**MPROVED INCOME OF KILIKO GROUP COOPS THROUGH VEGETABLE PRODUCTION IN MVUMONI WARD CHAKE CHAKEDISTRICT PEMBA ISLAND ZANZIBAR**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT FOR THE REQUIREMENTS FOR THE DEGREE OF MASTER OF COMMUNITY ECONOMIC DEVELOPMENT (MCED)**

**DEPARTMENT OF ECONOMICS AND COMMUNITY ECONOMIC DEVELOPMENT**

**THE OPEN UNIVERSITY OF TANZANIA**

**2022**

# CERTIFICATION

The undersigned certifies that she has read and hereby recommends for acceptance by the Open University of Tanzania (OUT) a project entitled; “***Improved income of Kiliko Group Coops through Vegetable production in Mvumoni Ward Chake Chake District Pemba Island, ZanzibarTanzania”***, in partial fulfilment of the requirements for the Degree of Master in Community Economic Development (MCED).

…………………………………..

Dr. Harrieth G. Mtae

(Supervisor)

………………………………..

Date

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I, **Khatibu Bakari Kombo**, declare that, the work presented in this dissertation is original. It has never been presented to any other University or Institution. Where other people’s works have been used, references have been provided. It is in this regard that I declare this work as originally mine. It is hereby presented in partial fulfillment of the requirements for the Degree of Master in Community Economic Development (MCED).

……………………………………..

Signature

…………………………………….

Date

**DEDICATION**

Firstly, I would like to thank Almighty Allah (God) for giving me good health and for all the privileges; he has given me and giving the family behind me the full of their support.My hearty dedication is to my beloved parents; My Mother Hidaya Mohammed Ali and My Father BakariKomboFaki for their prayers and support on my study from the beginning until now.

Also I dedicate this work to my lovely Family their love, patience, support and comfort during the sleepless nights of hard work on this study.To my friends, well-wishers, relatives and all those who contributed in one way or another to the success of this study through their great encouragement, morally and materially.

Lastly, but not least, I dedicate this work to my supervisor, Dr Harrieth. G Mtae for his tireless efforts, time and constructive guidance towards success of this work, including all my relative lecturers.

I wish them all the best.

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# ABSTRACT

The Community Needs Assessment was conducted in Mvumoni Village. The target Community was the result of vote conducted the name of the group were obtained and named Kiliko group coops as economic activity group. The general objective of the project was to ensure it discovers the current situation people are facing within the community so as to plan on how to make a project to improve the living standard of the people under study.The information was gathered by using different techniques which include questionnaires, focus group discussions, interviewing and observation. The project exposed challenges faced Vegetable farmers such as poor skills on how to increase income and starting capital as well as the reliable income generating activity. The project outputs resulted where by 30 group members were trained on Vegetable production, as well as the place for marketing the products and initial starting capital were raised. Not only that but also the group were officially registered at Ward level and recognized by ward leaders as the group dealing with vegetable production. Putting into practice of the project designed was based on Community Needs Assessment which was carried out during the participatory assessment process. The project has been successful in a way that, those beneficiaries of the project who were involved in the Community Needs Assessment found that it is worth of improving the lives of people in the community.

Keywords: *Income, Kiliko Group Coops, Vegetable Production, Production.*

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**LIST OF ABBREVIATION**

CNA Community Needs Assessment

CBO Community Based Organization

CED Community Economic Development

GOT Government of Tanzania

IITA International Institute of Tropical Agriculture

MIS Monitoring and Information System

PRA Participatory Rural Appraisal

SDG Sustainable Development Goal

SIDP Sustainable Industrial Development Policy

SLDP Smallholder Livestock Development Project

SPSS Statistical Package for Social Science

SWOT Strengths, Weakness, Opportunity and Threats

TARI Tanzania Agriculture Research Institute

TDV Tanzania Development Vision

TOSCI Tanzania Official Seed Certification Institute

# 

# CHAPTER ONE

# PARTICIPATORY NEEDS ASSESSMENT

## 1.1 Background Information

The Community Needs Assessment was conducted in May 2021 at Mvumoni Community, Kibokoni Ward, Chake Chake District, South Region Pemba which was taken as a community under study. The community that participated in the Participatory Needs Assessment were deeply engaged in all the process from the beginning to the end while giving the necessary contribution. Generally, they participated in a focus group discussion and other techniques of data collection such as interviews to provide data requested by the researcher.

For the purpose of accomplishing the process, the researcher used snowballing techniques as an aid to get information while reducing the cost of the whole process (Chambers 2011). The finding of Community Needs Assessment shaped a base for the documentation of problems incrassating the Mvumoni Community so that to get the required solution. This information was very important in setting the ground for the success of Community Economic Development project planning, putting into practice the management, and sustainability, (Chambers 2011).

Participatory Needs Assessment revealed that Mvumoni Community faces challenges such as poor land expansion, poor production inputs, lack/ little knowledge on pests and diseases, unpredictable market, process negotiation, seasonal vegetable production of which during low rain season farmers faces drought on their farms, and supply as well as the poor quality of production Mwatawala (2019). Therefore, the introduction of the Vegetable production was found to be a suitable source of income compared with other such as dairy farming since it can provide income on a monthly basis and gives them a good return on what they have invested.

It is of the reason that farming the vegetable is a key factor in making sure the money flows every day as the investment is peaking up and the getting of raw materials, Mwatawala (2019). It is always said that the Processing vegetables in Zanzibar provides certain benefits, but there is insufficient information about the farmers' financial potential in growing and selling veggies(Mwatawala, 2019).This work has looked into circumstances of people engaging in Vegetable farming and selling in Zanzibar and revealed the high demand that can be used to increase the household income hence community economic development, Mponji, (2019).

## 1.2 Community Profile

Mvumoni is one of the three Communities of Kibokoni Ward, Wawi state/division, Chake Chake District South region in Pemba Zanzibar, Sesela (2019).Another Community found in the Kibokoni ward is Mgogoni and Kibokoni, Sesela, (2019).Mvumoni has located about 6km from Chake Chake town, Sesela, (2019).The Community has an area of 10Ha and Its hare’s border with Mfikiwa Community to the west, Pujini Community to the south, Kibokoni Village to north and east found the IndianOcean, Sesela, (2019).

### 1.2.2 Population

Mvumoni Community has a sum of 508householdswith a total habitat of 2463 people out of which 1141 men and 1322 women. Chake Chake district population is which indicates an annual growth rate, (Shehia Report 2021).

### 1.2.3 Agricultural and Livestock

Mvumoni community is basically comprised of smallholder farmers and fishers. They cultivate manly rice, banana, and cassava for household uses and vegetables for household use and commercial, Shehia Report 2021).

### 1.2.4 Geography and Vegetation

The Community is positioned at an altitude range of 0-20m from sea level (Indian Ocean) no notable mountain only coastal belt small hills and most of the Common covered over with grass and mangoes trees, (Shehia Report, 2021).

### 1.2.5 Climate

Like other parts of the Pemba Island Mvumoni Community involvement dual rain seasons, November and December generally known as Vulirains. March and May commonly the rains are known as Masika with estimated e mean annual rainfall of 850mm. On the hand dry season occur during December to march. (Shehia Report 2021).

### 1.2.6 Administration Structure

Shehia administration comprise of head of shehia call (Sheha) as a chairperson and supreme of the Shehia Mr. Ali Khamis (Kidifu) help with their committee member from each Community around the Mvumoni shehia, (Shehia Report 2021). The shehia committee comprising of 25members, under their three sub committees. These sub-committees are the security committee, planning, and economic and social service each committee comprising of seven Members, (Shehia Report 2021).

### 1.2.7 Social Services

### 1.2.7.1 Health

There is one dispensary in Mvumoni Shehia which serves all shehia and other Communities around shehia, (Shehia Report 2021). This dispensary has one Assistance medical officer, one nurse, and one orderly. For the case of referral, patients are referred to Vitongoji Cottage Hospital and Chake Chake District Hospital. They face a number of problems in their daily operation including lack of essential drugs and transport for referral activities. (Shehia Report 2021)

### 1.2.7.2 Education

The Shehia have one school which contain Primary and secondary school which counter all hamlets of Mvumoni Shehia. Also, there is one Primary contains with a Nursery school for Mabaoni Community special for serving the children for Mabaoni Community to reduce e distance for Furaha primary School, (Shehia Report 2021).

### 1.2.7.3 Water

Mvumoni community use piped water mainly in standpipe pipe with few having water in their home. Sometimes piped water faces the problem of cut off perhaps due to power cut or for maintenance, when this happens deep well supplement the service, (Shehia Report 2021).

### 1.2.8 Transportation and Communication Network

The Shehia have reliable transport network use daladala as main transport network from Mvumoni to Chake-Chake town 6km. The communication is well organized to cover the whole area of the shehia, the major networking (companies) used are Zantel, Tigo, and Halotel, (Shehia Report 2021).

### 1.2.9 Monetary Services

The community under study has no monetory services. The financial services are available at Chake-chake Town 6km the bank available are NMB, CRDB, and PBZ, (Shehia Report 2021). However, the community established one Village Community Bank Group. Members of the groups give each other every week Tsh 5,000 and every three-month start borrowing when you have toface any problem, and after a year they re-establish bysharing. Mobile money transfer agents have scattered throughout the community and serve the community. The common mobile agents in the community are Ezy-Pesa, TigoPesa, M – Pesa, and HalloPesa. Sesela, (2019).Also, people access mobile banking services through their mobile set in the quickest way possible, (Shehia Report 2021).

