Zanzibar) has been recorded. Huge seed deficiency is still apparent. Only 10% cultivated area in Tanzania is served by certified seed (Tanzania AGRA-PASSMTR. 2010).

ZALF (2012) looks that “whether the seed are traded or processed during the harvesting season (high seed supply) or in the off-season (low seed supply). The price of sunflower seeds during the harvesting season does not enable the farmers to recover their production costs – potential systems should be realised which do buffer this mismatch. 691 acres of Sunflower are cultivated, that is to say 9,3 % of the arable land (7.403 acres). 26 % of this surface is cultivated in monoculture whereas 74 % are intercropping. Yield is higher when sunflower is cultivated in monoculture than in intercropping (322, 50 kg/acre against 181, 50 kg/acre). The average yield of sunflower seeds is 217,79 kg/acre and the average production in Laela is 150,5 t. 75 % of the seeds are sold by retailers and 25 % are processed in oil and sold locally. In some areas erratic rainfall has caused many farmers to repeat planting; this affected

the harvest of sunflower. Government agencies have started to show increasing interest in the sunflower sector. This includes the TBS, which is in the process of introducing a standard for processed sunflower oil in Tanzania. RLDC facilitated discussions between TBS, Sunflower processors and TFDA to bring together all actors involved and also to avoid small processors being excluded in the process as they have a significant contribution to the production of sunflower oil (Match Maker Associates Limited (MMA) 2012).

Large enterprises often have to rely on technologies that can only be serviced and maintained with inputs (skills and spare parts) from industrialized countries, which places a heavy cost burden on the company. A United Nations Industrial Development Organization (UNIDO) consultation in 1990 found that out of 204 food processing plants visited in 24 African countries, 22% had stopped operating altogether, 55% were malfunctioning, and only 23% were operating successfully. Part of the problem was blamed on a chronic shortage of spare parts and on maintenance difficulties. Trade liberalization and dropping of import restrictions may have reduced the magnitude of the problem. Markets for processed foods in East African countries, although rapidly developing, are still small. With liberalization, markets and market demands are changing. In this situation entrepreneurs have to compete with others, both within the country and from abroad, rapidly entering national markets. Small enterprises are generally far more flexible when it comes to market orientation and raw material supply. A good example is the oil miller from Arusha, Tanzania who struggled in fierce competition with his competitors for sunflower procurement. He needed about 50 tons of seed every month to keep his

mill (investment around US\$ 10,000) running. His answer to the problem was to move the business to the main sunflower-growing area in Babati, about 150 km from Arusha. Purchasing raw material is now much easier and less costly to him (Dietz, Matee, and Scale, et al, 2000).

3.1.4 Benefits of Solving the Problem

Seed production and certification in Tanzania is governed by the Seed Production Act 2003, amended in 2007, and administered by the Ministry of Agriculture, Food Security, and Cooperatives. There are currently 20 registered entities in Tanzania whose work is being monitored by TOSCI (Tanzania Official Seed Multiplication Institute). The process of seed production goes through three different levels:

- (a) Breeder Seeds: They are produced in very small quantities by research centres, like Ilonga.
- (b) Foundation/Basic Seeds are produced by the Agricultural Seed Agency based on the breeder seeds. These farms are Msimba farm in Kilosa and Naliendele farm in Mtwara.
- (c) Certified Quality Seeds are then produced on the basis of foundation seeds by other registered seed producers. In the Central Corridor producers licensed for production of certified quality seeds are STRAD, and TANSEED. As there are only two seed producers in the Central Corridor, the Ministry has encouraged selected small farmers to produce Quality Declared Seeds (QDS) in collaboration with the local District Councils (RLDC, 2010).

Enterprise Works Worldwide Programs & Strategy (1985) state that “first intervention in the small-scale oilseed sub-sector in Tanzania began in 1985 after the Tanzanian government's monopoly on oilseed purchases ended. The current phase seeks to give farmers and farmer's groups’ access to the Enterprise Works ram press, an essential machine for maximizing profits in the oilseed industry, that has not been available to these people until now. EWW will train and supervise the manufacturers of the press, and take part in a marketing campaign to sell the produce. EWW will also spread better quality seeds by growing them on farms and aiding the marketing and distribution within the communities.

The improved planting seeds will increase the quantity and quality of the final product. Objective of oilseed sub-sector: - Promote sales of the ram press, peanut grinder, and other agro-processing equipment. Improve local artisanal capacity for equipment manufacturing and repair; Provide technical training and business development services designed to ensure enterprise sustainability and profitability; Increase agricultural production by providing improved agricultural inputs and extension services; Facilitate the establishment of improved market linkages among manufacturers, rural retailers, input suppliers, and small producers’.

In a small number of cases some of the farmers also take their seed to the processors themselves. The processors are the pivotal point for the sunflower oil subsector, as all the seed must pass through these actors. They therefore come into contact with a wide variety of actors and have different types of transactions. The Processors who lack capital are simply paid for their milling services, and oil and cake are returned to

the trader or farmer who transports it. In other cases the processor may purchase seeds or oil after processing once. The oil is produced, the owner (farmer, Trader or processor) may then either sells directly to the rural market, sell to rural retailers, or to further traders for movement toward the urban market (SAGICOT, 2010).

SDC (2010) viewed that Sumbawanga district has land area of 1,241,400 ha out of which 836.600ha are potential for agriculture, which is about 68% of total land area. Actual land cultivated is 191,476ha being 23% of the potential land for agriculture. In 1980s there has been an emphasis on introducing Coffee and Sunflower i.e. Agricultural Production Diversification. The crops are locally accepted and have a high marked value. Sunflower is doing very well especially in Ufipa Plateau and now is used as a major cash crop.

Table 15: Major Food & Cash Crops Production (Tones) in Sumbawanga

District Council

CROP/YEAR	2005/2006		2007 / 2008		2007 / 2008		2007/2008	
	HA.	TONS.	HA.	TONS.	HA.	TONS.	HA.	TONS.
Sunflower	17918	21501	12138	17340	20808	49939	10299.6	30899

Source: District Agricultural and Livestock Office – Sumbawanga, (2010)

Sunflower is one of the most important oilseed crops in Tanzania. The crop is adaptable over a wide range of environments and therefore it is widely cultivated in Tanzania. The crop is popular in the Eastern, Central, Northern and Southern Highlands of Tanzania. Sunflower is gaining popularity and current data shows that local production of both factory and home extracted oils contributes to about 40% of

the national edible oil requirement, with imported oils occupying a significant portion of the remaining 60% (ARI Ilonga, 2008). Global oilseed production for 2009 was in excess of 400 million MT, with sunflower total production of 32 million MT ranking it among the top ten oilseeds (FAOSTAT 2009). Sunflower has many economic applications: edible oil production, biofuels, animal feed and potentially in latex/rubber production. The edible oil has both favourable economic and nutritional implications. It contains a higher level of healthy monounsaturated fats than most other natural oils, making it nutritionally superior to synthetic edible oils and even olive oil. The sunflower oil industry provides employment at the SME level and offers opportunities for export and import substitution at the macro level. Sunflower cake is high in protein and can be used as feedstock for poultry, small animals, and pigs, dairy and draught animal. Match (Maker Associates Limited, 2012).

ACT (2010) looks that Sunflower seed cultivation is the most economical alternative cash crop for smallholder farmers as its profitability margins generally exceed those of other commonly found cash crops. National production of sunflower has been increasing over the years, and has moved from 80.87 MT in 2000/2001 to 35,000 MT in 2009 (FAOSTAT). The southern region of Rukwa is the second highest sunflower producing region, but there is also significant production in the Iringa region.

Sutton and Olomi (2012) support that International Growth Centre London Sunflower is one of the most important oilseed crops in Tanzania, accounting for 62% of the total. It is primarily used for manufacturing sunflower oil and oilcake. The crop is adaptable over a range of environments and is widely cultivated. The

major growing areas and their contribution to the total crop are Dodoma (accounting for 22.5% of total output), Singida (8.9%), Rukwa, Kilimanjaro (13.2%), and predominantly grown by small-scale farmers on farms of 0.4–1.2 hectares. It is estimated that about 150,000–200,000 small-scale farmers are involved in sunflower growing. Large-scale farming accounts for only 10% of total production.

Mpagalile, Ishengoma and Gillah (2008) contribute that Sunflower as a cash crop, can contribute to increase household income and security and thus raising the standard of living of rural people, if promotional activities are encouraged. It has a high potential for quick expansion to ensure an adequate supply of cooking oil. With the increased installation of processing machines for oil pressing in various localities, jobs can be created and consequently contributing to reducing unemployment among youths.

In general, sunflower has a potential of contributing to poverty reduction if rigorous promotional activities are put in place. However, since one of the major constraints to sunflower production is lack of improved seeds, it is suggested that existing improved varieties should be popularized to create awareness among farmers and other stakeholders. FAO (2010) add that worldwide, the levels of sunflower seed production and prices are interrelated to, and determinant of, sunflower oil production levels and prices.

Thus, the production capacity of sunflower seeds highly affects the development of the processing industry. The world supply of sunflower seed oil for 2008/2009 is estimated at 11.7 million tons (18% compared with the previous marketing year).

The 2008/2009 crop translates into record sunflower seed oil production (in contrast with a decline in soybean oil production". Mpagalile, Ishengoma and Gillah (2008) support that the study indicated that majority of sunflower farmers have used new ideas and knowledge in the past 3 years. On the other hand about 60% of sunflower processors have used new ideas and knowledge. In the case of new forms of organizing activities or procedure, it was reported that about 67% farmers have tested new ideas.

However, there is more testing of new ideas among the processors of sunflower oil than farmers. The type of innovations that were reported included oil pressing that is done by farmers as part of value addition. This meant that they were able to increase profit that is realized from the sales. Another innovation among farmers involved organizing themselves well so as to have close supervision and therefore improve quality. This enabled them to increase yield as they take charge of supervising thus ensuring right farming practices.

Dietz, Matee and Ssali et al (2000) observes that there is a high demand for sunflower oil in rural and urban areas of both countries. The number of small producers of vegetable oils in Tanzania has considerably increased in recent years, and they have to compete with large-scale producers and imported products (local production is insufficient to meet the demand). It is interesting to note that rural as well as urban consumers tend to prefer locally produced oil over imported oils, despite the fact that imported oils are often less expensive. Confidence in 'local' appears to be a particularly strong card for Tanzanian entrepreneurs that should be played more frequently in future.

Ugulumu (2008) According to SLE publication series (2008) the value chain is a development concept with two main perspectives: (a) Functional role:-a value chain is a series of related business activities starting with a provision of specific inputs, production processing, and marketing and finally, Consumption (b). Institutional perspective value chain is a set of players institutions performing function under, above which are linked with series of business transactions. Key players of vegetable oil (Sunflower sub-sector in particular) in Tanzania comprise a number of participants (actors). They module the following Producers: Farmers who produce sunflower seeds and sell to processors; Input Supplies: Supplier of seed: chemicals, pesticides, fertilizers to farmers before they start production Processors: They include small scale oil millers and large scale oil miller (Both are from the private sector) Refiners: Purify crude oil into edible oils (i.e. suitable for human consumption) – Purified crude oils are from to small scale and large scale processors; End users: Consumers from local and regional markets for the case of sunflower oils and oil cakes as livestock feed.

Match Maker Associates Limited, (2012) contribute that Sunflower is gaining popularity and current data shows that local production of both factory and home extracted oils contributes to about 40% of the national edible oil requirement, with imported oils occupying a significant portion of the remaining 60% (ARI Ilonga, 2008). Global oilseed production for 2009 was in excess of 400 million MT, with sunflower total production of 32 million MT ranking it among the top ten oilseeds (FAOSTAT 2009). Sunflower has many economic applications: edible oil production, bio fuels, animal feed and potentially in latex/rubber production. The

edible oil has both favorable economic and nutritional implications. It contains a higher level of healthy monounsaturated fats than most other natural oils, making it nutritionally superior to synthetic edible oils and even olive oil. The sunflower oil industry provides employment at the SME level and offers opportunities for export and import substitution at the macro level. Sunflower cake is high in protein and can be used as seed stock for poultry, small animals, and pigs, dairy and draught animals.

Mpagalile, Ishengoma and Gillah (2008) support that Sunflower as a cash crop, Sunflower as a cash crop, can contribute to increase household income and security and thus raising the standard of living of rural people, if promotional activities are encouraged. It has a high potential for quick expansion to ensure an adequate supply of cooking oil. With the increased installation of processing machines for oil pressing in various localities, jobs can be created and consequently contributing to reducing unemployment among youths. In general, sunflower has a potential of contributing to poverty reduction if rigorous promotional activities are put in place. However, since one of the major constraints to sunflower production is lack of improved seeds, it is suggested that existing improved varieties should be popularized to create awareness among farmers and other stakeholders.

Worldwide, the levels of sunflower seed production and prices are interrelated to and determinant of sunflower oil production levels and prices. Thus, the production capacity of sunflower seeds highly affects the development of the processing industry. The world supply of sunflower seed oil for 2008/2009 is estimated at 11.7 million tons (18% compared with the previous marketing year). The 2008/2009 crop

translates into record sunflower seed oil production in contrast with a decline in soybean oil production (FAO, 2010).