## 1.3 Community Needs Assessment (CNA)

A community Needs Assessment ascertains the fortes and assets available in the community to meet the needs of children, youth, and families, Burn et al (2018). The assessment focuses on the competences of the community, including its citizens, agencies, and organizations (CDC, 2013). The Participatory Assessment was conducted by the researcher in partnership with Community Development Agenda Countrywide (CDAC) members. Head of the Community leader of the group Kiliko group cooperative, youth group and two hamlet leaders from Furaha Community and Mabaoni Community, and three influential people, (CDC, 2013).A community Needs Assessment for the Kiliko youth group was assigned to the community’s opinions, needs, challenges, and assets used to determine which project will meet the needs of community members in relation to available resources/assets and opportunity hatch could be explored to address the sources of stresses.

Burn et al (2018) defined assessment as a specific way to identify problems, needs, and strengths in a community to make decisions, set priorities, set objectives, and explore ways to take action. Community Needs Assessment provided people an opportunity to prioritize their needs, which results in the initiation of a development project. The findings of the Community Needs Assessment helped the community and Kiliko Group Coops participants, researchers, and stakeholders to develop projects that cater to the needs of the Community.

### 1.3.1 Community Needs Assessment Objectives

The objective of the Community Needs Assessment was to find out the challenges that the community is facing by gathering data from the Community under study so as to recognize if needs, opportunities, and obstacles of the Mvumoni Community Chake-chake District so that to find a permanent solution.

### 1.3.1.1 Specific Objectives

1. To identify income-generating activities in Mvumoni Community
2. To identify the needs facing Mvumoni Community.
3. To design a project that will solve the identified challenges

### 

### 1.3.2. Research Question

1. What are the income-generating activities at Mvumoni Community?
2. What are the needs of the Mvumoni Community?
3. What type of project will be used to improve the income of the youth in the Mvumoni community?

### 1.3.3 Community Needs Assessment Research Methodology

The Community Assessment is one method for assisting community organizations to better understand their area, its problems and resources, and prospective paths before organizing projects and activities. Simply expressed, it is the process of being more aware of a community's social, economic, and physical characteristics as well as the connections between these components (Moreki, 2011). The information may be either quantitative (able to be quantified) or qualitative (information in a descriptive form such as past history or a list of local leaders). Community Need is a crucial instrument in community development because it enables local organizations to comprehend crucial background knowledge before initiatives are implemented (Petheram, 2011).

A proper assessment can help a community make decisions that are appropriate to its unique set of circumstances(CDC, 2013).Descriptive research design, non-sampling, snowballing, and structured questionnaires were the tools applied in attaining the goal. This community Needs Assessment has been conducted in Mvumoni Community Chake-chake District.

### 1.3.3.1 Research Design

Research design is a comprehensive plan for data collection in a researcher uses in order to answer specific research questions, (Bhattacherjee, 2021). The study embraced a mixed approach whereby both qualitative and quantitative data were used to inform the study through various techniques and tools including those applied in Participatory Rural Appraisal because it was a well-planned research design that helped the researcher to make sure that methods tie research aims, of collecting high-quality data, and that you use the right kind of analysis to answer your questions, utilizing believable sources. These countenances the researcher to draw valid, reliable conclusions about the information analyzed from the data (Bhattacherjee, 2021).

### 1.3.3.2 Sampling Techniques

The target population was unemployed and underemployed youth who grouped together and form Kiliko Group Coops, community leaders, significant people,and professionals at Mvumoni shehia in ChakeChake District. In selecting respondents both probability and non-probability sampling were used Asongwe, (2014). In non-probability sampling, purposive sampling was used to select two categories of respondents based on gender in order to make our sample gender-sensitive, (Bhattacherjee, 2021). Also, purposive sampling was applied to choose group members, Community leaders, influential people, and professionals including retired officers sampling Purposive sampling was applied to get Community, Tening, (2014).

The list of community leaders was obtained in Sheha office, where also influential leaders were identified. In the case of group members,Male youth were identified from 4 main youth gathering points (vijiwe and maskani) where youth gathering together to discuss daily matters including watching football matches on television. Similar women youth was identified in their local gathering including an area for mate dressing and water collecting points.

**Table 1.1: Distribution of Target Population**

|  |  |  |  |
| --- | --- | --- | --- |
| **Youth Gathering centre ( Tujiongeze)** | **Female** | **Male** |  |
| Mabaoni | 2 | 2 | 4 |
| Furaha | 2 | 1 | 3 |
| Mvumoni | 2 | 1 | 3 |
| Mfikiwa | 4 | 1 | 5 |
| **Sub-total** | **10** | **5** | **15** |
| Community leaders | 4 | 1 | 5 |
| Influential people | 4 | 1 | 5 |
| Professionals | 2 | 3 | 5 |
| **Sub-total** | **10** | **5** | **15** |
| **Total** | **20** | **10** | **30** |

**Source:** Ward Office (2021)

The sample size from youth gathering points was determined through random sampling while from another group all target population was incorporated in the sample due to its small number which is manageable in data collection, Yerima (2014).

### 1.3.3.3 Data Collection Methods

Data collection tools used included, a questionnaire, Interview, observation, and documentary review.

### 1.3.3.3.1 Key informant Interview

This is the method of collecting data that involves the presentation of verbal stimuli and replies in terms of oral-verbal responses (Kothari 2016). An interview guide was prepared to assist the researcher collected data through face-to-face interviews. Respondents were interviewed purposively for they had required information and it was done to all 30 respondents.

### Focus Group Discussion (FGD)

The researcher formed three focus group composed of ten people in the group. The first group was comprised with 10 second 10 and the third 10 respondents. A focus this technique was guided by a representative the Focus Group discussion assisted the researcher to learn more about opinions on a designated topic, and then it guided future action, Yerima, (2014). The researcher conducted the group discussion in the following ways. During group discussion the researcher was able to Summarize what have been discussed, and ask if the group agrees. Questions asked were Phrased in the in a different way. Responded were asked if anyone else has any comments on that question. The researcher asked a follow-up question while making a brief eye contact, to see respondents especially with those who may not have spoken. After ensuring the participation of all every information were recorded for analysis

### 1.3.3.3.3 Observation

This method that was used to acquire first hand, live sensory accounts of phenomena as they occur in a real-world setting (Goetz and Lecompte, (2016) Non-participant’s observation method was used during the assessment in this case, the researcher was not included into respondent’s activities she was moving around observing their day to day activities which may increase their income, the researcher were able to **observe and take notes** and visiting the space hope to get information from. Generally, the researcher were observing the practical aspect of how the respondents were doing their activities and taking a clear note for analysis.

### 1.3.3.3.4 Questionnaires

A questionnaire is a research instrument or tool consisting of a series of questions for the purpose of gathering information from respondents (Saul, 2018). A structured questionnaire was designed and translated in Swahili since most of the respondents were not familiar with the English language. The researcher was able to walk to collect those questionnaires from the respondent of which face-to-face questions were used as the way to get information. Main methods of reaching the respondents used included personal contact, interview, and telephone interview, Tening, (2014). Before writing the questionnaire researcher should decide on the questionnaire content. Based on the questionnaires the researcher managed to know the correspondents, age, marital status, instruction, and evidence income generating activities found in the Community.

### 1.3.3.3.5 Documentary Review Method

Documentary analysis (document analysis) is a type of qualitative research in which documents are reviewed by the analyst to assess an appraisal theme, (Saul 2018). Researcher reviewed different document including different research done, Community development report, and different publication with the relevance subject to this project and was able to capture the information related to the topic.

### 1.3.3.4 Data analysis

The data found from the field were examined by using Statistical Package for Social Sciences (SPSS) and excel were major tools aiding in data analysis so that to get the information as per objectives of the research. Qualitative data was organized under themes and sub themes on information based on study objectives.

## 1.4 Community Needs Assessment Finding

The exercise of Community Needs Assessment remained steered by using different methods and techniques such as interviews, questionnaires and Focus Group Discussion tools. The researcher was able to reach to all targeted respondents he planned to interview, distributed 30 questionnaires and was able to collect all questionnaires distributed to the respondents.

### 1.4.1 Age of Respondent

The respondent for the Community Needs Assessment from Mvumoni Community were 30 people who were identified through the snowball sampling. The respondent age identified during the data collection found that (46.7%%) were age of 18-25 compare to the age of 25-35 who found to be of (26%) and the last percentage of respondent was age of above 50 which was (3.3%) of the sample population. The respondent data found during this assessment meaning that most of the youth between the ages of 18-25 they are working class who should participate in economic activities for the community economic progress of Mvumoni Community.

**Table 1.2: Age of Respondents**



**Source:** Research Data (2021)

### 1.4.2 Gender of the Respondents

Gender refers to the characteristics of women, men, girls, and boys that are socially constructed, (FAO, 2017).Gender distribution of the respondents in this study indicated that (66.7% of the respondents were female while (33.3%) of the respondents are male. The researcher was able to look unto customs, performances, and roles associated with being a woman, man, girl, or boy, as well as relationships with each other. Sexual characteristics is not determined biologically, as a result of sexual characteristics of either women or men, but is constructed socially. It is a central organizing principle of societies, and often governs the processes of production and reproduction, consumption and distribution’ (FAO, 2017).

**Table 1.3: Gender of the Respondents**



**Source:** Field Data (2021)

### 1.4.4 Marital Status

According to the figure below the findings show that respondents from Mvumoni Community have comprised with married category (73%) and single category by (26.7%). The domestic status of a person who is [legally separated](https://en.wikipedia.org/wiki/Legally_separated) is married. This indicates that, the majority of the respondents were people with family tasks with a number of defendants; hence operating an income-generating activity have a excessive importance status of married means that a person was [wed](https://en.wikipedia.org/wiki/Wedding) in a manner legally recognized by their [jurisdiction](https://en.wikipedia.org/wiki/Jurisdiction). A person's specified civil status might also be married if they are in a [civil union](https://en.wikipedia.org/wiki/Civil_union) or [common-law marriage](https://en.wikipedia.org/wiki/Common-law_marriage).

**Table 1.4: Marital Status of Respondents**



**Source:** Research Data (2021)

### 1.4.5 Education Level of Respondent

Education is the procedure of enabling knowledge, or the acquisition of [knowledge](https://en.wikipedia.org/wiki/Knowledge), [aids](https://en.wikipedia.org/wiki/Skill), [ethics](https://en.wikipedia.org/wiki/Value_(ethics)), [opinions](https://en.wikipedia.org/wiki/Belief), [behaviors](https://en.wikipedia.org/wiki/Habit), and personal development, Yerima (2014).The finding from the Community Needs Assessment reveals that most of the youth population from Mvumoni Community (66.7%) has completed standard seven. (16.7%) of the respondents are dropouts from schools for some reasons such as distance from home to schools, (10%) of the respondents are form four leavers and (6.7%) are form six leavers. All of the respondents were able to read, count and write in Swahili and English. The researcher wanted to understand the level of education of people in Mvumoni Community so that to have a clear awareness of the Community under study.

**Table 1.5: Respondents Level of Education**



**Source:** Research Data (2021)

### 1.4.6 Economic Activities of the Respondents

The dominant economic activity is agriculture (66%) of the respondents, followed by small business (petty business) with (3.3%) of respondents, fishing marked (13.0%) of the respondent’s livestock keeping marked (6.7%) of the respondents and public sector employee occupy only (3.3%) of the respondents.

**Table 1.6: Economic Activities of the Respondents**



**Source:** Field Data (2021)

### 1.4.7 Most grown Food of the Respondents

Collected data depicted that, Vegetables is the most grown crop with respondents (66.7%), followed with paddy (20%) of the respondents, fishing (13%) followed with sweet potatoes (16.7%) of the respondents, while beans occupy only (3.3%) of the respondents.

**Table 1.7: Most grown Food of the Respondents**



**Source:** Field Data (2021)

### 1.4.8 Major Source of Income of Community Members

In case of major source of income data depicted vegetable as the key source of income for the group is selling Vegetables, followed by Fishing with 13.3%, followed by sweet potatoes 10% while beans as one of the source of income with(3.3%).

### 1.4.9 Average Monthly Income of the Respondents

The respondents remained requested to mention their household average monthly income. The monthly average income was categorized into five categorized into five groups with the class interval of Tshs 30,000/= According to the results in Table 9, the respondents that earned the highest average income which was Tshs. 530,000 or above were only 30%.

The results revealed that there is a problem in income-earning as it was found that only 34% of the sampled households could earn an average monthly income of Tshs. 100,000 or above. The people in the Community have plenty of land for farming, unfortunately, because of their low-income situations, they fail to afford agricultural inputs as a result, they opt to lend the farms to people coming out of their community and ask for working for them. According to the results, a clear picture was seen from here that there was a need to plan for an intervention that would help in raising the household income.

Domestic revenue is usually defined as the combined gross income of all household members who are over a certain age. People are regarded as belonging to the same home according to various usages of the term even though they are not related. Household income is a crucial risk factor that lenders consider when evaluating loan applications and is a helpful economic indicator of a region's standard of living.

**Table 1.8: Average Monthly Income of the Respondents**



**Source:** Field Data (2021)

### 1.4.10: Major Source of Income for the Community

Collected data depicted that, the most need of the community is a reliable source of income with (66.7%) improved vegetable production with (6.7%) of the respondents, followed improved source of domestic water with (13%) of the respondents, while beans farming takes the last position with (3.3%) of the respondents. Similarly, data depicted low yield in vegetable production is the most pressing challenge to the community which will solve the problem of the group to stay without reliable source of income and they call for improved vegetable production as the best feasible intervention to address the problem.

**Table 1.9: Major Source of Income for the Community**



**Source:** Field Data (2021)

## 1.5 Community Project Identification

Community Needs Assessment was accompanied intricate Focus Group Discussion and interview. During the process needs were declared and prioritized in order to come up with one most demanding need which required to be addressed through a project which had to be designed by community of Mvumoni and others participants. Likewise, the need was analyzed and come up with four major needs including reliable source of income, crop production, vegetable production yield in vegetable production, and catchment area. During prioritization exercise vegetable production took the first position as depicted in pair wise ranking matrix below table 11.

**Table 1.10: Mvumoni Community Project Identification**



**Source:** Field Data (2021)

## 1.6 Community Needs Prioritization (Pair Wise Ranking)

Community Needs Assessment was conducted involved Focus Group Discussion and interview. During the process needs were mentioned and prioritized in order to come up with one most pressing need which required to be addressed through a project which had to be designed by community of Mvumoni and others stakeholders the exercise was conducted through voting by the group member’s it was found that the yield in Vegetable production is what is needed for that particular community.

**Table 1.11: Need Prioritization (Pair Wise Ranking of Community Needs)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Catchment design** | **Dairy farming** | **Beans Farming** | **Vegetable farming** | **Score** | **Rank** |
| **Catment Design** |  | reliable source of income | Beans Farming | Vegetable farming | 1 | 4 |
| **Dairy farming** |  |  | Beans Farming | Vegetable farming | 2 | 3 |
| **Beans farming** |  |  |  | Vegetable farming | 3 | 2 |
| **Vegetable farming** |  |  |  |  | 4 | 1 |

**Source:** Field Data (2021)

Based on the needs of prioritization exercise improved yield in vegetable farming was decided as best and first intervention to uplift community income, followed by beans farming 2, dairy farming ranking 3 and water catchment ranking 4. From the table above the result of prioritization exercise yield in vegetable farming was the first compared to other four needs and therefore made intervention.

## 1.7 Conclusion

This community bring about to express and discussed different means of addressing poverty and solution to income problem vegetable sellers in the community. Some of the challenges associated with other mentioned income generation intervention were unreliable rainfall for crops production This analysis has provided opportunity for other stakeholders to use other intervention listed to support larger community hence community economic development. The activity identified low household income as the community challenge in the Community and subsequently the objective to be achieved by the proposed community project. The researcher used Participatory Needs Assessment in identifying and prioritizing community needs. The participants of the process were fetched from the community that included the heads of households, Community leaders, youths, People with Disabilities and other influential people. Pairwise ranking was used to prioritize one priority need from six identified needs were implemented as an intervention.

**CHAPTER TWO**

**PROBLEM IDENTIFICATION**

**2.1 Back ground to the Research Problem**

Improving livelihood is a matter of concern for incumbent’s governments in developing countries, regional and international organization and community organizations, Tening (2014). Since the inception of the Zanzibar development vision 2020 aimed at reduction abject poverty to Zanzibar a number of medium term plans and policies have established the environment to improve the livelihood of the communities both in urban and rural areas, Asongwe (2014).

Taking the internationals dimension sustainable development Goal number eight stated as endorse comprehensive and sustainable growth, employment and decent work for all call among other things in to encourage progress oriented policies that support decent job creation, Extension officer, creativity and innovation, and encourage formalization and growth of micro-, small and medium- sized enterprises, including through access to financial services, Yerima, (2014). According to integrated labor force survey (2014) more than half of the Zanzibar population aged between 15-64 years which is the active labor force of Zanzibar. The same survey depicted that, 54.4% of the active labor force were employed while 15.5% of the labor force are unemployed

Zanzibar strategy for Growth and Reduction of Poverty III (ZSGRP III) target was to reduce basic needs poverty from 30.4 percent in 2015 to 10.2 percent in 2020. According to 2019/20 Zanzibar Household Budget Survey, the percentage of people living below basic needs poverty line has declined from 30.4 percent in 2015 to 25.7 percent in 2020. The target for poverty reduction was not achieved even though there is some improvement towards the target. Furthermore, the information from ZSGRP III further indicates that poverty rate in rural areas remains to be a major challenge that requires relentless efforts.

On the same vein, large proportion of Zanzibar is participating in agricultural sector but the share of agricultural sector to GDP has declining from time to time. Consequently, more innovative initiatives have to be taken to uplift the share of agriculture on GDP contribution, Tening, (2014).The isa needs for community to take initiatives to improve agricultural production through innovative mean to contribute to the national economy at the same time improving community livelihood.

**2.2 Problem Statement**

Even though, the government of Zanzibar has taken much initiative in poverty reduction, still poverty persists in Zanzibar, in general and Mvumoni community in particular. Mvumoni Ward have struggled to appeal out of Scarcity but still they are trapped in income poverty trap. Few studies have been conducted in Zanzibar with regards to nurturing on the use of various capital in the community. The existing study came up with the exhaustive study which unveils the opportunities for viable and reliable economic activity with the focus of contributing in sustainable economic development. Improved vegetable production in hereby to bridge the lacuna to improve the livelihood of the community of Mvumoni community.