Agribusiness is the chain of interrelated industries that directly or indirectly are involved in the processes of production, transformation, inputs supply, retail and wholesale, and service provision to the agricultural sub sector. In Tanzania majority of agricultural exports are not added value through processing. Agriculture and agribusiness contribute about 60 % of the Tanzania's GDP. However, in view of the existing opportunities in the agriculture sector, it can contribute more if an effort to add value is highly considered (Ugulumu, 2008).

Tanzania has the potential to become a top producer of sunflower oil, and meet its national edible oil demand while producing excess vegetable oil for export or for production of bioenergy. In this context, sunflower production can enhance both national food and energy security through reduced fossil fuel and edible oil imports. In considering this alternative, the government of Tanzania will have to carefully balance the food security and energy security concerns by ensuring that production of both food and bioenergy is done through the sustainable use of land, water, and farming resources and with the participation of small-scale farmers. (FAO, 2012).

Mpagalile, Ishengoma and Gillah (2008) contribute that Sunflower as a cash crop, summarized that "The value chain for sunflower is also subdivided into backward and forward linkages at the starting point of the chain farmers are the focal point. The farmer has a backward linkage with input suppliers mainly for seeds, chemicals and fertilizers. Also farmers are dependent on farm machinery. After carrying out

post harvest operations sunflower follows different routes to reach the processing shops. Farmers may sell direct to the mills or they sell through the middle men who pass through the farms to buy seeds. Also at this stage transporters have a role of transporting the seeds to the mills. In some cases it was reported that the millers also own trucks which go around collecting seeds sometimes in conjunction with the collectors (middlemen) with whom they have some contract to supply. The millers also have linkages with suppliers of machinery, spare parts and packaging materials. Marketing activities start after oil has been processed, filtered and packaged. This activity includes stock lists or wholesalers, transporters, distributors and retailers. It was noted also that for small scale operators there is a direct link with consumers who come directly to buy oil from the millers.

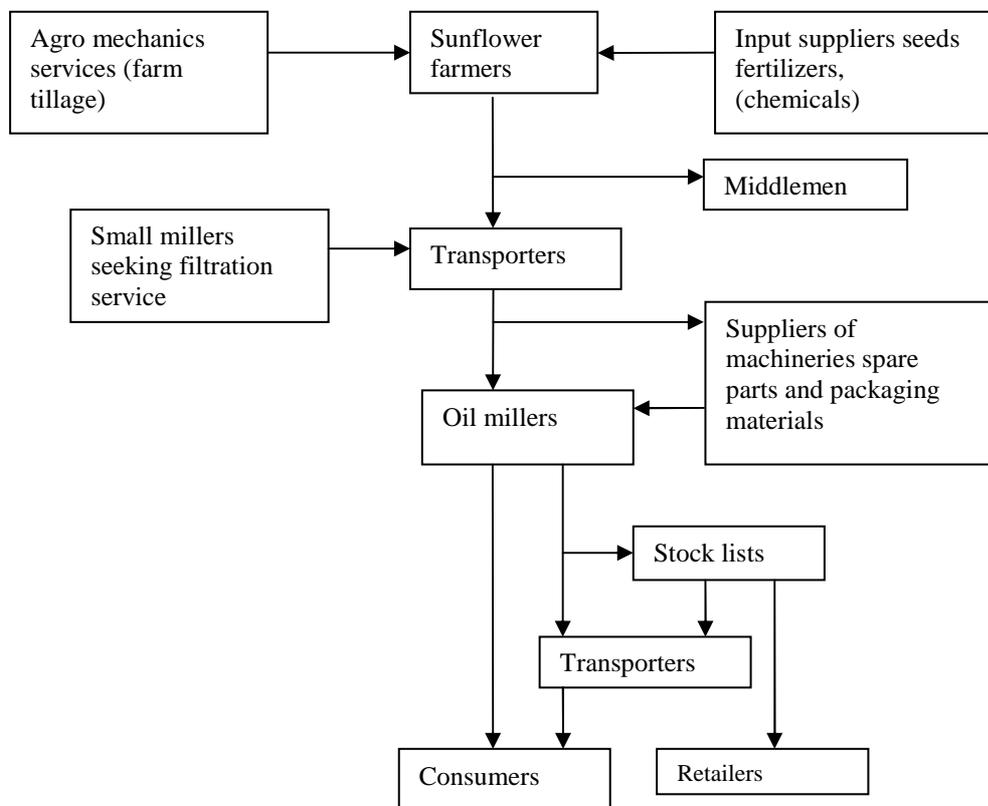


Figure 11: Value Chain Linkages for Sunflower Oil Processing

Source: Mpagalile, Ishengoma and Gillah, (2008)

Another relationship within the value chain is between small oil mills which tend to depend on one relatively well equipped mill when it comes to filtering the oil. It was noted during the survey that few oil millers are equipped with filtration units which allows them to offer services to other millers at a cost.

As a most important, high-value vegetable oil in Tanzania, the sunflower sector has great potential to increase income for many rural producers, and reduce the foreign exchange that the country currently spends on importing Palm Oil - if the business environment and producer capacity along the entire sunflower value chain is improved along with the supporting infrastructure. It is also important to recognize that from a health perspective, the consumption of sunflower oil is highly superior to palm oil. Domestically grown and produced sunflower oil could cost-effectively reduce Tanzania's dependency on more expensive, imported vegetable oils, such as palm oil. Tanzania has long been a net importer for edible oils. Palm oil has been the second largest foreign exchange expenditure for Tanzania from 2002 to 2007 as a result of increasing palm oil prices (Hamilton, 2010).

Expanded world production of sunflower resulted primarily from development of high-oil varieties by plant scientists and more recently by the development of hybrids. Sunflower is widely grown in the world where the climates are favorable and high quality oil is desired (Berglund, 2007).

Sunflower oil is extracted mainly from oil-type sunflower seed varieties and hybrids. Meal, a by-product of the oil extraction process, is used primarily as an ingredient in livestock feed rations. Compared with soybean meal, sunflower meal has a lower

%age of protein (28%). However, more than 80 % of a sunflower's value comes from oil. Oil-type sunflower seeds contain 38–50% oil and about 20% protein. The crushing process removes the hulls from the seeds, and the hulls can be used to generate steam to power the crushing plant. For every 100 kg of seed, about 40 kg of oil, 35 kg of high-protein meal and 20-25 kg of by-products are produced. More than 90% of the sunflower seeds produced is processed into edible oil (FAO, 2010).

Sunflower seeds are four-sided and flat, and are generally 0.6 cm long and 0.3 cm wide. They have a black seed coat with dark or grey stripes. The coat, or hull, surrounds a small kernel that is composed of about 20% protein and 30% lipids. Additionally, the seed contains a high level of iron and dietary fibred. The high linoleum acid content of the kernel makes it prone to rancidity, thus giving it a limited shelf life. Sunflowers are used to make oil, meal and confectionary products. Oil and meal are processed from the same sunflower seed varieties. The seed variety used foe confectionary products has a lower %age of oil. The seed is usually black with white stripes and is larger than the seed cultivated for oil extraction; the hull is heavier and less firmly attached to the kernel, and its oil content rarely exceeds 35% (FAO, 2010).

Clearly, there is a fundamental problem that has not been addressed correctly. As a result, agriculture modernization in Tanzania has become a process that deflected and zapped the energies of generations and has yet to be brought to a success. This time, the country must get it right! A paradigm shift is now urgently needed because the country is primarily faced with a serious dichotomy of a potentially very wealth

country, with best and grossly underutilized land (barely 23% of arable land being utilized); good climate; abundant water supply; a critical mass of human resources; global demand for agricultural products that the country can otherwise produce; etc and yet, its people live under abject poverty. It is a problem of people pre-occupied with a historically imposed production pattern of products, which cannot improve their lives; instead of moving to a production pattern in line with global market realities and the needs of their own lives. Thus, Tanzania must view agriculture not just through the prisms of poverty alleviation, but through the lenses of wealth creation.

It must target high value products and increased volumes of output based on properly structured mechanisms for contract farming or out growers linking small scale farmers to the value chain of large scale commercial farming, processing and marketing. A strategy, which must aim not just at alleviating poverty but at eradicating peasantry by bringing small holders into the main stream of a modern agricultural economy. Thus, notwithstanding, the historic setbacks in the nation's agricultural effort, or perhaps because of it, there must now be a defined trajectory for the transformation of its agriculture, which will be commonly understood and shared by all the stakeholders, and capable of generating the impetus for high and sustained growth rate of the economy as a whole, for many years to come (TNBC 2009).

The sunflower value chain analysis involves a number of functions and Institutions. It has both backward and forward integrations. Small holder farmers as growers are at the central point. Farmers are linked with input suppliers (backward integration).

The inputs include sunflower seeds, fertilizers, and chemicals. Other linkages with sunflower growers involve oxen and tractors owners who do farm tillage operations for farmers (Ugulumu, 2008).

The cultivation of hybrid sunflower seed production was profitable with per hectare net returns of Rs.34894 over total cost of Rs. 22969. The farmers obtained 1223.77 kg yield per hectare out of which good seed formed 77.50 per cent. The hybrid sunflower seed production was significantly influenced by variables like human labour, bullock labour, machine labour and organic manure. Whereas, other inputs like seeds, inorganic fertilizers like nitrogen, phosphorus and potash, plant protection chemicals and irrigation were no significant. The R² value of 0.77 indicated that the variables included explained 77 per cent of variation in sunflower seed production. The sum of elastic ties indicated an increasing return to scale. The ratio of MVP to MFC in sunflower seed production explained that the inputs like human labour, bullock labour, organic manure, seeds, and inorganic fertilizers like phosphorus and plant protection chemicals were underutilized. Inadequate irrigation water, non-availability of trained labour and difficulty in technical operations were major production constraints faced by farmer (Sandigodmath, 2007).

In 2007 and the first half of 2008, there was a drastic increase in sunflower oil prices, caused by the increase in seed prices due to a combination of factors, of which draught was a key factor. However, in the second half of 2008, prices started to fall drastically – prices in November 2008 were almost 30% lower than those of June 2008 (US export prices). (FAO, 2008).

In the situation where the farmers sell their sunflower production immediately after the harvest, it appears that seeds are sold at a loss. Ugulumu estimating sunflower seeds in Tanzania and Kenya at TZS 333 to TZS 389 (average: TZS 361), which is much higher than the selling price observed in Laela during the harvesting season; When seeds are bought during the harvesting season at the lowest price (TZS 170 per kg) and are sold at the highest price observed in Laela (TZS 833 per kg), the retailers can realize a profit of TZS 653 per sold kg of seeds.

This is the most profitable situation which could be met by the retailers; If seeds are bought and processed during the harvesting season and if oil is sold during the same period, processors can potentially earn TZS 280 per kg processed seeds; In the last situation, the potential income per kg seeds (TZS 485) is much higher than in the previous situation in spite of storage costs. This is due to the lower wages in December than during the harvesting season and, above all, to the higher price of sunflower oil in December (about TZS 2.500 per liter oil against TZS 2.000 during the harvesting period) (ZALF 2012).

In the village of Laela A in Western Tanzania, sunflower oil might hold the potential to serve as sustainable source for electrification. Currently, fossil fuels are imported at high prices to this remote village to power micro-generators. At the same time, sunflower yields are sold in the harvesting season for marginal surpluses to traders and middlemen - those are the ones who profit most. The utilization of those locally produced vegetable oils for a centralised electricity generator might combine higher prices for local farmers (as transportation costs become obsolete) with a

minimisation of energetic losses as only one combustion engine is used (Hoffmanna, Uckerta, Rordorfbang Siebera, 2011).

As agreed upon by local experts in a focus group interview, the lowest price of sunflower seeds in the harvest season does amount to 10.000 to 15.000 TSh per bag. Although the used unit “bag “can hardly be verified, as “the farmers have no control over prices, weights or measures” (Matchmaker 2008) (Hoffmanna, Uckerta, Rordorfb, Siebera 2011).

The processors are the pivotal point for the sunflower oil subsector, as all the seed must pass through these actors. They therefore come into contact with a wide variety of actors and have different types of transactions. The processors who lack capital are simply paid for their milling services, and oil and cake are returned to the trader or farmer who brings it. In other cases the processor may purchase seeds or oil after processing. Once the oil is produced, the owner (farmer, trader or processor) may then either sell directly to the rural market, sell to rural retailers, or sell to further traders for movement toward the urban market. The market for sunflower oil within the southern highland regions is well established and absorbs more than 75% of the sunflower oil produced in the regions.

Therefore only a relatively small %age is traded outside the regions. Local consumers are able to purchase sunflower oil in the following ways: from farmers who have paid for the processing of their crop, from local traders who have purchased from farmers and paid for the processing, from processors who have bought either the seed or oil from the farmers, from retailers who have bought the oil

from processors or traders and from farmer/community groups who own processing equipment (ACT 2010).

The sunflower sub-sector is faced with a number of constraints which include: Lack of improved and sufficient seeds; this force farmer to use own seeds; Unreliable market and low prices for sunflower seeds; Diseases such as downy mildew; Insect pests and other pests before and after germination; Inadequate improved tillage implements such as ox-plough or tractors; Unreliable rainfall; Inadequate knowledge on improved sunflower production techniques due to poor extension services; Stiff competition from edible oil imports (Mpagalile, Ishengoma and Gillah, 2008).