**2.3 Project Description**

The beset community in the project is Mvumoni community in Mvumoni wards in ChakeChake district in Pemba island. Majority of the people in the Mvumoni community are poor due to the small scale farming which is mostly practiced in the area and in most cases it is subsistence farming. Other challenges including lack of employment, poor fishing method, poor agricultural production and low yield in agriculture and petty trading. The project will be executed by the small group of Kiliko Group Coops under the general supervision of their organization as CBO. To ensure efficiency the group will have internal leaders. Project activities arranged to start on May but the Host organization accepted to commence the business. The host organisation expected to be implemented in by November 2021

**2.3.1 Target Community**

The target community is Mvumoni community located in Mvumoni ward in ChakeChake District within the Pemba Island

**2.3.2 Stakeholders**

The major project stakeholders include group members, Mvumoni community at large, ward extension officer, shehia leaders, agricultural input vendors and project management team members. The roles of major stakeholders for the success of the project are summarized in table 10.

**Table 2.1: Roles of Stakeholders**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Stake holder/ roles** | **Group members** | **Mvumoni community** | **Extension officer** | **Shehia leaders** | **Agricultural input vendors** | **Project management team** |
| Capacity building | To participate in capacity building programs such as training | To support in financing even in kind | Technical and material support | material support and creating awareness | Participation | Supply necessary inputs for capacity building program , proper scheduling |
| Identification of suitable and feasible technology | Participation | Participation | Provide technical information on the best alternative technology | Participation | Participation | Making decision on the choice of technology |
| Implementation | Implementers | Support in financing or in kind | Technical support | Managerial such as conflict resolution | Supply form inputs with relative good cost | Managerial such as fund disbursement, conflict resolution, and records keeping |
| Monitoring | Participation | Participation | Participation and technical support | Participation |  | Collect, analyze data, prepare report and dissemination |
| Evaluation | Participation | Participation | Participation | Participation | Participation | Collect, analyze data, prepare with support fem objective consultant |

**Source:** Field Data (2021)

**2.3.3 Project Goal in CED Terms**

The project goal is to improve the income of Kiliko Group Coops at Mvumoni community though improved vegetable production in order to alleviate poverty

**2.3.4 Project Objectives**

* + 1. 5 leaders and 25 members of Kiliko Group Coops received Vegetable training by August 2021
    2. Registration of the group by October 2021
    3. 15 Vegetable farms prepared and technology identified by September 2021
    4. Market access of vegetable products from Kiliko Group Coops by October 2021
    5. Raise income from 30,000-530,000/= of the group per month by December 2021

**2.4 Host Organization**

The host organization is Mvumoni Ward office. The project is implemented by Kiliko Group Coops located Mvumoni Ward in ChakeChake District in Pemba Island.

**2.4.1 Vision**

The vision of the Mvumoni Ward is as stated as: To be the leading community related group in uplifting the livelihood of their community in ChakeChake District in 2030

**2.4.2 Mission**

The mission of the ward will be realized though engaging in entrepreneurial activities, environmental conservation and human capacity building program with gender perspective

* + - 1. **Organization Structure**

**2.4.2.1.1Administration and Finance Department**

The organizational management department with administration power of organizational operational decisions. The department is responsible for overseeing the organizational operations.

General Assembly

Board of Trustees

Managing Director

Head of Dep

MVC

Head of Dep

Women & Empowerment

Head of Dep

Sustainability, volunteers and fundraising

Head of Dep

Education & Culture

Head of Dep

Admin & finance

Head of Sections/ Project managers

Head of Sections/ Project managers

Head of Sections/ Project managers

Head of schools/ head of library

Head of Sections/ Project managers

**Figure 2.1: Organizational Structure**

**Source**: IOP Human Resources Office

* + 1. **Organizational Role in the Project**

IOP as the hosting organization provided a space for the researcher to have an opportunity to conduct a CNA and be able to work with the community in developing the project. The organization provided all the necessary support for the researcher during the whole period of the activity. Technical and human resources were very helpful for the achievement of the project. The organization also agreed to support a project through its Integrated Community Empowerment Project (ICEP) by providing capacity building trainings to the project group and other beneficiaries. Also, the organization will use its national and international network in ensuring markets for the bee products.

**Table 2.2: SWOT Analysis**

|  |  |  |  |
| --- | --- | --- | --- |
| **Strengths** | **Weaknesses** | **Opportunities** | **Challenges** |
| Obtain ability of suitable land for vegetable farming  Accessibility of local market for vegetable  Availability of workforce within the group  Readiness of cheap labor force within the community  Capacity to implement the project within the group  Availability of farms inputs (seeds , pesticides, fertilizers) | Rapid change on climate that results to diseases  Inadequate vegetation production knowledge and skills  Inadequate knowledge on the use of farm chemicals for diseases control and vegetable growth  inadequate working capital  Inadequate managerial skills | Existence of macro-economic and sector policies supporting activities of the project  Existence of developing partners supporting the project activities in the grant and capacity building  Availability of relative cheap labor nearby communities | Substitute products outside the community with less cost  Climatic change related risk including floods and crop diseases |

**Source:** Research Finding (2021)

**Source:** Field Data (2021)

**2.4 The Roles of CED Student in the Project**

The key role of CED student’s is to safeguard the planned interventions and all activities are implementing effectively and efficiently. To accomplish the tasks, the role are the major roles of CED students in this project;

1. To under project sensitization to create awareness on the importance of improving vegetable production on improving livelihood of Mvumoni Community
2. To organise resources from different stakeholders needed for the project implementation
3. To facilitate the access of project tools and equipment for project implementation though appropriate procurement procedures
4. To simplify training to Mvumoni community and group leaders on managing and operating the project including monitoring and record keeping
5. To facilitate market reliability in collaboration project management team.
6. Support in establishing participatory monitoring and evaluation framework for the project
7. Facilitate group a community on monitoring and evaluation training
8. To ensure effective implementation participatory Monitoring and Evaluation system of the project.

**2.5 The Roles of the Host Organization**

* 1. To appear capacity building programs including training.
  2. To partake in the community sensitization on the project
  3. To share in the project product marketing
  4. To ensure safe guard of all the project tools and equipment
  5. To chip in in the process of the project tool/equipment procurement.
  6. To confirm administrative activities throughout the project life.
  7. To ensure proper data collection and proper storage
  8. To warrant the progress report is provided at every interval as stipulated in monitoring and evaluation framework
  9. Participate in project evaluation
  10. To ensure the project sustainability

**CHAPTER THREE**

**LITERATURE REVIEW**

**3.1 Overview**

This chapter reviewed different literatures on all issues connected to Vegetable production reports on various projects as well as different policies that are related to Vegetable production in Tanzania. In this chapter there were theoretical evaluation which provide an understanding of a variety of concepts that are related to this topic.

Also, an empirical review which describe the work that was done by others in this area, and finally the policy appraisal, analyses a number of policies related to poverty decrease strategies, community development and their useful relevance to development initiatives in worldwide including Tanzania.

**3.2 Definition of Concepts**

**3.2.1 Vegetables**

Tyler (2011) defines vegetables as parts of plants consumed by humans or other organisms as food. The original meaning is still frequently used to describe all plant material utilized for food, including flowers, fruits, stalks, leaves, roots, and seeds (Yerima, 2014). A different definition of the phrase is sometimes used arbitrarily, based on cultural and culinary traditions (Tening, 2014). Foods made from some plants that are fruits, flowers, nuts, and grains may not be included, although savoury fruits like tomatoes and clementine, flowers like broccoli, and seeds like pulses are (Asongwe, 2014).

**3.2.2 A Community**

Is a [social unit](https://en.wikipedia.org/wiki/Level_of_analysis) (a group of living things) with cohesion such as [place](https://en.wikipedia.org/wiki/Place_(geography)), [norms](https://en.wikipedia.org/wiki/Norm_(social)), [religion](https://en.wikipedia.org/wiki/Religion), [values](https://en.wikipedia.org/wiki/Values), [customs](https://en.wikipedia.org/wiki/Convention_(norm)), or [distinctiveness](https://en.wikipedia.org/wiki/Identity_(social_science)), Moreki, (2011). Communities may share a sense of [place](https://en.wikipedia.org/wiki/Place_(geography)) situated in a given geographical area (e.g. a country, village, town, or neighborhood) or in virtual space through communication platforms Rahman, Ahmmed, 2017. Durable relations that extend beyond immediate genealogical ties also define a sense of community, important to their identity, practice, and roles in social [institutions](https://en.wikipedia.org/wiki/Institution) such as family, home, work, government, society, or humanity at large Howlider, (2017). Although communities are usually small relative to personal social ties, "community" may also refer to large group affiliations such as [national communities](https://en.wikipedia.org/wiki/Nation), [international communities](https://en.wikipedia.org/wiki/International_community), and [virtual communities](https://en.wikipedia.org/wiki/Virtual_community).

**3.2.3 Vulnerability**

refers to "the quality or state of being exposed to the possibility of being attacked or harmed, either physically or emotionally, Petheram. (2011).

**3.2.4 Agriculture**

It is also called farming is the practice of cultivating [plants](https://en.wikipedia.org/wiki/Plants) and [livestock](https://en.wikipedia.org/wiki/Livestock) Tyler, (2011).Agriculture was the key development in the rise of [sedentary](https://en.wikipedia.org/wiki/Sedentism) [human civilization](https://en.wikipedia.org/wiki/Human_civilization), whereby farming of [domesticated](https://en.wikipedia.org/wiki/Domestication) species created food [surpluses](https://en.wikipedia.org/wiki/Economic_surplus) that enabled people to live in cities.

**3.3 Theoretical Literature**

The study is looked in the perspective on Sustainable Livelihood Approach (SLA). SLA could be defined as ideas or actions intended to deal with a problem or situation starting from a set of hypotheses (Courtes 2008), it was developed by British researchers in 1990s. it is an approach used to. It holistic approach involving various stakeholders to analyze challenges and opportunities affect community lives

The frame work composed of Wealth Properties in the form of human capital, social capital, natural capital, physical capital, natural capital and financial capital, Ahmmed, (2017) Other component of SLA is Vulnerability context which consist of shocks, e.g., conflict, illnesses, floods, storms, droughts, pests, diseases; seasonality, e.g., prices and employment opportunities and critical trends, e.g., demographic, environmental, economic, governance, and technological trends (Serrat, 2017) similar policies and intuitions have a big role play nurturing the capital to move away the people from vulnerability.

The last component of the SLA is Livelihood Strategies and Outcomes. It is the intervention set up to improve livelihood of the community based on capital availability within the given social economic and political environment. The SLA is suitable to this research as concur with the study goal of improving the income of the community within their capacities such human, natural and institutional in their localities. More to that, the intervention is carried out parallel with many others and with a numbers of stakeholders, Moreki, (2011).

**3.3.1 Theories of Agriculture Development**

The main aim of agricultural development is the improvement of material and social welfare of the people. Therefore, it is often seen as integrated approach to improving the environment and well-being of the people of the community.

**3.3.2 The Frontier Model**

The theory was developed by Afriat in 1972, the theory is concerned with the history expansion of the area cultivated or grazed in the western countries which has represented the main way of increasing Vegetable agricultural production. However, the most dramatic example in western history was the opening up or creation of the new continents - North and South America and Australia - to European settlement during the 18th and 19th centuries. These countries of the new continents became increasingly important sources of food and agricultural raw materials for the metropolitan countries of the Western Europe.

In earlier times, similar processes had proceeded, though at a less dramatic pace, in the peasant and village economies of Europe, Asia and Africa. Intensification of land use in existing villages was followed by pioneer settlement, the establishment of new villages and the opening up of forest or jungle were a series of successive change from Neolithic forest fallow to system of shifting cultivation on bush and grass land fallowed first by short-fallow systems and in recent years by annual cropping. As regard to the above, where soil conditions were favorable, as in the great river basins and plains, the new villages gradually intensified their systems of cultivation.

While where soil resources were poor, as in many of the hill and upland areas, new areas were opened up to shifting cultivation or to nomadic grazing. As a result of rapid population growth, the model did not last, the limits to the frontier model were quickly reached. Crop yields were typically low- measured in terms of output per unit of seed rather than per unit of crop area. Output per hectare and per man hour tended to decline - except in the Delta areas such as in Egypt and South Asia, and the wet rice area of East Asia.

In some areas, the result was to worsen the wretched conditions of the peasantry while there are relatively few remaining areas of the world where development along the lines of the frontier model will represent an efficient source of growth during the last quarter of the 20th century. The 1960s saw the “closing of the frontier” in most areas of South East Asia, in Latin America and Africa, the opening up of new lands awaits the development of technologies for all control of pests and diseases (such as the Tetse fly in Africa) or for the relation and maintenance of productivity of problem soil. The theory increased the understanding of Vegetable farming by providing the insight on how to practice marketing systems, Abdullah (2017).

**3.3.4 The Diffusion of Innovation (DOI) Theory**

The theory was developed by E.M. Rogers in 1962, is one of the oldest social science theories. It originated in communication to explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The diffusion approach to agricultural development rests on the empirical observation of substantial differences in land and labour productivity among farmers and regions. The route to agricultural development, in this view is through more effective dissemination of technical knowledge and a narrowing of the productivity differences among farmers and among regions.

The diffusion of better husbandry practices was a major source of productivity growth even in pre-modern societies. Before the development of modern agricultural research systems’ substantial effort was devoted to crop exploration and introduction. Even in nations with well-developed agricultural research systems a significant effort is still devoted to the testing and refinement of farmers’ innovations and to testing and adaptation of exotic crop varieties and animal species. Model was developed emphasizing the relationship between diffusion rates and the personality, characteristics and educational accomplishments of farm operators, Marsh, (2021).

Diffusion model provides the major intellectual foundation of much of the research and extension effort in farm management and production economics since the emergence, in the later of the 19th century of agriculture economics as a separate sub discipline linking the agricultural sciences and economics. The developments that led to the establishment of active programs of farm management research and extension occurred at a time when experiment-station research was making only a modest contribution to agricultural productivity growth. A further contribution to the effective diffusion of known technology was provided by the research of rural sociologists on the diffusion process Marsh, (2021).

The limitations of the diffusion model as a foundation for the design of agricultural development policies became increasingly apparent as technical assistance and community development programs, based explicitly or implicitly on the diffusion model, failed to generate either rapid modernization of traditional farms or rapid growth in agricultural output. The theory has been of the help that assisted the group in the process of establishment of active programs of farm management. It provided an advice if the farmers decide to engage into research and extension programmes.

**3.3.6 The Concept of Vegetable Farming and Production**

Vegetable farming refers to the growing of vegetables to sustain human consumption (Gerny, 2021). It is also growing of [vegetable](https://www.britannica.com/topic/vegetable) crops purposely for use as human food. In its broadest sense, the term vegetable is any kind of [plant](https://www.britannica.com/plant/plant) life or product. In this study, in the narrower sense however, refers to the fresh, edible portion of a herbaceous plant consumed in either raw or cooked form. The edible portion may be a tuber or storage stem, such as [potato](https://www.britannica.com/plant/potato) and taro; a root, such as rutabaga, [carrot](https://www.britannica.com/plant/carrot), and [sweet potato](https://www.britannica.com/plant/sweet-potato); a bud, such as [brussels sprouts](https://www.britannica.com/plant/Brussels-sprouts); the stem, as in [asparagus](https://www.britannica.com/plant/Asparagus) and kohlrabi; a leaf, such as [cabbage](https://www.britannica.com/plant/Brassica-oleracea), [lettuce](https://www.britannica.com/plant/lettuce), [parsley](https://www.britannica.com/plant/parsley), [spinach](https://www.britannica.com/plant/spinach), and [chive](https://www.britannica.com/plant/chive); a bulb, such as [onion](https://www.britannica.com/plant/onion-plant) and [garlic](https://www.britannica.com/plant/garlic); a petiole or leafstalk, such as [celery](https://www.britannica.com/plant/celery) and [rhubarb](https://www.britannica.com/plant/rhubarb); an immature flower, such as [cauliflower](https://www.britannica.com/plant/cauliflower), [broccoli](https://www.britannica.com/plant/broccoli), and [artichoke](https://www.britannica.com/plant/artichoke); a seed, such as [pea](https://www.britannica.com/plant/pea) and [lima bean](https://www.britannica.com/plant/lima-bean); the immature fruit, such as [eggplant](https://www.britannica.com/plant/eggplant), [cucumber](https://www.britannica.com/plant/cucumber), and sweet [corn](https://www.britannica.com/plant/corn-plant) (maize); or the mature [fruit](https://www.britannica.com/topic/fruit-food), such as [tomato](https://www.britannica.com/plant/tomato) and [pepper](https://www.britannica.com/plant/pepper-plant-Capsicum-genus).

The popular distinction between vegetable and fruit is difficult to uphold, (Mwebembezi, 2021). In general, those plants or plant parts that are usually consumed with the main course of a meal are popularly regarded as vegetables, while those mainly used as desserts are considered fruits. Thus, cucumber and tomato, botanically fruits, since they are the portion of the plant containing seeds, are commonly regarded as vegetables.

**3.3.7 Types of Vegetable Production**

Vegetable production operations range from small plots of land that produce a few vegetables for the family's consumption or for sale to large, highly planned, and automated farms that are prevalent in the most technologically sophisticated nations (Marsh, 2021). The three primary categories of vegetable farming in technologically advanced nations centre on the production of vegetables for the fresh market, for canning, freezing, dehydrating, and pickling, as well as to collect seeds for planting.

**3.3.7.1 Production for the Fresh Market**

This type of vegetable farming is typically classified into four categories: vegetable forcing, truck farming, market gardening, and personal gardening. Vegetables grown in the home are only used by the household. A family of six needs around one-fourth of an acre (one-tenth of a hectare) of land to support them (Mwebembezi, 2021). Vegetables with a high yield per unit of land are the most ideal. Desirable home garden crops include bean, cabbage, carrot, leek, lettuce, onion, parsley, pepper, radish, spinach, and tomato. Various veggies are produced through market gardening for a nearby market (Gerny, 2021).