Two primary types of sunflower are grown: (1) oilseed for vegetable oil production and (2) nonoil seed for human food and bird-food markets. The oilseed hybrids may be of three fatty acid types linoleic, mid-oleic (NuSun) or high oleic. They are usually black-seeded and have a thin hull that adheres to the kernel. Seed of the oilseed varieties contains from 38 % to 50 % oil and about 20 % protein. Some black-seeded oil types go into the hulling market for birdseed. Non-oilseed sunflower also has been referred to as confectionery sunflower, and is usually white striped and/or comes in large-seeded varieties. (D. R. Berglund, 2007).

SIDO (Small Industry Development Organization), Credit Guarantee Scheme. This is a credit guarantee scheme for agro-processing and agro-business sectors combined with technical assistance extended by SIDO. The amount ranges from Tsh 5 millions to Tsh 50 millions. In order to improve and verify project feasibility, SIDO provides technical assistance to MSMEs from business planning stage and undertakes

repayment guarantee only for loans which SIDO can be confident for the repayment credibility (RLDC, 2010).

Sunflower as a cash crop, can contribute to increase household income and security and thus raising the standard of living of rural people, if promotional activities are encouraged. It has a high potential for quick expansion to ensure an adequate supply of cooking oil. With the increased installation of processing machines for oil pressing in various localities, jobs can be created and consequently contributing to reducing unemployment among youths. In general, sunflower has a potential of contributing to poverty reduction if rigorous promotional activities are put in place. However, since one of the major constraints to sunflower production is lack of improved seeds, it is suggested that existing improved varieties should be popularized to create awareness among farmers and other stakeholders (Mpagalile, Ishengoma and Gillah, 2008).

3.2 Empirical Literature

The projects you identified in your region and nationally which resembles your project (names, areas, etc) empirical literature looks practical project done by different people these includes:

3.2.1 Challenges Face Farmers

Many small farmers do not apply proper agronomic practices in land preparation, planting, weeding, and using of fertilizer. Where land is not a limiting factor, crop rotation and intercropping is not properly practiced, although it would allow soil replenishment. The government extension service does still not provide enough support in introducing better agronomic practices. The yield is therefore much lower

than expected. Inadequate agronomic practice is the result of ignorance, low motivation, and in some cases the lack of ploughing services or fertilizer. The common sales practice of individual sales of sunflower grains makes small farmers vulnerable to manipulations by the buyers let them be middlemen, traders, or processors. The practice of off-farm sales gives away the opportunity of bulking and possible the direct contact with traders or processors. The lack of weighing scales makes it necessary to sell the crop by volume rather than weight which in most cases are to the disadvantage of the small farmer. Based on these sales practices, the smallholder farmer receives indeed low prices (RLDC2008).

3.2.2 Sunflower Production in Tanzania

A number of sunflower value chain studies in different regions of the country have indicated that the production volumes are relatively low compared to the potential (Gabagami and George, 2010; Business Care Services Limited and Center for Sustainable Development Initiatives, 2012; Match Maker Associated Ltd, 2009 and 2010). Under prevailing farming practices, the national average yield per ha is relatively low at around 0.3 tonne from a yield potential of as high as 2 to 3 tonnes per ha (FAO, 2010; Gabagami and George, 2010; Match Maker Associated Ltd, 2009 and 2010). The factors affecting sunflower productivity include poor agronomic practices, affordability of improved seed varieties, lack of access to inputs including fertilizer, manure, disease and pest control chemicals, and adequate machinery, limited or no access to extension services, an unreliable market and low prices for seed among others (Business Care Services Limited and Center for Sustainable Development Initiatives, 2012). As such, sunflower is an untapped

sector. With significant potential and its relatively poor productivity is a strong argument for the government to find a range of measures to boost this sector and to support rural development in general (FAO 2012).

3.2.3 Legal Documents

Tanzania AGRA-PASSMTR (2010) Tanzania has the legal and regulatory framework in place to support the development of sustainable private seed sector. With Seed Act of 2003 and subsequent seeds regulation signed in 2007, the industry is charged with the responsibility of ensuring that seed reaching the farmers is of the prescribed quality. Discussion with TOSCI Chief Executive Officer revealed the following:

- (a) AGRA/PASS objective is to make quality seed reach farmers, there is need to Grossly under- funded and under staffed taking to account the vastness of the country.
- (b) The institute has made effort to train District Extension Staff as seed inspectors; however most of the mare also responsible for seed trading and effectiveness is doubtful.
- (c) Effective inspection is limited hence large volumes of fake seed are in the system.
- (d) If support TOSCI to be able to reach and inspect the expanding seed industry.

Support to seed companies to produce more locally bred varieties; although there are several of seed companies operating in the country, more than 80% of seeds planted

are imported. Local firms that produce and distribute locally bred seed have been slow in taking a central role in seed production and marketing. In addition most seed companies are located in the northern and southern highlands leaving vast areas in the south and western part of the country with little or no access to quality seed. Slow development of local seed companies is mainly because of lack of capital to invest in sound seed production. PASS has given grant store seed companies to assist in seed production. Substantial impact (especially on cassava multiplication in Zanzibar) has been recorded. Huge seed deficiency is still apparent. Only 10% cultivated area in Tanzania is served by certified seed.

3.2.4 Sunflower Seeds Processing in Kibaya

In 2007, the RLDC business partner in Kiteto started to run a sunflower oil processing plant in Kibaya. The partner processes 40-50 bags of sunflower seeds per day, operating the plant 7-9Months per year, processing a total of 9,000-13,000 bags per year. While there are other smaller processors in the region, the RLDC business partner is the only one filtering and packing the oil into containers of 1, 5 and 20 liters. He assures the seed supply through a diversified system:

1. Contract farming and credit scheme for tractor sloughing and agro-inputs;
2. Payment of premium price for sunflower seeds;
3. Warehouse receipt system (farmers deposit sunflower seed in the warehouse and sell later when the price is better; at the same time, the stored seed serves as a guarantee for the RLDC business partner to give credits to farmers);
4. Credit for supplies sold in own shop in Kibaya (RLDC, 2010:3).

3.2.5 Sunflower Seeds and Sunflower Product Price in Tanzania

According to a recent study conducted at ARI Ilonga the production cost for one acre is TAS 380,000/- and one acre can produce up to 16 bags of 7080 kg each. If those bags are processed into oil, then the revenue from sale of oil (TAS1 800,000/-) and cake (TAS 59,520) making a total of TAS 859,520/-. This leaves a profit margin of TAS 479,520/- per acre. The study investigated the use of new ideas and new knowledge within firms which are involved in sunflower based agribusiness. The study indicated that majority of sunflower farmers have used new ideas and knowledge in the past 3 years. On the other hand about 60% of sunflower processors have used new ideas and knowledge. In the case of new forms of organizing activities or procedure, it was reported that about 67% farmers have tested new ideas. However, there is more testing of new ideas among the processors of sunflower oil than farmers. The type of innovations that were reported included oil pressing that is done by farmers as part of value addition. This meant that they were able to increase profit that is realized from the sales. Another innovation among farmers involved organizing themselves well so as to have close supervision and therefore improve quality. This enabled them to increase yield as they take charge of supervising thus ensuring right farming practices (Mpagalile, Ishengoma and Gillah 2008).

3.2.6 Introduction of Sunflower in Tanzania

Sunflower was introduced in Tanzania during colonial times and it was found to grow in almost all parts of the country. The crop is however very interesting as it does well in the dry weather conditions of the Central Corridor where other crops, like maize and wheat, do not do so well. Sunflower in the Central Corridor is also

interesting from a pro-poor or welfare perspective as most of the sunflower is grown by small farmers. The project document at hand focuses on the testing and demonstration phase of the sunflower market development. Although RLDC learnt a lot of lessons from the supported projects in the first phase, there was not enough well-tested experience that could be straight away disseminated and replicated. This is the main reason that this project re-visits some of the issues that have already been addressed in the first phase but now much more from a perspective of developing the entire sector (RLDC, 2008).

3.2.7 How others have Approached Similar Projects

FAO (2010) looks about Sunflower Crude and Refined Oils and investigate that financial crisis seriously affected oilseed farmers, traders and processors through lower liquidity and increased cost of financing. Hamilton, B.A (2010) in Food Security in Tanzania: said that Market constraints due to competition with other imported vegetable oil products REPOA (2012) in Industrialization for Socio-economic Transformation in Tanzania investigate that cheap palm oil import from Asia as a result of the trade liberalization. After trade liberalization during the early 1990's, imported palm oil from Malaysia and Indonesia started to dominate the market and production of local seeds oil significantly declined.

ZALF (2012) talk about the situation where by farmers sell their sunflower production immediately after the harvest, it appears that seeds are sold at a loss. Due to that farmers allowed to sell sunflower production December or January where by the price rise. Also farmers can process and sell sunflower products Sunflower oil and sunflower cakes so as to increase value.

FAO (2006) talks about a Market access for the surplus of the small scale farmer or the production of the commercial farmers. The National Milling Corporation also played a vital role as a major market for Tanzanian farmers.

FAO (2012) looks that Tanzania has the potential to become a top producer of sunflower oil, and meet its national edible oil demand while producing excess vegetable oil for export or for production of bio – energy. In this context, sunflower production can enhance both national food and energy security through reduced fossil fuel and edible oil imports. In considering this alternative, the government of Tanzania will have to carefully balance the food security and energy security concerns by ensuring that production of both food and bio – energy is done through the sustainable use of land, water, and farming resources and with the participation of small-scale farmers.

3.2.8 Learned from these Sources, and their Experience

The above literature review explains that sunflower is important oil seeds in this area as well as whole the world at large. Production of sunflower and processing in form of oil and cakes leads to decline of the other oils markets especially imported oil in Tanzania. Sunflower oil demand is high and sunflower supply is higher so due to that it become the higher the sunflower oilseed demand and supply increase the higher income increased to farmers. Also the government of Tanzania have to ensuring that sunflower seeds processing done through the sustainable use of land, water and farming resources and with the participation of small-scale farmers. Experience show that in access to sunflower oil seed markets quality of products is better than

quantity. The projects above have not qualified to meet international markets due to not produced in quality. Also most of farmers have no income to afford to buy sunflower farming inputs due to become very expensive.

3.2.3 To Incorporated Literature Review into Sunflower Seeds Processing

Projects

In sunflower processing seeds project included with other studies can have the following:

Sunflower seed is very important oil seeds which used in different way such as for consumption; earn income when sold sunflower products. Farmers practice sunflower agribusiness production in organic farming system in order to produce quality and quantity sunflower seeds although some of them used industrial manure in sunflower production which lack qualitative measure. Sunflowers seeds oil markets depends with the quality of the sunflower oils due to that farmers allowed to produce both quantitative and qualitative sunflower products in order to occupier cooking oil markets. Farmers avoid sunflower cultivation by using industrial fertilizers (chemicals) instead can use local manure such as cow dung and practicing crop rotation which produce qualitative products fit for national and international markets. "In order to support the sunflower sector in Tanzania, various financing mechanisms have been harnessed. Except for the grants and credit programs and the warehouse receipt system (farmers deposit sunflower seed in the warehouse and sell later when the price is better; at the same time, the stored seed serves as a guarantee for the RLDC business partner to give credits to farmers) used by the RLDC, the Government of Tanzania is also exploring different ways to support the agribusiness

and priority sectors:-Industrial Development Support Loan. It is an interest subsidized loan to promote local investment for agro-processing industries amounting min. Tsh 50 million to max Tsh1, 000 million, implemented by the MITM jointly with the Tanzania Investment Bank (RLDC2010:6).

3.3 Policy Reviews

3.3.1 Government Policy Review

National Agricultural and Livestock Policy of 1997 “Puts emphasis on the role of the private sector in achieving its policy objectives but limits the role of the Government to public sector support functions. Such support sectors include Policy formulation and supervision, research, training, extension and information services, sanitary regulations, quality control and protection of the environment, and creation of conducive environment for agricultural growth, specifically in relation to the development of markets and marketing systems for inputs and outputs. It is stipulated in this policy that the government would provide its services using the following tools; Agricultural extension, using extension workers, Agricultural research, using ARI and other research centres Training so as to optimize the human resources; Provision of regulatory services such as seeds and seed production, plant protection and animal health services, agricultural information and marketing of inputs and outputs.

Others are cooperative development services, technical services such as agricultural mechanization and soil conservation. The policy does cover a number of important crops such as oilseeds, pulses, fruits and vegetables (Mpagalile Ishengoma and Gillah, 2008).

3.3.2 General Policy Goals

Although the number and nature of guidelines that constitute an agricultural policy is vast and complex, the ultimate goal is the improvement of the well being of the people whose principal occupation and way of life is based on agriculture. Most of these people are smallholder and 9 livestock keepers, who do not produce surplus. Therefore the focus of this policy is to commercialize agriculture so as to increase income levels.