Market gardeners are no longer restricted to their local market, and as a result, they are frequently able to specialize in the production of a small number of vegetables rather than an assortment. This change served as the foundation for the distinction between market and truck gardening in the middle of the 20th century. Particular veggies are grown in truck gardens in comparatively big quantities for markets far away. By using forcing structures that let light in and create favourable environmental conditions for plant growth, crops are grown outside of their typical growing season. Common structures include cold frames, hotbeds, and greenhouses (Gerny, 2021).

**3.3.7.2 Production for** [**Processing**](https://www.britannica.com/topic/food-preservation)

Processed vegetables include canned, frozen, dehydrated, and pickled products. The cost of production per unit area of land and per ton is usually less for processing crops than for the same crops grown for market because raw material appearance is not a major quality factor in processing(Gerny, 2021). This difference allows lower land value, less hand labour, and lower handling cost. Although many kinds of vegetables can be processed, there are marked varietal differences within each species in adaptability to a given method.

Specifications for vegetables for canning and freezing usually include small size, high quality, and uniformity. For many kinds of vegetables, a series of varieties having different dates of maturity is required to ensure a constant supply of raw material, thus enabling the factory to operate with an even flow of input over a long period. Acceptable processed vegetables should have a taste, odour, and appearance comparable with the fresh product, retain nutritive values, and have good storage stability(Marsh, 2021).

### 3.3.8 Vegetables raised for [Seed](https://www.britannica.com/science/seed-plant-reproductive-part) Production

This type of vegetable farming requires particular abilities and methods (Marsh, 2021). When the plant's edible section reaches maturity, the crop is not yet ready for harvest; it still needs to go through additional growth stages. Purity of seed output is ensured via isolation during production. During the flowering and seed development stages, as well as when the seeds are harvested and threshed, special techniques are used.

### 3.3.9 Production Factors and Techniques

Profitable vegetable farming demands attention to every aspect of production, including weed, disease, and insect management, as well as effective marketing (Marsh, 2021). Consumer expectations, which can be categorized in terms of diversity, size, tenderness, flavor, freshness, and kind of pack, mostly impact the sort of vegetables that are farmed. Adopting strategies that provide a consistent flow of the required amount of yield throughout the crop's natural growing season is necessary for effective management. In some regions, a variety of vegetables can be grown all year round, however the yield per acre varies depending on the growing season and area where the crop is planted (Rahman, 2017).

### 3.3.9.2 [Temperature](https://www.britannica.com/science/temperature)

Temperature requirements are based on the lowest, ideal, and highest temperatures experienced throughout day and night during the time of plant growth (Marsh, 2021). Depending on the type and variety of the particular crop, requirements change. Vegetables can be categorized as cool-season or warm-season kinds based on the temperature ranges in which they thrive. In regions where the average daily temperature does not exceed 70° F (21° C), cool-season veggies flourish.

This group contains the following vegetables: artichoke, broccoli, brussels sprouts, cabbage, carrot, cauliflower, celery, garlic, leek, lettuce, onion, parsley, pea, potato, radish, spinach, and turnip. Warm-season veggies can't tolerate frost since they need a mean daily temperature of at least 70° F. These include the tomato, watermelon, cucumber, eggplant, lima bean, okra, pepper, squash, sweet corn (maize), and sweet potato (Ahmmed, 2017). Premature seeding, or bolting, is an undesirable condition that is sometimes seen in fields of cabbage, celery, lettuce, onion, and spinach. The condition occurs when the plant goes into the seeding stage before the edible portion reaches a marketable size, (Ahmmed, 2017). Bolting is attributed to either extremely low or high temperature conditions in combination with inherited traits. Specific [vegetable](https://www.britannica.com/topic/vegetable) strains or varieties may exhibit significant differences in their tendency to bolt.

Young cabbage or onion plants of relatively large size may bolt upon exposure to low temperatures near 50° to 55° F (10° to 13° C). At high temperatures of 70° to 80° F (21° to 27° C) lettuce plants do not form heads and will show premature seeding. The fruit sets of tomatoes are adversely affected by relatively low and relatively high temperatures. Tomato breeders, however, have developed several new varieties, some setting fruits at a temperature as low as 40° F (4° C) and others at a temperature as high as 90° F (32° C).

**3.3.9.3 Moisture**

The amount and annual distribution of [rainfall](https://www.britannica.com/science/precipitation) in a region, especially during certain periods of development, affects local crops, Howlider, (2017). Irrigation may be required to compensate for insufficient rainfall. For optimum growth and development, plants require soil that supplies water as well as nutrients dissolved in water Howlider, (2017).Root growth determines the extent of a plant’s ability to absorb water and nutrients, and in dry soil root growth is greatly retarded. Extremely wet soil also retards root growth by restricting aeration. Atmospheric humidity, the moisture content of the air, also contributes moisture.

Certain seacoast areas characterized by high humidity are considered especially adapted to the production of such crops as the artichoke and lima bean Howlider, (2017).High humidity, however, also creates conditions favourable for the development of certain plant diseases.

**3.3.9.4 Daylight**

[Light](https://www.britannica.com/science/light) is the source of energy for plants. The response of plants to light is dependent upon [light intensity](https://www.britannica.com/science/luminous-intensity), quality, and daily duration, or [photoperiod](https://www.britannica.com/science/photoperiodism). The seasonal variation in day length affects the growth and flowering of certain vegetable crops. Continuation of vegetative growth, rather than early flower formation, is desirable in such crops as spinach and lettuce. When planted very late in the spring, these crops tend to produce flowers and seeds during the long days of summer before they attain sufficient vegetative growth to produce maximum yields.

The minimum photoperiod required for formation of bulbs in garlic and onion plants differs among varieties, and local day length is a determining factor in the selection of varieties Ahmmed (2017). Each of the climatic factors affects plant growth, and can be a [limiting factor](https://www.britannica.com/science/density-dependent-factor) in [plant development](https://www.britannica.com/science/plant-development). Unless each factor is of optimum quantity or quality, plants do not achieve maximum growth. In addition to the importance of individual climatic factors, the interrelationship of all environmental factors affects growth.

Certain combinations may exert specific effects. Lettuce usually forms a seeds talk during the long days of summer, but the appearance of flowers may be delayed, or even prevented, by relatively low temperature, Ahmmed (2017). An unfavourable temperature combined with unfavourable moisture conditions may cause the dropping of the buds, flowers, and small fruits of the pepper, reducing the crop yield. Desirable areas for muskmelon production are characterized by low humidity combined with high temperature. In the production of seeds of many kinds of vegetables, absence of rain, or relatively light rainfall, and low humidity during ripening, harvesting, and curing of the seeds are very important, Ahmmed (2017).

**3.3.9.4 Site**

The choice of a site involves such factors as [soil](https://www.britannica.com/science/soil) and climatic region. In addition, with the continued trend toward specialization and mechanization, relatively large areas are required for commercial production, and adequate [water supply](https://www.britannica.com/science/water-supply) and transportation facilities are essential. [Topography](https://www.britannica.com/science/topography-geology) that is, the surface of the soil and its relation to other areas influences [efficiency](https://www.merriam-webster.com/dictionary/efficiency) of operation. In modern mechanized [farming](https://www.britannica.com/topic/agriculture), large, relatively level fields allow for lower operating costs. Power equipment may be used to modify [topography](https://www.merriam-webster.com/dictionary/topography), but the cost of such land renovation may be prohibitive, Mponji, (2019).

The amount of slope influences the type of [culture](https://www.merriam-webster.com/dictionary/culture) possible. Fields with a moderate slope should be [contoured](https://www.merriam-webster.com/dictionary/contoured), a process that may involve added expense for the building of terraces and diversion ditches. The direction of a slope may influence the maturation time of a crop or may result in drought, winter injury, or wind damage. A level site is generally most desirable, although a slight slope may assist drainage. Exposed sites are not suitable for vegetable farming because of the risk of damage to plants by strong winds, Mponji, (2019).

The soil stores [mineral](https://www.britannica.com/science/mineral-soil) nutrients and water used by plants, as well as housing their roots. There are two general kinds of soils mineral and the organic type called muck or [peat](https://www.britannica.com/technology/peat). Mineral soils include sandy, loamy, and clayey types. Sandy and loamy soils are usually preferred for vegetable production. Soil reaction and degree of fertility can be determined by [chemical analysis](https://www.britannica.com/science/chemical-analysis). The reaction of the soil determines to a great extent the availability of most plant nutrients, Mponji, (2019). The degree of acid, alkaline, or neutral reaction of a soil is expressed as the pH, with a pH of 7 being neutral, points below 7 being acid, and those above 7 being alkaline. The optimum pH range for plant growth varies from one crop to another. A soil can be made more acid, or less alkaline, by applying an acid-producing chemical [fertilizer](https://www.britannica.com/topic/fertilizer) such as ammonium sulfate.

The [inherent](https://www.merriam-webster.com/dictionary/inherent) fertility of soils affects production quantity, and a sound fertility program is required to maintain productivity Mponji, (2019). The ability of a soil to support plant life and produce abundant harvests is dependent on the immediately available nutrients in the soil and on the rate of release of additional nutrients that are present but not available to plants. The rate of release of these additional nutrients is affected by such factors as microbial action, soil temperature, soil moisture, and aeration. Depletion of soil fertility may occur as a result of crop removal, erosion, leaching, and volatilization, or evaporation, of nutrients.