3.3.3 Objectives

Embodied in this general goal are nine general objectives, which are summarized below:

- (a) To assure basic food security for the nation, and to improve national standards of nutrition by increasing output, quality and availability of food commodities. In order to achieve this objective, production growth rates of food crops and livestock products will have to be at least 4% and 5 % per annum respectively. Food crops production will be increased through productivity and area expansion while livestock growth will be through encouraging the private sector based initiatives in the industry.
- (b) To improve standards of in the rural areas through increased income generation from agricultural and livestock production, processing and marketing.
- (c) In increase foreign exchange earnings for the nation by encouraging the production and increased exportation of cash crops, livestock products, other agricultural surpluses, including food crops, by-products and residues.

- (d) To produce and supply raw materials, including industrial crops, livestock, by-products and residues for local industries, while also expanding the role of the sector as a market for industrial outputs through the application of improved production, marketing and processing technologies.
- (e) To develop and introduce new technologies which increase the productivity of labour and land;
- (f) To promote integrated and sustainable use and management of natural resources such as land, soil, water and vegetation in order to conserve the environment.
- (g) To develop human resources within the sector in order to increase the productivity of labour and to improve ability, awareness and morale;
- (h) To provide support services to the agricultural sector that cannot be provided efficiently by the private sector.
- (i) To promote specifically the access of women and Youth to land, credit, education and information.

Having defined general goals and objectives, the next step is the choice of appropriate policy instruments that will enable the nation to move towards the stated objectives. By committing itself to market-based economy, Government choice of these instruments is limited and confined to the framework of this new policy. The appropriate instruments are the following:

- (i) Agricultural research, extension and training.

- (ii) Monitoring and evaluation of agricultural development and identification of new opportunities (products), technologies, markets, etc. and promotion of new production processes.
- (iii) Collection and dissemination of market information in order to integrate the domestic markets and make foreign markets accessible.
- (iv) Facilitate the provision of a good infrastructure, especially transport and storage.
- (v) Control of quality, hygienic and sanitary standards.
- (vi) Control of Vermin, epidemic pests and diseases.
- (vii) Providing an adequate legal and regulatory framework.
- (viii) Natural resources management.
- (ix) Promotion of institutional structures in the agricultural sector.
- (x) Taxes and subsidies.

The evolution of extension services in Tanzania has a long history. During the 1960s to 1970s, the Government adopted several approaches of extension in delivering agricultural messages to the farming communities. These included targeting settlement schemes and progressive farmers; establishment of farmers training centres, setting up of demonstration plots etc. However, the methodologies and approaches failed to convert the extension services into an instrument of agricultural growth in the country. Factors contributing to this state of affair include:

- (i) Uncoordinated, fragmented, duplication and overlapping messages flowing from extension personnel.

- (ii) Poor supervision of extension personnel and utilization.
- (iii) Some technologies promoted at research station have not been appropriate to farmers.
- (iv) Poor working facilities etc
- (v) Lack of motivation for extension personnel.

Policy Statements

- (i) As we enter the 21st Century and with current pressure on rational use of natural resources, efforts will be made to efficiently utilize the available resources, their by-products and agro-industrial wastes. Research will also pay particular attention to natural and biological methods of pest control which can be applied by farmers and livestock keepers and to the development of improved household storage. Agrochemicals will be assessed for economy, effectiveness, and safety in use and disposal with special concern for problems of environmental pollution.
- (ii) Research will be demand driven (client needs to influence research priorities and programs undertaken from year to year). In order to ensure that the technologies developed are appropriate to farmers and livestock keepers needs, researchers will conduct surveys to assess beneficiary's constraints opportunities, evaluation of technologies under farm management (on farm research) and continuously monitor their performance overtime. The entire agricultural and livestock research will adopt farming systems research approach.

- (iii) In order to utilize the meagre resources available, the research network downsized by concentrating research activities in fewer stations and integrating livestock and crop research in the different farming system.
- (iv) In order to increase investments in research and on sustainable basis the government will encourage and enhance the active participation by commodity agencies in research funding and planning. Funds provided through such participation will supplement government and donor resources. It will be important to ensure that such funding will be sourced from the cooperative societies/unions and commodity bodies. Appropriate mechanisms will be established to collect and administer funds through this process. In addition, private sector will be encouraged to participate in funding research and where necessary to own and manage research of particular enterprise. Government funding will be directed mainly to food crop livestock, resource management and engineering research. The government will ensure that there is a balance between research for crops and livestock sub sectors based on their individual contributions to agricultural sector growth and their potentials for innovations. Although livestock and food research will be carried out mainly by the public sector, the government will encourage the private sector as well as the Non- Governmental Organisations (NGOs) where feasible, to participate in research particularly in the areas of testing of drugs, development, of special technologies, seed, processing etc.
- (v) In order to coordinate research activities in the country, the government will establish a statutory National Agricultural Research Council (NARC).

- (vi) The Ministry will ensure that research emphasis is given to exploit the synergy of integration of crop and livestock production in view of advantages of draught, power and manure from animals to crops and provision of fodder and crop residues from the latter for livestock, as well as provision of more diversified diet and income sources at rural households.
- (vii) The Ministry will support the development of fundamental and applied research priorities given to disadvantaged and vulnerable groups, aimed at improving scientific and technological knowledge base against which food nutrition, agriculture and health problems can be analysed and solved.

1. Seeds

The performance of the National Seed Industry, for many years has been poor. Only less than 10% of the total national seed requirements per year have ever been made available to the farmers. The poor performance of the seed industry is attributed to:

- (i) Tanzania Seed Company Ltd. (TANSEED) a parastatal which had a monopoly of local production and importation and sale of maize, wheat, and beans certified seeds could not perform these duties efficiently.
- (ii) There has been inadequate seed quality control as well as ineffective application of official regulations.

Due to the above deficiencies of the industry and in recognition of the existence of a relatively large untapped market for improved seeds in Tanzania, the Government liberalised the seed industry in 1990 and private was allowed entry into the

production, distribution and marketing of seeds. The Government apart from providing environment for private sector will now focus on research quality control, certification, training and promotion. (Agricultural and livestock policy, 1997)

3.4 The Gap in Literature Review

The study investigate the importance of sunflower seeds production system in filling the gap by practice sunflower seeds processing to increase value of sunflower product in Mshani village Sumbawanga. There are some gaps and challenges to be addressed in connection with the sunflower seed processing project in Mshani village Sumbawanga district. Most of the studies done in Sumbawanga district about sunflower approach about farmers who produce sunflower sell to the traders for non profits but this traders process sunflower and sell for profits.

But this project talks about farmers to engage in whole process such as production, processing packaging and dissemination products to the users. The problem facing is the marketing and sales of sunflower seeds in Mshani village can in part be attributed to policy changes over the year. Unreliable market and low price for sunflower seeds and its by-product cause the level of poverty to increase in Mshani villagers.

The increase of sunflower seeds processing and sells processed sunflower products (sunflower oil and sunflower cakes instead of sells sunflower seeds can be a solution of increasing the value of the product hence to increase the value chain of sunflower leads to move from the jungle of poly. Mshani community by practice sunflower seeds processing increase sunflower production value.

3.5 Literature Review Summary

This study looks sunflower processing seeds increase sunflower production values in Mshani village. Many project which undertaken looks agricultural in general but few of it looks about sunflower in one part such as importance of sunflower products; problems facing sunflower sectors; situation of sunflower oil in the world; Country Sunflower production and its origin; Price of sunflower inputs such as sunflower seeds, production equipments and fertilizers; the raise and falls of sunflower seed and sunflower oil Price in different areas. Also different policies national and international talk about agricultural in general, emphasis on use appropriate technology in agricultural activities but not specific in sunflower and those who talk including all oilseeds in general. Due to that the communities participates in production and sell their sunflower seed to the local traders in lower price which lead loss. The gap fulfill by dealing with sunflower production, processing packaging and distribution so as to increase sunflower seeds processing to leads to sunflower production value to the community.

CHAPTER FOUR

4.0 PROJECT IMPLEMENTATION

4.1 Introduction

Sunflower seeds processing project is among of the project which helps Mshani community to produce sunflower seeds for profits. Many years ago sunflower seeds have been producing in many areas in Sumbawanga district including Mshani village for cost of 100,000/- and have 6 or 8 sacks of sunflower. When these sacks sold unprocessed 15,000 x 6 can get 90,000/-which is not encore even the production cost which is the loss. But these 6 sack when processed and sold inform of oil and sunflower cakes can get 20 liters x 30000 = 60,000 x 6 = 360,000/- and cakes one sacks produce 2tin of cakes sold 5000 x 6= 30,000/- if all the total sells can be 390,000 which is twice of production cost. In this by processing sunflower seeds increase value due to selling its products such as sunflower oil and cakes. By doing that can leads farmers to move from bad life condition to good life condition including to move to the jungle of poverty.

Sunflower seed processing project implement by farmers themselves. Farmer could able to do all activities concerning the project such as Production, processing, packaging and distribution of products to the users, activities implements to increase the value of products. Sunflower Production activities practice during rainy season. Farmers should able produce sunflower seeds in their farms. Farm preparation tillage of land in early January; Planting in 15Januaryup to 15 February; weeding in March; bird, insects and rats hearing April and harvesting in May. Also farmers allowed to

dry sunflower seed after harvest by using sun light. Sunflower processing activities implement by farmers in June.

Every farmer after sunflower seed dried well can send it to the processors, Kalambazite neighbor village Kantembo Mission sunflower processing Machines, Sumbawanga town, Laela and Mbeya. Among these place community prefer to process in Mbeya due to machine processing activities goes together with filtration sunflower oil to be good and clean oil ready for packaging.

Packaging activities done by the farmers either to the area of processing or at home after boiling sunflower oil for filtration by using small and large quantity, In large quantity they use plastics container of 20 liters, plastics container of ten liters, plastic container of five liters and in small quantity use small plastic bottlers of 0.5, 1, 1.5 1/3 1/4 liters for small users.

Dissemination to the users takes place to the areas of processing and also to the village. Distribution of sunflower oil starts after packaging of different quantity according to the users of small and large quantity. Other sunflower oil sold to the villagers as well as for domestic uses. Moreover sunflower cakes are sold to the Place of processing different ways such as selling to the area of processing and others sent to their home for sell and animal feeding.

4.2 Product and Outputs

During the implementation of the project there were project product and outputs such as sunflower seeds, oil seeds and sunflower cakes. Sunflower seed obtain after the farmers harvest from their farms, every farmer allowed having sunflower seeds

which produced from their farm. According to the experience shows from this area of Ufipa plateau farmer can harvest sunflower seeds from one acre either 6 or 8 sunflower bags. Also farmer can harvest 18 to 24 bags when cultivate three acre. These bags should be processed and sold in form of oil and sunflower cakes which gives 705,200/- per 3 acre and 235,660/-for one acre after remove all total cost. These gives farmer more profits in sunflower production. Refer the table 16 below which shows sunflower product coast and profits.

Table 16: Sunflower Product Coast and Profits

Sunflower farm Production	Amount of production	Price of products	Product Cost	TOTAL
Production cost	3acre@100,000 =300,000		300,000	300,000
Packaging equipment	3 acre@8bags of seed =24		24 empty sack@ 700=16,800 24plastic @5000=120,000	136,800
Sunflower oil	24 bags bags @ 20 litters =480 litter	480 oil litters@3000 =1,440,000	24@ 5000 =120,000/-	120,000
Sunflower cakes	4tin of cakes96 tin=16 bags	16bags@120 0 = 192,000		192,000
Processing charge	24 bag @5000= 120,000		120,000	120,000
sunflower transport charge	24@2000/- =48,000 Person transport charge 10,000		48,000 10,000	58,000
Price of product sells		1,632,000		
Cost of production		926,800		
Total profits per 3 acre after remove all total cost				705,200
Total profits per acre after remove all total cost				235,660

Source: Field Data, (2012)

4.3 Project Planning

Objectives (i) Sunflower seeds production increase to the family lever from five sack per hectare to 8 sacks per acre in 2013.

Table 17: Project Planning

No	Activities	Project month												Resource needed	Cost	Person responsible	
		1	2	3	4	5	6	7	8	9	10	11	12				
1.	To conduct training in sunflower production to 24 farmers. Farm preparation, Cultivation, Planting, Weeding, types of manure use, Bird and rats hearing and sunflower harvesting.	X													Masking tape, pen, Exercise book Mark pen	17,500	AFO
2.	Sunflower cultivation activities. Farm preparation, tillage of land Planting and weeding, Bird and rats hearing and sunflower harvesting.	X	X												Hand hoe , axe, seeds animal drought cow dung, human labour and, empty sacks	411,800	Farmers
3.	To conduct training in family health for 24 farmers. Different diseases including stomach and HIV/AIDS and its effect.	X													Masking tape, pen Exercise book Mark pen	200,000	CDO and SIDO

Source: Field Data, (2012)

Objective (ii). Amount of processed sunflower products sells increased to the family lever from 20 liters to 480 liters at the end of 2013.