**3.3.10 Soil preparation and Management**

Soil preparation for [vegetable](https://www.britannica.com/topic/vegetable) growing involves many of the usual operations required for other crops Mponji, (2019). Good [drainage](https://www.britannica.com/topic/drainage) is especially important for early vegetables because wet soil retards development. Sands are valuable in growing early vegetables because they are more readily drained than the heavier soils, Mponji, (2019).. Soil drainage accomplished by means of ditches or tiles is more desirable than the drainage obtained by planting crops on ridges because the former not only removes the excess water but also allows air to enter the soil. Air is essential to the growth of crop plants and to certain [beneficial](https://www.merriam-webster.com/dictionary/beneficial) soil organisms making nutrients available to the plants.

When crops are grown in succession, soil rarely needs to be [plowed](https://www.britannica.com/technology/plow) more than once each year. Plowing incorporates sod, green-manure crops, and crop residues in the soil; destroys weeds and insects; and improves soil texture and aeration. Soils for vegetables should be fairly deep. A depth of six to eight inches (15 to 20 centimetres) is sufficient in most soils, Mponji, (2019). [Soil management](https://www.britannica.com/science/soil-management) involves the exercise of human judgment in the application of available knowledge of crop production, soil conservation, and economics. Management should be directed toward producing the desired crops with a minimum of labour. Control of soil [erosion](https://www.britannica.com/science/erosion-geology), maintenance of soil organic matter, the adoption of crop rotation, and clean [culture](https://www.merriam-webster.com/dictionary/culture) are considered important soil-management practices Mwatawala, (2019).

Soil erosion, caused by water and wind, is a problem in many vegetable-growing regions because the topsoil is usually the richest in fertility and organic matter. Soil erosion by water can be controlled by various methods. [Terracing](https://www.britannica.com/topic/terrace-cultivation) divides the land into separate drainage areas, with each area having its own waterway above the terrace. The terrace holds the water on the land, allowing it to soak into the soil and reducing or preventing gullying. In the [contouring](https://www.merriam-webster.com/dictionary/contouring) system, crops are planted in rows at the same level across the field Mwatawala, (2019).

Cultivation proceeds along the rows rather than up and down the hill. Strip cropping consists of growing crops in narrow strips across a slope, usually on the [contour](https://www.merriam-webster.com/dictionary/contour). Soil erosion by wind can be controlled by the use of windbreaks of various kinds, by keeping the soil well supplied with humus, and by growing cover crops to hold the soil when the land is not occupied by other crops Mwatawala, (2019). Maintenance of the organic-matter content of the soil is essential. Organic matter is a source of plant nutrients and is valuable for its effect on certain properties of the soil. Loss of organic matter is the result of the action of micro-organisms that gradually decompose it to [carbon dioxide](https://www.britannica.com/science/carbon-dioxide).

The addition of manures and the growing of soil-improving crops are efficient means of supplying soil organic matter, Mwatawala, (2019). Soil-improving crops are grown solely for the purpose of preparing the soil for the growth of succeeding crops. [Green-manure](https://www.britannica.com/topic/green-manure) crops, grown especially for soil improvement, are turned under while still green and usually are grown during the same season of the year as the vegetable crops. [Cover crops](https://www.britannica.com/topic/cover-crop), raised for both soil protection and improvement, are only grown during seasons when vegetable crops do not occupy the land. When a soil-improving crop is turned under, the various nutrients that have contributed to the growth of the crop are returned to the soil, adding a quantity of organic matter. Both [legumes](https://www.britannica.com/science/legume), those plants such as peas and beans having fruits and seeds formed in pods, and non-legumes are effective soil-improving crops, Mponji, (2019).

The legumes, however, are more valuable, because they contribute nitrogen as well as humus. The rate of decomposition of plant material depends on the kind of crop, its stage of growth, and soil temperature and moisture. The more succulent the material is at the time it is turned under, the more quickly it decomposes, Mponji, (2019).Because dry material decomposes more slowly than green material, it is desirable to turn under soil-improving crops before they are mature, unless considerable time is to elapse between the plowing and the planting of the succeeding crop. Plant material decomposes most rapidly when the soil is warm and well supplied with moisture. If soil is dry when a soil-improving crop is turned under, little or no decomposition will occur until rain or irrigation supplies the necessary moisture, Mwatawala, (2019).

The chief benefits derived from [crop rotation](https://www.britannica.com/topic/crop-rotation) are the control of disease and insects and the better use of the resources of the soil. Rotation is a systematic arrangement for the growing of different crops in a more or less regular sequence on the same land. It differs from succession cropping in that rotation cropping covers a period of two, three, or more years, while in succession cropping two or more crops are grown on the same land in one year. In many regions vegetable crops are grown in rotation with other farm crops.

Most vegetables grown as annual crops fit into a four-or five-year rotation plan. The system of [intercropping](https://www.britannica.com/topic/intercropping), or companion cropping, involves the growing of two or more kinds of vegetables on the same land in the same [growing season](https://www.britannica.com/topic/growing-season). One of the vegetables must be a small-growing and quick-maturing crop; the other must be larger and late maturing, Mponji, (2019).In the practice of clean culture, commonly followed in vegetable growing, the soil is kept free of all competing plants through frequent cultivation and the use of protective coverings, or mulches, and weed killers. In a clean vegetable field, the possibility of attack by insects and disease-incitant organisms, for which plant weeds serve as hosts, is reduced.

**3.3.11** [**Propagation**](https://www.britannica.com/science/propagation-of-plants)

[Propagation](https://www.merriam-webster.com/dictionary/Propagation) of crop plants, involving the formation and development of new individuals in the establishment of new plantings, is usually accomplished by the use of either seeds or the vegetative parts of plants, Mponji, (2019). The first type, known as sexual propagation, is used for asparagus, [bean](https://www.britannica.com/plant/bean), [broccoli](https://www.britannica.com/plant/broccoli), cabbage, [carrot](https://www.britannica.com/plant/carrot), [cauliflower](https://www.britannica.com/plant/cauliflower), celery, [cucumber](https://www.britannica.com/plant/cucumber), [eggplant](https://www.britannica.com/plant/eggplant), [leek](https://www.britannica.com/plant/leek), [lettuce](https://www.britannica.com/plant/lettuce), [lima bean](https://www.britannica.com/plant/lima-bean), okra, [onion](https://www.britannica.com/plant/onion-plant), muskmelon, parsley, pea, pepper, [pumpkin](https://www.britannica.com/plant/pumpkin), radish, spinach, sweet [corn](https://www.britannica.com/plant/corn-plant) (maize), squash, [tomato](https://www.britannica.com/plant/tomato), turnip, and [watermelon](https://www.britannica.com/plant/watermelon). The second type, [asexual propagation](https://www.britannica.com/science/vegetative-reproduction), is used for the artichoke, [garlic](https://www.britannica.com/plant/garlic), girasole, [potato](https://www.britannica.com/plant/potato), [rhubarb](https://www.britannica.com/plant/rhubarb), and sweet potato.

Although [seed](https://www.britannica.com/science/seed-plant-reproductive-part) cost is a small portion of the [total cost](https://www.britannica.com/topic/total-cost) of crop production, seed quality strongly affects crop success or failure, Mponji, (2019). Good seed should be accurately labelled, clean, graded to size, viable, and free of diseases and insects. The reliability of the seed house is an important factor in obtaining good-quality seed. Viability, or ability to grow, and longevity, the period of viability, are characteristics of seeds of any [vegetable](https://www.britannica.com/topic/vegetable) kind. In cool, dry storage conditions, those vegetable seeds having comparatively short longevity of one to two years are okra, onion, parsley, and sweet corn.

Seeds having three-year longevity are those of the asparagus, bean, carrot, leek, and pea; four-year longevity is characteristic of the chard, pepper, pumpkin, and tomato seeds; longevity of five years characterizes the seeds of broccoli, cabbage, cauliflower, celery, cucumber, eggplant, lettuce, muskmelon, radish, spinach, squash, turnip, and watermelon. The dry seeds of all vegetables, when packed under vacuum in hermetically sealed cans, should remain viable for a longer period than seeds stored under less protective conditions, Sesela, (2019).

Crops grown from [hybrid](https://www.britannica.com/science/hybrid) seeds (the offspring of two or more selected parental varieties and known as F1) yield vegetables of high quantity and quality. The hybrid-seed industry is based on the production of new seed each year from the controlled pollination of selected parents found to produce the desired combination of characters in the progeny. In the early 1980s the number of F1 hybrids was increasing in Japan, the United States, and other technically advanced countries. The number of F1 hybrids varied with the kind of vegetable, but none had yet introduced for the bean, celery, lettuce, okra, parsley, or pea Mwatawala, (2019).

**3.3.12 Planting**

Most vegetable crops are planted in the field where they are to grow to maturity, Sesela, (2019). A few kinds are commonly started in a [seedbed](https://www.britannica.com/topic/seedbed), established in the [greenhouse](https://www.britannica.com/topic/greenhouse) or in the open, and transplanted as seedlings. Asparagus seeds are planted in a seedbed to produce crowns used for field setting. Some vegetables can be either directly seeded in the field or grown from transplants. These include broccoli, cabbage, cauliflower, celery, eggplant, leek, lettuce, onion, pepper, and tomato. The time and method of planting seeds and plants of a particular vegetable influence the success or failure of the crop. Important factors include the depth of planting, the rate of planting, and the spacing both between rows and between plants within a row, Mponji, (2019).