No	Activities	Project month												Resource needed	Cost	Person responsible	
		1	2	3	4	5	6	7	8	9	10	11	12				
1.	To conduct training in sunflower processing to 24 farmers Sunflower seed processing and packaging					X									Processing machine, Container of different size	200,000	CDO SIDO
2.	Sunflower processing, processing, Equipment of processing, packaging containers						X								Processing machine, Container of	440,000	Farmers
3.	Sunflower oil and cakes dissemination						X								Plastic containers and empty		Farmers and sunflower

Source: Field Data, (2012)

Objective (iii) Family income increase from lower standard of living to middle / high standard of living at the end of year 2013.

No	Activities	Project month												Resource needed	Cost	Person responsible
		1	2	3	4	5	6	7	8	9	10	11	12			
														-Flip		CDO
1.	To conduct training in agribusiness to 24 farmers. Farmer's family plan and division of resource to gender Family utilization of resource			X										chart -Masking tape -Exercise	200,000	CDO and SIDO
2.	Transport charge of training and sunflower seeds processing Mshani to Sumbawanga town for training and processing			X										Money	528,000	Farmers
3.	Salary	X	X	X	X	X	X	X	X	X	X	X	X	Money	1,200,000	
	Total														3,197,300	

Source: Field Data, (2012)

4.3.1 Implementation of Plan

Objectives (i) Sunflower seeds production increase to the family leave from five sack per hectare to 8 sacks per acre in 2013.

Table 18: Implementation of Plan

No	Activities	Project month												Resource needed	Person responsible	
		1	2	3	4	5	6	7	8	9	10	11	12			
1.	To conduct training in sunflower production to 24 farmers. Farm preparation, Cultivation, Planting, Weeding, types of manure use, Bird and rats hearing and sunflower harvesting.	X													Masking tape, pen, Exercise book Mark pen	AFO and CDO
2.	Sunflower cultivation activities. Farm preparation, tillage of land Planting and weeding, Bird and rats hearing and sunflower harvesting.	XX													Hand hoe , axe, seeds animal drought cow dung, empty sacks	Farmers
3.	To conduct training in family health for 24 farmers. Different diseases including stomach and HIV/AIDS and its effect.	X													Masking tape, pen Exercise book Mark pen	CDO and SIDO

Source: Field Data, (2012)

Objective (ii). Amount of processed sunflower products sells increased to the family lever from 20 liters to 480 liters at the end of 2013.

No	Activities	Project month Implementation												Resource needed	Person responsible	
		1	2	3	4	5	6	7	8	9	10	11	12			
1	To conduct training in sunflower processing to 24 farmers Sunflower seed processing and packaging					X									Masking tape, pen, Exercise book Mark pen	CDO ,SIDO and Farmers
2	Sunflower processing, processing, Equipment of processing, packaging containers						X								Processing machine, Container of different size	Farmers and processors
3	Sunflower oil and cakes dissemination						X								Plastic containers and	Farmers

Source: Field Data, (2012)

Objective (ii) Family income increase from lower standard of living to middle / high standard of living at the end of year 2013

No	Activities	Project month Implementation												Resource needed	Person responsible		
		1	2	3	4	5	6	7	8	9	10	11	12				
																-Flip chart	CDO
1.	To conduct training in agribusiness to 24 farmers. Farmer's family plan and division of resource to gender Family utilization of resource	X														-Masking tape	CDO and SIDO
																-Exercise	
2.	Transport charge of training and sunflower seeds Mshani to Sumbawanga town for training and	X														Financial resources	Farmers

Source: Field Data, (2012)

4.3.2 Inputs

Sunflower seeds processing project require different inputs in its implementation.

Table below elaborate more.

Table 19: Project Inputs

No	Name of inputs	Quantity	Price	
1	Human labour	3 acre	3@25000=75,000	75,000
2	Oxen drought	3acre	3@20,000=60,000	60,000
3	Seeds	3kg	3@ 3500= 10500	10,000
4	Fertilizers			
	Industry fertilizers	150kg	3@55,000 = 165,000	165,000
	Cow dung fertilize	7 Tan	3@20,000= 60,000	60,000
5	Pesticides.	50 mills	3@15,000 = 45,000	45,000
6	Processing Machines charge	1bag	24@5000 = 120,000	120,000
7	Farm rent	1 acre	3@20,000= 60,000	60,000
8	Packaging equipments	Plastic 20kg	24@5,000 =120,000	120,000
9	Transport charge for sunflower seeds	1bag	24@2,000=48,000	48,000
10	Training fee for 24 farmers	24@ 25,000	24@25,000 =600,000	600,000
11	Transport charge for 24 farmers	24@ 10,000	10@ 10,000 =240,000	240,000
	Total			1,603,000

Source: Field Data, (2012)

The above Table 19 shows different inputs its quantity and price's

Table 20: Production Cost of Sunflower Seeds Per One Acre

No	Name of inputs	Quantity	Price
1	Human labour	1 acre	30,000
2	Oxen drought	1acre	20,000
3	Seeds,	2kg	7000
4	Cow dung fertilize	7 Tan	20,000
5	Pesticides.	10 mills	3000
7	Farm rent	1 acre	20,000
	Total		100,000

Source: Field Data, (2012)

(i) Staffing Pattern

Recruitment activities will be done when the organization activities expand and activities increase. Sunflower seeds processing organization will need to employ one employee who is treasurer.

For future time organization will need to have a qualified person for different mathematics activities. Treasurer responsible to perform activities such as saving money to bank, keeping all money document, responsible direct in money audit and preparation of budgets; Also organization members responsible.

(ii) Staffing Plan

- To employ one staff who is treasurer
- to provide training concerning the project to keep staff up to date
- To work by team spirit

-every members to take his /her responsibility

(iii) Match the position to program responsibility

-Sunflower production

-Sunflower processing and packaging

-Sunflower oil and cakes marketing

General financial oversight,

-Funding, fundraising and sales

-Financial planning and budgeting,

-Financial planning and budgeting,

-Financial reporting, Banking,

-Book-keeping and record-keeping,

-Control of fixed assets and stock

-Entrepreneurship activities

-To understand about organization form and structural

(iv) Supervisory Roles

Supervisor responsible to advice farmer's different things concerning sunflower production, processing, packaging, distribution marketing as well as span of the project. In sunflower production allowed advice farmers to follow sunflower cultivation calendar far according to role of farming; even in processing can obey processing role, also in packaging they have to be care in older to have quality product which attract the users and have markers of products which leads sustainability of the project.

(v) Staff Training Needs

- Sunflower production
- Sunflower processing and packaging
- Sunflower oil and cakes marketing
- General financial oversight,
- Funding, fundraising and sales
- Financial planning and budgeting,
- Financial planning and budgeting,
- Financial reporting, Banking,
- Book-keeping and record-keeping,
- Control of fixed assets and stock
- Entrepreneurship activities

Appendix 1: attached Staff job description

4.3.3 Budget

The estimated budget which ensure the sunflower processing project is 8,197,300

Table 21: Project Budget

S/ N	Objectives	Cost category	Cost breakdown	Units	Rates	Sub Totals	Tot al
1.	Sunflower seeds production increase t the family leaver from one sack per acre to six/8 sack per acre in 2013	To conduct training in sunflower production to 24 farmers Birds and rats hearing and sunflower harvesting Sunflower cultivation activities.	masking tape 5@500 =2500 pen 25@ 200 =5000 Exercise book 25@ 300 = 7,500 mark pen 5@500=2500		2500 5,000 7,500 2,500	17,500	
2.		Planting and weeding, Bird and rats hearing and sunflower harvesting	Hand hoe 25 @ 5000= 125,000 Axe 12@5000=60,000 Animal drought 3acre@20,000 =60,000 cow dung 7ton 3acre @ 20,000=60,000 human labour 3 acre @30,000=90,000 Empty sack 24@700= 16,800	3Acre 7 ton Lumsu m	125,000 60,000 60,000 60,000 90,000 16,800	411,800	
3.	Amount of processed sunflower products sells increased to family leaver from 20to 480 liters at the end of 2013	To conduct training in agribusiness to 24	Lumsum to SIDO 200,000 24 sack@5000 =120,000 24 container@5000 =120,000		200,000 120,000 120,000	200,000 440,000	
iii	Family	To conduct	Lump sum		200,000	200,000	

	income increase from lower standard of living to middle / high standard of living at the end of year 2013.	training in agribusiness to 24 farmers. Farmer's family plan and utilization of resource	SIDO				
		Transport charge of training and sunflower seeds processing Mshani to Sumbawanga town for training and processing	24 farmers @10,000=240,000 sunflower transport 24 sack @2000=48,000 0 Farmers transport for processing 24farmers@10,000=240,000		240,000 48,000 240,000	5280,000	
	SUB TOTAL					3,197,300.00	
	Processing machine purchase for future use	Sunflower processing machine purchase for future use	Lump sum 5,000,000		5,000,000	5,000,000	
	Treasurer employee	Salary for treasurer	1person 12@100,000=1,200,000		1,200,000	1,200,000	
	GRAND TOTAL						
					8,197,300	8,197,300	

Source: Field Data, (2012)

4.4 Project Implementation

Table 22: Project Implementation

	Activities	Implementation time											
		J	F	M	A	M	J	J	A	S	O	N	D
1	Sunflower Production												
	Farm preparation, tillage of land	X											
	Planting and weeding	X	X										
	Bird and rats hearing and sunflower harvesting.			X	X								
2	Sunflower processing,												
	Processing activities						X						
3	Sunflower goods Packaging						X						
4	Sunflower goods distribution												
	Finding markets and sell product						X						

Source: Field Data, (2012)

4.4.1 Project Implementation Report

1. To conduct training in sunflower production to 24 farmers. Farm preparation, Cultivation, Planting, Weeding, types of manure use, Bird, Insects and rats hearing, Sunflower cultivation activities and harvesting.

Sunflower production training activities implemented in January in order to prepare farmers in farming activities. Training provided to the farmers are-;

- Sunflower farm preparation and cultivation activities done in early January
- Sunflower planting done in 15 January up to early February farmers' plant 3 kilogram or 5 kilogram per acre. Also farmers can use indigenous seeds or record modern seeds in line space 75 centimeters and 30 centimeters from one pit to another putting 3 to 4 seeds.
- Manure use if the land is not productive, can use in planting or busting sunflower plant by using 50 kg of UREA fertilizer or animal manure or cow dung.
- Bird and rats hearing, in order to prevent with insect and rats can use karate pesticides and Klerat for rats during planting .Farmers advised planting sunflower to the same season in older to prevent birds.

Harvesting of sunflower done in may after sunflower seeds to be matured. Sunflower seeds harvested dried in sunlight and packed in sacks and already to be stored waiting for processing.

2. Farm preparation, tillage of land planting and weeding, Bird and rats hearing and sunflower harvesting. These activities implement by the farmers after received training.

- Farmers prepare Sunflower farm and cultivate in early January

- They planting Sunflower seeds in 15 January up to early February by planting seeds 3 kilogram or 5 kilogram per acre. Also farmers can use indigenous seeds or record modern seeds in line space 75 centimeters and 30 centimeters from one pit to another putting 3 to 4 seeds.

- farmers use Manure if the land is not productive can use in planting or busting sunflower plant by using 50 kg of UREA fertilizer in one acre or use animal manure (cow dung).

- Bird and rats hearing, in order to prevent with insect and rats can use karate pesticides and Klerat for rats during planting .Farmers planting sunflower to the same season 15 January up to early December in older to prevent birds.

Farmers harvest sunflower in May after sunflower seeds to be matured. Sunflower seeds harvested dried in sunlight and packed in sacks stored and waiting for processing.

2. To conduct training in family health for 24 farmers. Diseases prevention including stomach diseases and HIV/AIDS and how affect farmers.

Awareness creation concern HIV/AIDS transmission, other disease and its effects to the community.

43. To conduct training in sunflower processing to 24 farmers Sunflower seed processing, packaging and disseminations. This training conducted in May in order to be practiced after sunflower cultivation to the end of May.

- Sunflower processing

- processing machines

- Packaging activities
- packaging equipments
- Dissemination activities

5. Sunflower processing, processing, Equipment of processing, packaging containers

- Farmer engages with sunflower processing activities in June instead of selling sunflower seeds so as to increase sunflower product value.

-Sunflower farmers engage in processing by using processing machines which allocated to the neighbor village of Kalambazite or Sumbawanga Municipal or Mbeya.

- Packaging activities done by the farmers in area of processing by using plastic container of 20 liters and other small packaging done in village using small packaging container of different packaging size.

-Dissemination activities, farmers themselves involve in dissemination of sunflower products to the users. Farmers find markets to sells their products. Market found by accessing sunflower oil and cakes markets status to certain area of processing and if there were good markets then send sunflower to process and sells.

6. To conduct training in agribusiness to 24 farmers. Family plan and division of resource to gender Family utilization of resource. Farmers training concern

- Agribusiness
- Entrepreneurship
- Family plan and budgeting

This training aimed to empower farmers to good resources management sustainability and engaging with other income generating activities (out farm activities) in other season and not depend in farming activities.

8. Transport charge of training and sunflower seeds Mshani to Sumbawanga town for training and processedg.24 farmers allowed to use money for transport charge and for person who send sunflower seeds to processing area amount of 528,000/- .

4.3.2 Project Implementation Gantt Chart

Table 23: Project Implementation Gantt Chart

Task	JANUARY 2, 15T							FEBRUARY 5							MARCH 5							APRIRY 26							MAY 29							JUN 28									
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S		
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Source: Field Data, (2012)

4.5 Summary

Implementation of sunflower seeds processing done by the farmers since the identification of Community Needs Assessment, implementation, monitoring evaluation stage which creates sustainability of the projects. The budget estimated in this project is 8,197,300. The project estimated during Community Needs Assessment through participatory approach called Participatory Rural Appraisal. Farmers arrange the needs and then ranking by prioritised, sunflower seeds processing become the first need which have more marks. The project implemented by farmers themselves in production, processing, packaging and distribution of product in form of oil and cakes. Monitoring and evaluation activities done by the farmers and professional including MCED students before the starting the project, during implementation of the project and after project implementation. Also sustainability created during the passing of this stage and farmers used fund obtained through sunflower product sells and engaging with other Income Generating Activities which create revolving fund leads project sustainability.

CHAPTER FIVE

5.0 PROJECT PARTICIPATORY MONITORING, EVALUATION AND SUSTAINABILITY

5.1 Introduction

This chapter includes the following parties-: Participatory Monitoring, Monitoring information system, Participatory Monitoring methods used to engage community in the monitoring, Participatory Monitoring plan, Participatory evaluation, Performance indicators, Participatory evaluation methods, Project evaluation summary and Project sustainability. Participatory monitoring evaluating and sustainability are the process of looking ongoing activities of the sunflower seed processing and its production project assessing implementation leaver, resources usefulness stage reaches of the project, assess if the project following its stage in its implementation as well as if the project will benefits the present generation and the future generation.

Participatory monitoring evaluating and sustainability is very important in generating project as follows: To analyze the successes and challenges of the project; Measure the progress in meeting the project goals and objectives; Review the strategies and time lines; Assess the impact of the project on the individuals and community; Develop recommendations for improvement based on lesson learn Create a common understanding of the project objectives, timelines, and deliverable for all stakeholders; Improve project results; The more involved people in all aspects of the project the more ownership project created. Commitment is the goal of creating successful launching a project sustainability; It highlights precautionary measures that can be undertaken to ensure that the outcomes and best practices from the

project will remain for the benefit of community regardless possible changes that may occur or as result from the end of external funding support; The project sustainability should take into consideration the following aspects: social sustainability, economic sustainability, institutional sustainability, and environmental sustainability both in short and long term perspective.

5.2 Participatory Monitoring

Participatory Monitoring system implement in different period of time. Monitoring activities practice before the project start during the implementation of the project and after project implementation. Participatory monitoring approach uses in sunflower processing monitoring project are Participatory Rural Appraisal (PRA) and Beneficiary Assessment.

Participatory Rural Appraisal (PRA) has been defined as a: ‘family of participatory approaches and methods to enable local people to share, enhance and analyze their knowledge of life and conditions, to plan and to act. Robert Chambers (1997:1437) Participatory Rural Appraisal (PRA) tools facilitate collection and analysis of information by and for community members. PRA emphasizes local knowledge and involves communities in the inventorying, monitoring, and planning of local resources management (Asia Forest Network 2002).

Participatory Rural Appraisal (PRA) used before the project to start, during community needs assessment, Community adviser participate with the community members (farmers) in having different views and documents concerning sunflower processing project. Also during the implementation of the project Advisors

participate by the farmers to assess if the farmers have training concerning Sunflower production, Processing, packaging and distribution activities. Farmers' implements their activities in specific time and its outputs. Moreover Advisors participate with the farmers to investigate if the project gives benefits to the farmers after implementation.

Table 24: Project Monitoring Activities Performs by both Participatory Beneficiary Assessment and Participatory Rural Appraisal

	Activities to monitor	Performance indicator	Achievements	Remarks
1	Sunflower Production	1 or 3 acre Sunflower plantation growth	Produced land	1or 3 acre of land produced
a	Farm preparation, tillage of land	Prepared farm	Prepared farm already to plants	1/3prepare acre of land
b	Planting and weeding	1 or 3 acre of sunflower seeds planted and weeded.	Grows sunflower plants	Grows sunflower plants
c	Bird insect and rats hearing and sunflower harvesting.	8or 28sunflower seeds sacks harvested	Growth and harvested sunflower seeds	Growth and 8 or 28bags of harvested sunflower seeds
2	Sunflower processing	8or 24 processed bags	8 or 24 oil container of 20 kg and 16 bags of cakes	8 or 24 oil container of 20 kg and 16 bags of cakes
3	Sunflower Packaging	8or 24 container of 20 kg packed	Qualitative and quantitative packed oil	Qualitative and quantitative packed oil
4	Sunflower distribution	8or 24 container of 20 kg packed distributed	Packed oil and cakes sold	Packed oil and cakes sold

Source: Field Data, (2012)

5.2.1 Monitoring Information System

Table 25: Monitoring Information System

No	Category of information	What to monitor	What records to keep	Who correct data	Who uses data	How to use information	What decision can be made
1.	Walk plan activities	Activities implementation time, Resources	-Season walk plan	Farmers, supervisors	Project adviser donor, agency	Ensure availability of resources, human, material and capital	Implement plan
2.	Cost of expenditure	Budget of activities, Fund available expenditure	Ledger of expenditure revenue and profits by budget category	Farmers and Treasurer	Project adviser donor, agency	Ensure availability of audited reports	Useful of resources
3.	Staff and supervisor	Experience of staff and supervisors Education level ,salary and walk performance	Performance review, Job description, Training Feedback attended	Treasurer and supervisors	Project adviser donor, agency	Motivate staff Resolve production problem	Committed
4.	Commodity	Farming inputs -farm outputs	Inputs resources Outputs recourses	Farmers and Treasurer	Project adviser donor, agency	Ensure stable markets and product distribution	Qualitative and quantitative commodity
5.	Results	-Number of sunflower product sold other IGA engage	Profits of Product	Project secretary 'Treasurer, Field supervisor	Project adviser donor, agency	Ensure production take place -Assess quality of products	To engage in production To make profits

Source: Field Data, (2012)

More over Beneficiary assessment used in monitoring of the sunflower processing projects before starting the project, during implementation of the project as well as after project implementation. Beneficiary assessment before starting the project take place in introduction of the project, beneficiary take into thought and agrees that the sunflower processing project have benefits to them as the farmers who engage in sunflower production. During implementation of the project participatory monitoring approach (Beneficiary Assessment) used engaging in farm preparation, tillage of land planting, weeding, birds insects and rats hearing, harvesting, processing, packaging and products (sunflower oil and cakes) dissemination. After project implementation Beneficiary Assessment take place when the farmers sold sunflower products have profits and the profits uses either to generate other income generating activities or to invest in building paying school fees for children and leave capital for generating project to the next season.

5.2.2 Participatory Monitoring Methods used to Engage Community in the Monitoring

The project use Participatory Ruler Appraisal and Participatory Beneficiary Assessment in monitoring of the projects. These methods implement in different stage of the project implementation as follows:

- (i) To the first Objectives state that Sunflower seeds production increase to the family leave from five sacks per hectare to 8 sacks per acre in 2013. In implementation of the objective the following activities allowed to perform.
- (ii) To conduct training in sunflower production to 24 farmers. Farm preparation, monitoring these training activities Participatory Ruler Appraisal and

Participatory Beneficiary Assessment used in monitoring. Participatory Ruler Appraisal use in finding and design training needs of the sunflower farmers by participating farmers and facilitators. After training conducted farmers monitored by looking in their exercise books and practical performing in implementation to their farming activities.

Sunflower cultivation activities. Farm preparation, tillage of land Planting and weeding, Bird and rats hearing and sunflower harvesting. Participatory Ruler Appraisal and Beneficiary Assessment use in assessing if sunflower cultivation activities of the sunflower farmers by participating farmers and facilitators. After training farmers allowed to engage in farming activities start with Farm preparation this activity done in January by cutting trees, bushes and thorn; tillage of land Planting and weeding done after land cleared by tillage of land by using oxen drought for those who haven't can hire oxen drought to others. Planting activities always does in 15 January up to the early February and weeding activity done after two or three weeks after sunflower planting. Diseases prevention Bird, Insects and Rats hearing activities practice in different season, in planting and flowering season; also diseases prevention (fungus) during germination as well as whole growing process and sunflower harvesting take place after sunflower seeds to be matured and stored.

(iii) Conduct training in family health to 24 farmers. Different diseases include stomach diseases, HIV/AIDS and its effect. Participatory Ruler Appraisal and Beneficiary assessment help in awareness creation to difference diseases provided in older to prevent community. This provided to prevent new

transmission of HIV/AIDS because after matured of project farmers have a lot of money and they travel to different place for business due to that they can engage in luxuriance issues which lead to have new HIV/AIDS transmission.

The second objective is that amount of processed sunflower products sells increased to the family level from 20 liters to 480 liters at the end of 2013.

To conduct training in sunflower processing to 24 farmers. Sunflower seed processing and packaging. In monitoring this activity sunflower processing training conduct through Participatory Ruler Appraisal and Beneficiary assessment use. Due to that farmers and supervisors participate in monitor by observe through written training documents concerning sunflower processing such as Sunflower processing, processing machines, Packaging activities, packaging equipments and Dissemination activities.

Sunflower processing, processing, Equipment of processing, packaging containers. Participatory monitoring applicable in this are Participatory Ruler Appraisal and Beneficiary assessment. The community and supervisors apply this methods during the implementation by implementing and observing processing activities during take place, equipment using in process (machines), packaging activities and packaging container which used in packaging Sunflower oil and cakes dissemination.

Activity of Sunflower oil and cakes dissemination engage through Beneficiary assessment approach by assessing sunflower oil and cakes selling activities. Objective tree, Family income increase from lower standard of living to middle / high standard of living at the end of year 2013.

- (i) To conduct training in agribusiness to 24 farmers. Division of resource to gender. Family plan and utilization of family resources. Community allowed to be trained concerning agribusiness which helps them in revolving fund through Income Generating activities during unproductive season. These training can leads in community altitudinal change which give out project sustainability. In monitoring this activity Participatory Ruler Appraisal and Beneficiary assessment methods can be used in monitoring.
- (ii) Transport charge of training and sunflower seeds processing Mshani to Sumbawanga town for training and processing. By using Beneficiary assessment farmers assess the contribution of resources of every farmer to go to Training activities as well as processing activities.
- (iii) Salary, using contribution of out puts per season farmers allowed to contribute 5% of production outputs of sunflower products Participatory Ruler Appraisal and Beneficiary assessment.

5.2.3 Participatory Monitoring Plan

Table: project monitoring activities performs by both participatory Beneficiary Assessment and Participatory Rural Appraisal.

Source: Field Data, (2012)

No	Objectives	Activities	Indicators	Data sources	Methods /Tools	Person responsible	Time frame
1.	Sunflower seeds production increase to the family level from one sack per acre to 8 sacks per acre in 2013.	To conduct training in sunflower production to 24 farmers. Farm preparation, Cultivation, Planting, Weeding, types of manure use, Bird and rats hearing and sunflower	24 farmers trained and practice	Documentation,	Lecture, Discussion,	AFO	January 2013
		Sunflower cultivation activities. Farm preparation, tillage of land Planting and weeding, Bird and rats hearing and sunflower harvesting.	1 or 3 acre Sunflower farm Prepared	field	Individual, participatory	Farmers	January and February 2013
		To conduct training in family health for 24 farmers. Different diseases including stomach and HIV/AIDS and its effect.	1or 3acre of sunflower seeds planted and weeded	Documentation,	Lecture, Discussion,	CDO and SIDO	Ma y 2013
3.	Amount of processed sunflower products sells increased to the family level from 20 liters to 120 liters at the end of 2013	To conduct training in sunflower processing to 24 farmers Sunflower seed processing and packaging.	24 farmers trained and practice	Documentation,	Lecture, Discussion,	CDO and SIDO	Ma y 2013
		Sunflower processing, processing, Equipment of processing, packaging containers.	8or 24 container of 20 kg packed	Field	Individual, Participatory	Farmers	June 2013

Table 26: Participatory Monitoring Plan

Table 27: Project Monitoring Activities Performed by both Participatory Beneficiary Assessment and Participatory Rural Appraisal

No	Objectives	Activities	Indicators	Data sources	Methods /Tools	Person responsible	Time frame
1.		Sunflower oil and cakes dissemination	8 or 24 container of 20 kg packed	field	Individual	Farmers & Processor	June 2013
2.	Family income increase from lower standard of living to middle / high standard of living at the end of year 2013.	To conduct training in agribusiness to 24 farmers. Farmer's family plan and division of resource to gender	24 farmers trained and practice	field	Lecture, Discussion,	CDO and SIDO	April 2013
		Transport charge of training and sunflower seeds processing Mshani to Sumbawanga town for training and processing	24 farmers trained and practice	field	Lecture, Discussion,	CDO and SIDO	April 2013
3.		Salary	Employee paid 1,100,000 salaries within six month.	field	Farmers participatory	Farmers	June 2013

Source: Field Data, (2012)

Table 28: Summary Monitoring

	Goals	Objectives	monitored each objective	Project Time frame
	To increase Sunflower seeds production to the family leaver	Sunflower seeds production increase to the family leave from one sack per acre to 8 sacks per acre in 2013.	Production increased from 1 sack to 8 per sack	The end of June 2013
	To increase amount of sunflower processing products dissemination	Amount of processed sunflower products sells increased to the family level from 20 liters to 120 liters at the end of 2013.	A sunflower product sells increased oil from 20 liters to 160 cakes from four tins to 32 tins.	The end of June 2013
	To improve standard of living for farmers through sunflower seeds processing project.	Family income increase from lower standard of living to middle / high standard of living at the end of year 2013	Engage with other IGA in dry season Income increased children sent to school and provided basic needs	The end of June 2013

Source: Field Data, (2012)

5.3 Participatory Evaluation

Participatory evaluation system implement in different period of time to assess if the resources allocated are useful and activities implemented according to the plan. Participatory Evaluation practiced in pre-evaluation, ongoing, terminal evaluation and summative evaluation that is done at the end of the project. Participatory evaluation approach uses in sunflower processing evaluation of project are Participatory Rural Appraisal (PRA) and Beneficiary Assessment.

Participatory Rural Appraisal (PRA) has been defined as a: ‘family of participatory approaches and methods which emphasize local knowledge and enable local people to do their own appraisal, analysis and planning. PRA uses group animation and exercises to facilitate information sharing, analysis and action among stakeholders.’ (World Bank, 1995:175 emphasis in original) Robert Chambers, claims that it represents not just a set of research techniques, but rather a whole new paradigm of development. PRA offers, he argues: ‘a new high ground, a paradigm of people as people. RRA fits a cybernetic model of fast feedback in conditions of rapid change. Good PRA goes further, in empowering lowers (Brown, D.et al 2002:1).’

Participatory Rural Appraisal (PRA) practiced in pre-evaluation, this is the stage where by the project ideas introduced to the community and community needs assessment take place. Community adviser participates with the community members (farmers) in having different views and documents concerning sunflower processing project. Also during ongoing-evaluation of the project Advisors participate by the farmers to assess if the farmers needs training concerning Sunflower production,

Processing, packaging and distribution activities. Farmers' implements their activities in specific time and its Outputs. Addition to that Advisors participate with the farmers to evaluate if the project gives benefits to the farmers after implementation.

5.3.1 Performance Indicators

Table 29: Logical Framework of Evaluation Performance Indicators

	Objectives	Means of verification/indicator	Outputs or results	Means of verification
i	Sunflower seeds production increase to the family level from one sack per acre to 8 sacks per acre in 2013.	Production increased from 1 sack to 8 per sack	24 sunflower sacks harvested	Qualitative and quantitative sunflower products (oil and cakes)
ii	Amount of processed sunflower products sells increased to the family level from 20 liters to 120 liters at the end of 2013.	A sunflower product sells increased oil from 20 liters to 160 liters and cakes from 4 tins to 32 tins.	160 sunflower oil liters sold, 32, sunflower cakes sold.	Sunflower products sold by profits,
iii	Family income increase from lower standard of living to middle / high standard of living at the end of year 2013	Engage with other IGA in dry season Income increased children sent to school and provided basic needs	Farmers improved Standard of living	Sustainability of project.

Source: Field Data, (2012)

More over Beneficiary Assessment used in evaluation of the sunflower processing projects practiced in pre-evaluation of the project, ongoing of the project, terminal evaluation and summative evaluation done at the end of the project. Beneficiary assessment before starting the project take place in introduction of the project, beneficiary take into thought and agrees that the sunflower processing project have benefits to them as the farmers who engage in sunflower production. During implementation of the project participatory evaluation approach (Beneficiary Assessment) done in ongoing of the project where by farmers engaging in farm preparation, tillage of land planting, weeding, birds insects and rats hearing, harvesting processing, packaging and products sunflower oil and cakes dissemination. After project implementation Beneficiary Assessment take place when the farmers sold sunflower products have profits and the profits uses either to generate other income generating activities or to invest in building paying school fees for children and leave capital for generating project to the next season.

5.3.2 Participatory Evaluation Methods

5.3.3 Participatory Evaluation Methods used to Engage Community in

Evaluation

The project use Participatory Ruler Appraisal and Participatory Beneficiary Assessment in evaluation of the projects. Beneficiary Assessment (BA) is a qualitative method of investigation and evaluation. It involves the systematic consultation of project beneficiaries and other stakeholders. BA helps them identify and design development activities and signal any potential constraints to their participation. Its purpose is to undertake systematic listening, by giving the poor and

other "hard-to-reach" beneficiaries "a voice", and to obtain feedback on activities. These methods implement in different stage of the project implementation as follows:

- (i) To the first Objectives state that Sunflower seeds production increase to the family layer from five sacks per hectare to 8 sacks per acre in 2013. In implementation of the objective the following activities allowed to perform.
- (ii) To conduct training in sunflower production to 24 farmers. Farm preparation, monitoring these training activities Participatory Ruler Appraisal and Participatory Beneficiary Assessment used in evaluation. Participatory Ruler Appraisal use in finding and design training needs of the sunflower farmers by participating farmers and facilitators. After training conducted farmers evaluating by looking in their exercise books and practical performing in implementation to their farming activities. Sunflower cultivation activities. Farm preparation, tillage of land Planting and weeding, Bird and rats hearing and sunflower harvesting.

Participatory Ruler Appraisal and Beneficiary Assessment use in assessing if sunflower cultivation activities of the sunflower farmers by participating farmers and facilitators. After training farmers allowed to engage in farming activities start with Farm preparation this activity done in January by cutting trees, bushes and thorn; tillage of land Planting and weeding done after land cleared by tillage of land by using oxen drought for those who haven't can hire oxen drought to others. Planting activities always does in 15 January up to the early February and weeding activity

done after two or three weeks after sunflower planting. Diseases prevention Bird, Insects and Rats hearing activities practice in different season, in planting and flowering season; also diseases prevention (fungus) during germination as well as whole growing process and sunflower harvesting take place after sunflower seeds to be matured and stored.

- (iii) Conduct training in family health to 24 farmers. Different diseases include stomach diseases, HIV/AIDS and its effect. Participatory Ruler Appraisal and Beneficiary assessment help in awareness creation to difference diseases provided in older to prevent community. This provided to prevent new transmission of HIV/AIDS because after matured of project farmers have a lot of money and they travel to different place for business due to that they can engage in luxuriance issues which lead to have new HIV/AIDS transmission.

The second objective is that amount of processed sunflower products sells increased to the family level from 20 liters to 480 liters at the end of 2013.

To conduct training in sunflower processing to 24 farmers. Sunflower seed processing and packaging. In monitoring this activity sunflower processing training conduct through Participatory Ruler Appraisal and Beneficiary assessment use. Due to that farmers and supervisors participate in evaluate by observe through written training documents concerning sunflower processing such as Sunflower processing, processing machines, Packaging activities, packaging equipments and Dissemination activities.

Sunflower processing, Equipment of processing, packaging containers. Participatory monitoring applicable in this are Participatory Ruler Appraisal and Beneficiary assessment. The community and supervisors apply these methods during the implementation by implementing and observing processing activities during take place, equipment using in process (machines), packaging activities and packaging container which use in packaging.

Sunflower oil and cakes dissemination

Activity of Sunflower oil and cakes dissemination engage through Beneficiary assessment approach by assessing sunflower oil and cakes selling activities.

Objective tree, Family income increase from lower standard of living to middle / high standard of living at the end of year 2013.

- (i) To conduct training in agribusiness to 24 farmers. Farmer's family plan and division of resource to gender, Family utilization of resource. Community allowed to be trained concerning agribusiness which helps them in revolving fund through Income Generating activities during unproductive season. These training can leads in community altitudinal change which give out project sustainability. In evaluating this activity Participatory Ruler Appraisal and Beneficiary assessment methods can be used in evaluating.
- (i) Transport charge of training and sunflower seeds processing Mshani to Sumbawanga town for training and processing. By using Beneficiary assessment farmers assess the contribution of resources of every farmer to go to Training activities as well as processing activities.

- (iii) Salary, using contribution of out puts per season farmers allowed to contribute 5% of production outputs of sunflower products Participatory Ruler Appraisal and Beneficiary assessment.

5.3.4 Project Evaluation Summary

Table 30: Evaluation Summary

S\N	Goals	Objectives	Performance indicators	Outcomes
	To increase Sunflower seeds production to the family leaver	Sunflower seeds production increase to the family leave from one sack per acre to 8 sacks per acre in 2013.	Production increased from 1 sack to 8 sack	24 sunflower sacks harvested
	To increase amount of sunflower processing products dissemination	Amount of processed sunflower products sells increased to the family level from 20 liters to 120 liters at the end of 2013.	A sunflower product sells increased oil from 20 liters to 160 cakes from four tins to 32 tins.	160 sunflower oil liters sold, 32, sunflower cakes sold.
	To improve standard of living for farmers through sunflower seeds processing project.	Family income increase from lower standard of living to middle / high standard of living at the end of year 2013	Engage with other IGA in dry season Income increased children sent to school and provided basic needs	Farmers improved Standard of living

Source: Field Data, (2012)

5.4 Project Sustainability

5.4.1 Introduction

Sustainability is about maintaining and continuing program services after the funding period is over. AIDA (2001:1); Ensuring that the institutions supported through projects and the benefits realized are maintained and continue after the end of the project. IFAD (2009:13)

The project implement by sunflower farmers so as to increase the value chain of sunflower product. Project involves certain stages to implement by farmers to create sustainability such as production, processing, packaging and distribution activities. Involvement of farmers in training, practice, and implementing of certain activities in whole stage of the project can empower to be creative for doing different out farm activities other Income Generating Activities during other season, these leads to sustainability of the project. Project Sustainability bases in certain spheres such as economic, Social and environmental sustainability.

Economic sustainability – IFAD (2009). Economic sustainability leads to technical sustainability, people economic empower to afford services bases technical soundness, appropriate solutions, technical training for operations and maintenance, access to and cost of spare parts and repairs; In this community have income to meet every project cost and have profits founds from the project create revolving funds by engage with other Income Generating Activities during out farm season. Income Generating Activities which engages by farmers are food vender and petty business. This can help the farmers increasing their income including keeping money for coming sunflower cultivation season.

Social sustainability means social support and acceptability, community commitment, social cohesion; IFAD (2009). Social sustainability creates ownership which means that whether or not communities, local government and households accept and own the outcomes of the project in ways that are sustainable. Socially farmers can provide services to others and have income support them to provide needs to their family such as education needs, health needs and other basic needs.

Environmental sustainability means projects' positive/negative contributions to soil and water preservation and management, resilience to external environmental shocks. Farmers allowed to practice farming activities which not harmfully to environment. Farmers when engage with sunflower farming activities allowed to practice with Crop rotation farming, organic farming, mixed farming and follows agricultural procedures to create sustainability of environments.

5.5 Summary

Project participatory monitoring evaluation and sustainability implemented by participatory rural Appraisal. The project was implemented by involving farmers from the initial stage of identification of needs up to the last stage. The project state during implementation of project and after project implementation which create sense of sustainability. Also farmers allowed to be trained in order to run their organization proper. participatory approach is the best way to convince community in implementation of any activities.

Table 31: Sustainability Plan

S/N	Objectives	Means of verification	Sustainability indicator	Life span
1.	Sunflower seeds production increase to the family level from one sack per acre to 8 sacks per acre in 2013.	Production increased from 1 sack to 8 sacks, 24 sunflower sacks harvested.	Practice sustainable agricultural organic farming.	Year 2013
2.	Amount of processed sunflower products sells increased to the family level from 20 liters to 120 liters at the end of 2013.	A sunflower product sells increased oil from 20 liters to 160 liters and cakes from 4 tins to 32 tins.	Income increased and farmers have capital to engage with other Income Generating Activities.	Year 2013
3.	Family income increase from lower standard of living to middle / high standard of living at the end of year 2013	Engage with other IGA in dry season Income increased children sent to school and provided basic needs	Farmers improved Standard of living by using revolving fund engaging with other Income Generating Activities	Year 2013

Source: Field Data, (2012)

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATION

6.1 Introduction

This chapter include different summary from chapter one up to chapter five which includes Participatory Needs Assessment, Background to Research problem, Literature Review, Project Implementation and Project Participatory Monitoring, Evaluation and Sustainability.

6.2 Conclusion

Participatory Needs Assessment done in Mshani community, farmer's community engaging in different farming activities including Sunflower cultivation. Sunflower productions engage as cash crop production. The products were profitable when the farmer practice good farming system and sell processed product. Participatory Needs Assessment findings show that community has benefits when engaged with sunflower processing such as sunflower oil and cake when sold becomes a source of income. Some of products includes sunflower oil for domestic uses, sunflower cakes uses for animal feeding.

Although sunflower products benefits community members there were challenged with: Poor market of sunflower seeds, lack of transport, higher distance of processing area, high price of farming equipment and low income. Sunflower seeds processing increase sunflower production value due to many community members sols sunflower seeds instead of sunflower products. These seeds sold in low price which cannot bring benefits to the farmers. Community proved that sunflower product

increase value when sold after processing (oil and cakes). These can lead to bust community from lower level to higher level of development.

Background to Research problem, Mshani village is the village endowed with fertility land which is very productive with different type of crops including sunflower seeds. Sunflower seed produced by many farmers in Mshani village but sold unprocessed seeds in low price. The selling price of sunflower seeds not encores production cost of sunflower seeds. Sunflower product increase value when sold in forms of products after processing (oil and cakes). Due to that engage in different process of the project such as production, processing, packaging and distribution of the products. These activities can reads to increase value of sunflower products.

The purpose of choosing the project is that, the area is productive of different farming crops. Sunflower is among of most crops which are highly produced in the area as oil seed as well as cash crop product. Production of this crop involve high cost of production but when you come to returns there is no benefit to farmers as it sold in low price. This situation draws back economically remain poor. Farmers increase value by increasing sunflower seeds processing selling sunflower oil and cakes instead of seeds become the solutions of sharpness of the problem.

In literature the findings revealed that Many project which undertaken looks agricultural in general but few of it looks about sunflower in one part such as importance of sunflower products problems facing sunflower sectors; situation of sunflower oil in the world; Country Sunflower production and its origin; Price of sunflower inputs such as sunflower seeds, production equipments and fertilizers; the

raise and falls of sunflower seed and sunflower oil Price in different areas. National Agricultural and Livestock policy of 1997 talk about agricultural in general not specific in sunflower. Few literature talks about communities participate in production and sell their sunflower seed to the local traders in lower price which lead loss and encourage community that in order to increase sunflower product value need to process and sells in form of products instead of selling sunflower seeds.

Improving livelihood to farmers through sunflower seeds processing participation in project implementation. Farmer implemented all activities concerning the project such as Production, processing, packaging and distribution of products to the users, activities implements to increase the value of products. Sunflower Production activities practice during rainy season. Farmers produce sunflower seeds in their farms. Farm prepared by tillage of land in early January; Planting in 15January up to 15 February; weeding in March; bird, insects and rats hearing April and harvesting in May. Also farmers allowed to dry sunflower seed after harvest by using sun light. Sunflower processing activities implement by farmers as well as packaging and lastly dissemination activities take place together in June.

Project Participatory, Monitoring, Evaluation and Sustainability. Factors or condition when changed enhanced ability to complete all elements of the project as follows Dependent Condition is still exists among the farmers. This condition when changed help project sustainability; Also farmers have many dependants (children). These groups are users not producers lead to backward farmers development; Laziness of people, some farmers are lazy, they not like to work they wondering, taking local

bear and very talkative but when talk about working they don't like and like assistance or gifts.

Unexpected occurrences that greater affected ability to complete the project and achieve all stated goals Limited resources, the resources such as time and money during project completion are limited. The project mobilizes spend more time and money in correcting information concerning the project in field which is primary source and secondary sources at large.

Poor communication, Sumbawanga District is a peripheral and other area is allocated in remoteness area so communication network is poor not assessed in certain area. This make hard to access internet services and affected ability to complete the project and achieve all stated goals.

Gender role, gender role is among of the obstacles which hinder to complete the project in time. The writers engage with both careering family members and breast feeding the child as well as wrote the project dissertation

Outcomes that may be expected if the project successful or completed Farmers improve standard of living and engage with other out farm income generating activities during non farming season.

Income increased, Farmers expand sunflower production activities and the project becomes matured to buy sunflower seeds processing Machine which reduce processing cost as well as income generating activities to the farmers.

6.3 Recommendations

6.3.1 Participatory Assessments

The writer observed that Participatory community needs Assessments is the best way to use in any projects in order to create sustainability. Many project lack sustainability in our country. Due to that i advice the governments and different project Donnas conduct community needs Assessment before starting the project in order to know the community needs and advice to meet their needs.

6.3.2 Project Design and Implementation

The government should subsidize farming equipment in order to lower the price .The writer observe that Many farmers have low income to afford purchase farming equipment which help to reduce farming activities burden.th equipments such as animal drought (plough) wheel barrow, hand hoe axe and other equipments are selling in high price which harmful to farmers but when subsidize the price will be lower for every farmers can afford to buy it. Also farmers allowed to use resources which available to their areas in order to reduce cost in using imported farming resources example instead of using industrial manure they can use animal manure or cow dung in cultivation activities.

6.3.3 Literature Review

The project writers should be send their project document to be preserved in different library in order to be the part of literature review to others writers of similar projects. It is observed that many writers wrote their project but they not send to library for taking reference to other due to lack any reference concerning sunflower product during the study in Rukwa region library. Also the government should make sure that

allocation of communication system even to the remote areas to support students who living in this area to accesses information as well as searching different references in internet which leads conducive learning environment.

6.3.4 Monitoring, Evaluation and Sustainability

The government and other stakeholders allowed to use participatory Monitoring, Evaluation and Sustainability in their projects because participatory approach increase we feeling to the owners of the projects the things which create project sustainability. Many projects Monitoring, Evaluation and Sustainability activities done by the outsider who leads to meet the needs of present generation without meet the needs of future generation it means that collapse after the end of donors' assistance.

6.2.5 Best Strategies in Practices Models which Particular Helpful

All strategy in practice /model are particular helpful according to the researcher design and want to use in project activities planned. The researcher can use different strategy in data collections. The writer can use such methods including interview, Questionnaire, Observation and documentation. The writes can find the best strategy which helps him her study according to the selected area of the study, topics as well as course. These things guide the writer the best environment to implement activity.

6.2.6 Research Method which is Helpful for the Data you Collected in Various Areas

Research method which is helpful for the data you collected in various areas are interview Questionnaire Observation and documentation. Both these methods are

better methods because it helping each other in data collection and every method needed to collect certain data type. During the period of data collections the writer use both methods interview, Questionnaire, Observation and documentation as a data collection methods which used in collectting different data concerning sunflower seeds processing increase sunflower production value in Mshani village project. The researcher use these methods due to that one method are not enough to satisfy the needs of the projects.

6.3.7 Steps to Further Advance this or Similar Projects which will be used other

Data you Collected Methods

I advice any person who choose to do the project concern sunflower product or others to

Use different methods in data collection such as interview Questionnaire Observation and documentation in older go insight of the study. One method is not enough to collect data which satisfy the requiring of the study.

6.4 Summary

Conclusion and recommendation summarized about improving farmers' livelihood through sunflower seeds processing by participation in different activities. This chapter sum up views from chapter one up to chapter six which includes: community needs assessment, back ground to research problem, literature review, project participatory monitoring, evaluation and sustainability, as well as conclusion and recommendation.

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APPENDICES

Appendix I: Treasurer Job description

Treasurer of farmer organization will responsible to accomplish the following financial activities such as General financial oversight, Funding, fundraising and sales, Financial planning and budgeting, Financial planning and budgeting, Financial reporting, Banking, book-keeping and record-keeping, Control of fixed assets and stock.

1. General financial oversight

- a) Oversee and present budgets, accounts and financial statements to the management committee
- b) Liaise with designated staff about financial matters
- c) Ensure that appropriate financial systems and controls are in place
- d) Ensure that record-keeping and accounts meet the conditions of funders or statutory bodies
- e) Ensure compliance with relevant legislation.
- f) More on financial oversight

2. Funding, fundraising and sales

- a) Advise on the organisation's fundraising strategy
- b) Ensure use of funds complies with conditions set by funding bodies
- c) Ensure fundraising and sales complies with relevant legislation and is bound by effective financial systems and controls
- d) Ensure effective monitoring and reporting

3. Financial planning and budgeting

- a) Prepare and present budgets for new or ongoing work
- b) Advise on financial implications of strategic and operational plans
- c) Present revised financial forecasts based on actual spend.

4. Financial reporting

- a) Present regular reports on the organization's financial position
- b) Prepare accounts for audit and liaising with the auditor, as required
- c) Present accounts at the AGM
- d) Advise on the organisation's reserves and investment policy.

5. Banking, book-keeping and record-keeping

- a) Manage bank accounts
- b) Set up appropriate systems for book-keeping, payments, lodgments & petty cash
- c) Ensure everyone handling money keeps proper records and documentation

6. Control of fixed assets and stock

- a) Ensure proper records are kept
- b) Ensure required insurances are in place.
- c) In all of these areas the Treasurer is responsible for ensuring that effective financial systems and procedures have been established, are being consistently followed and are in line with best practice and legal requirements.
- d) <http://www.diycommitteeguide.org/article/what-role-treasurer>.

Appendix II: Community Needs Assessment Questionnaires

QUESTIONNAIRE FOR OFFICERS AND FARMERS

A. Background information

- 1. Name of respondent.....
- 2. Sex (i) male ()
(ii) Female ()
- 3. Marital status.....
- 4. Education level.....
- 5. Designation.....
- 6. Working experience.....
- 7. Working station.....

B. Community Needs Assessment Economic Questions

- 1. Which crops the farmers need to produce oil seeds?
.....
.....
- 2. Which equipments the farmers need in oil seed crops production and processing?
.....
.....

3. What challenges do farmers face on oilseed crop production and processing?

.....
.....
.....

4. Do farmers get benefits from their produced goods in what extent?

.....
.....

Appendix III: Improve Organizational Management and Capability

- i. Training about better farming system, good management, sunflower processing, packaging, marketing
 - ii. Organizational equipment keeping
 - iii. Organizational documents keeping
-
- a) Improve sunflower seeds production by;
 - i. Practice good sunflower farming system
 - ii. To store sunflower seeds for processing
 - iii. To sells sunflower seeds processed products

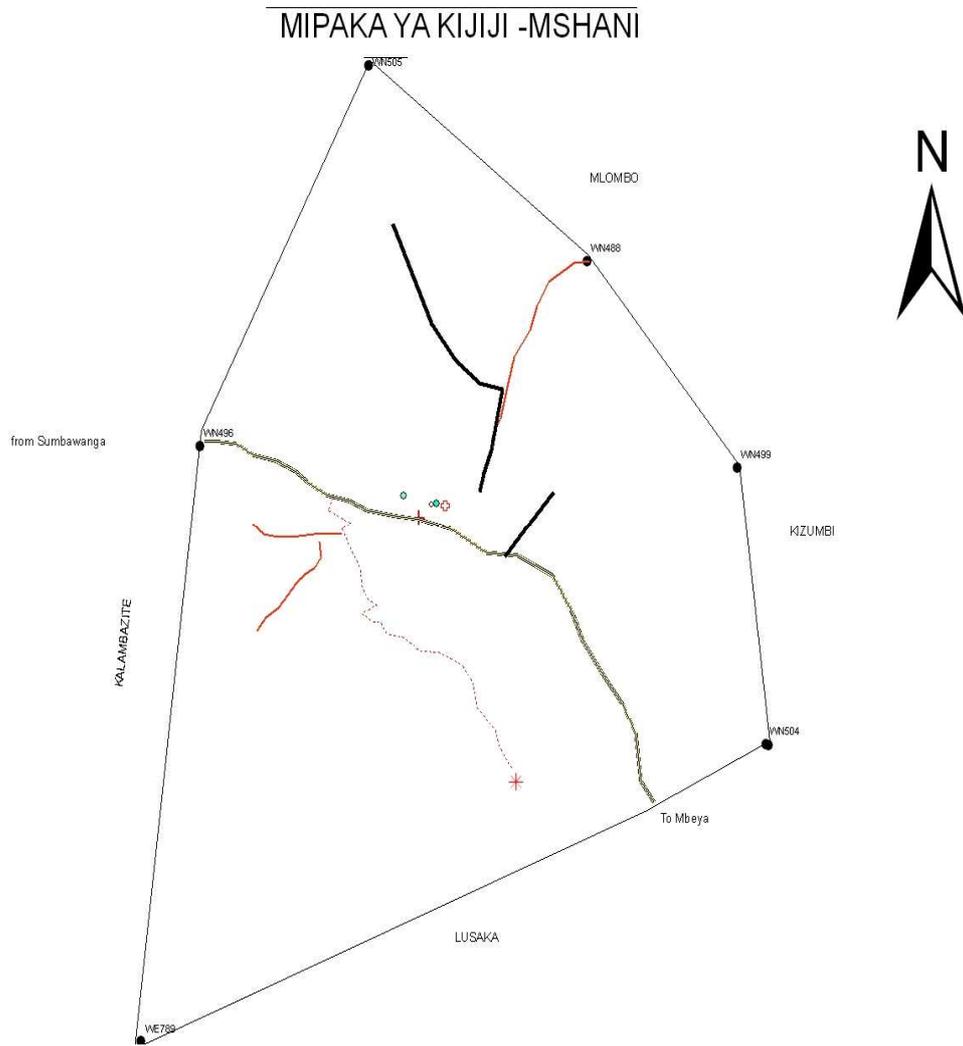
 - b) To modify sunflower seeds processing and packaging
 - i. To improve sunflower oil quality by using sunflower seed processing equipment
 - ii. Train farmers in designing, packaging and labeling of sunflower oil

 - c) To find how sunflower products oil and cakes distributes.
 - i. To improve packaging and laboring so as to attract the users.
 - ii. To sell in different quantity in order to meet markets needs.
 - iii. To search market information disseminate through announcement in black board and radio.

Appendix IV: The Map of Mshani Village

Key

- borders
- Main road Sumbawanga to Mbeya.
- Villages



Source: Mshani Village Council, (2010)