Factors to be considered in determining the time of planting include soil and weather conditions, kind of crop, and desired harvest time. When more than one planting of a crop is made, the second and later plantings should be timed to provide a continuous harvest for the period desired. The soil [temperature](https://www.britannica.com/science/temperature) required for germination of the planted seed varies markedly with the various kinds of vegetables. Vegetables that will not germinate at a temperature below 60° F (16° C) include the bean, cucumber, eggplant, lima bean, muskmelon, okra, pepper, pumpkin, squash, and watermelon. Temperatures higher than 90° F (32° C) are not favourable for the germination of seeds of celery, lettuce, lima bean, parsley, pea, and spinach, Sesela, (2019).

The quantity of seeds planted, or rate of planting, is mainly determined by the characteristics of the vegetable plant. The size of seeds affects the number of plants raised in a given area. Watermelon varieties, for example, differ in seed size expressed as weight. The Sugar Baby variety has an average weight of 1.4 ounces (41 grams) for 1,000 seeds; those of Blackstone variety average 4.4 ounces (125 grams). If the two are grown on two separate plots of the same area and 4.4 ounces of seeds of each cultivar are planted, the result would be three times as many of the Sugar Baby plants as the Blackstone type.

Seed size and plant-growth pattern of a vegetable are major factors that govern the number of plants raised in a given area. The trend in the early 1980s was to increase plant population for many crops to achieve the greatest yield possible without impairing quality. As plant population increases per unit area, a point is reached at which each plant begins to compete for certain essential growth factors e.g., nutrients, moisture, and light. When the population is below the level in which competition between plants occurs, increased population will have no effect on individual plant performance, and the yield per unit area will increase in direct proportion to the increment of population. When competition for essential growth factors occurs, however, yield per plant decreases.

Early harvest and economical use of space are the principal objectives of growing vegetable crops from [transplants](https://www.britannica.com/topic/transplant-horticulture) produced in a greenhouse or outdoor seedbed. It is easier to care for young plants of the cabbage, cauliflower, celery, onion, and tomato in small seedbeds than to sow the seeds in the place where the crop is to grow and mature. Land is free longer for another crop, and weeds, insects, diseases, and irrigation are more readily and economically controlled. The production of transplants is often a specialty of growers who sell their produce to other vegetable growers. The seeds may be planted at a rate three to six times that commonly used for a direct-seeded field. The young plants are removed for use as transplants when they reach the desired size and age, approximately 40 to 60 days after seeding, Ahmmed, (2017).

**3.3.13 Care of Crops during Growth**

Practices required for a [vegetable](https://www.britannica.com/topic/vegetable) crop growing in the field include cultivation; irrigation; application of fertilizers; control of weeds, diseases, and insects; protection against frost; and the application of growth regulators if necessary, Mponji, (2019).

**3.3.14** [**Cultivation**](https://www.britannica.com/topic/cultivation)

Cultivation refers to stirring the soil between rows of vegetable plants Rahman, (2017). Because weed control is the most important function of cultivation, this work should be performed at the most favourable time for weed killing, when the weeds are breaking through the soil surface. When the plants are grown on ridges, it is necessary to cover the basal plant portion with soil in the case of such vegetables as asparagus, [carrot](https://www.britannica.com/plant/carrot), [garlic](https://www.britannica.com/plant/garlic), [leek](https://www.britannica.com/plant/leek), [onion](https://www.britannica.com/plant/onion-plant), [potato](https://www.britannica.com/plant/potato), sweet [corn](https://www.britannica.com/plant/corn-plant), and sweet potato, Mponji, (2019).

**3.3.15** [**Irrigation**](https://www.britannica.com/technology/irrigation)

Vegetable production requires irrigation in arid and semi-arid regions, and irrigation is frequently used as insurance against drought in more humid regions. In areas having [intermittent](https://www.merriam-webster.com/dictionary/intermittent) rain for five or six months, with little or none during the remainder of the year, irrigation is essential throughout the dry season and may also be needed between rainfalls in the rainy season. The two types of land irrigation generally suited to vegetables are [surface irrigation](https://www.britannica.com/topic/surface-irrigation) and [sprinkler](https://www.britannica.com/technology/sprinkler-system-irrigation) irrigation. A level site is required for surface irrigation, in which the water is conveyed directly over the field in open ditches at a slow, no erosive velocity, Ahmmed, (2017).

Where water is scarce, pipelines may be used, eliminating losses caused by seepage and evaporation. The distribution of water is accomplished by various control structures, and the furrow method of surface irrigation is frequently employed because most vegetable crops are grown in rows. Sprinkler irrigation conveys water through pipes for distribution under pressure as simulated rain, Mponji, (2019).Irrigation requirements are determined by both soil and plant factors. Soil factors include texture, structure, water-holding capacity, fertility, salinity, aeration, drainage, and temperature. Plant factors include type of vegetable, density and depth of the root system, stage of growth, drought tolerance, and plant population, Mponji, (2019).

**3.3.16** [**Fertilizer**](https://www.britannica.com/topic/fertilizer) **Application**

Soil fertility is the capacity of the soil to supply the nutrients necessary for good crop production, and fertilizing is the addition of nutrients to the soil. Chemical fertilizers may be used to supply the needed nitrogen, phosphorus, and potassium. Chemical tests of soil, plant, or both are used to determine fertilizer needs, and the rate of application is usually based on the fertility of the soil, the cropping system employed, the kind of vegetable to be grown, and the financial return that might be expected from the crop, Abdullah, (2017).

Methods of fertilizer application include scattering and mixing with the soil before planting; application with a drill below the surface of the soil at the time of planting; row application before or at planting time; and row application during plant growth, also called side-dressing. Plowed down broadcast fertilizers have recently Vegetable n used in combination with high analysis liquid fertilizers applied at planting or as a side-dressed band. Mechanical planting devices may employ fertilizer attachments to plant the fertilizer in the form of bands near the seed. For most vegetables, the bands are placed from two to three inches (five to 7.5 centimetres) from the seed, either at the same depth or slightly below the seed, Ahmmed, (2017)

**3.3.17** [**Weed control**](https://www.britannica.com/science/weed-control)

Weeds (plants growing where they are not wanted) reduce crop yield, increase production cost, and may harbour insects and diseases that attack crop plants Ahmmed, (2017) Methods employed to control weeds include hand weeding, mechanical cultivation, application of chemicals acting as [herbicides](https://www.britannica.com/science/herbicide), and a combination of mechanical and chemical means. Herbicides, selective chemical weed killers, are absorbed by the plant and induce a toxic reaction. The amount and type of herbicide that can be safely used to protect vegetable crops depends on the tolerance of the specific crops to the chemical. Most herbicides are applied as a spray, and the appropriate time for application is determined by the [composition](https://www.merriam-webster.com/dictionary/composition) of the herbicide and the kind of vegetable crop to be treated. Preplanting treatments are applied before the crop is planted; re-emergence treatments are applied after the crop is planted but before its seedlings emerge from the soil; and post emergence treatments are applied to the growing crop at a definite stage of growth, Howlider, (2017).

**3.3.18 Disease and** [**Insect Control**](https://www.britannica.com/science/pest-control)

The production of satisfactory crops requires rigorous disease- and insect-control measures. Crop yield may be lowered by disease or insect attack, and when plants are attacked at an early stage of growth the entire crop may be lostRahman, (2017). Reduction in the quality of vegetable crops may also be caused by diseases and insects. Grades and standards for market vegetables usually specify strict limits on the amount of disease and insect injury that may be present on vegetables in a designated grade. Vegetables remain [vulnerable](https://www.merriam-webster.com/dictionary/vulnerable) to insect and disease damage after harvesting, during the marketing and handling processes. When a particular plant pest is identified, the grower can select and apply appropriate control measures.

Application of insect control at the times specific insects usually appear or when the first insects are noticed is usually most effective. Effective disease control usually requires preventive procedures. [Diseases](https://www.britannica.com/science/plant-disease) are incited by such living organisms as bacteria, fungi, and viruses. Harmful material enters the plant, develops during an incubation period, and finally causes infection, the reaction of the plant to the pathogen, or disease-producing organism. Control is possible during the inoculation and incubation phases, but when the plant reaches the infection stage it is already damaged, Rahman, (2017)

Typical plant diseases include mildew, leaf spots, rust, and wilt. Chemical fungicides may be used to control disease, but the use of disease-resistant plant varieties is the most effective means of control. Vegetable breeders have developed plant varieties resistant to one or more diseases; such varieties are available for the [bean](https://www.britannica.com/plant/bean), cabbage, [cucumber](https://www.britannica.com/plant/cucumber), [lettuce](https://www.britannica.com/plant/lettuce), muskmelon, onion, pea, pepper, potato, spinach, [tomato](https://www.britannica.com/plant/tomato), and [watermelon](https://www.britannica.com/plant/watermelon). Insects are usually controlled by the use of chemical insecticides that kill through toxic action. Many insecticides are toxic to harmful insects but do not affect which are valuable for their role in pollination.

**3.3.19** [**Frost**](https://www.britannica.com/science/frost-meteorology) **Protection**

Frost protection may be accomplished by increasing the amount of heat radiated from the soil when frost is likely to occur. Irrigation on the day before a predicted frost provides additional moisture in the soil to increase the amount of heat given off as infrared rays. This extra heat protects the plants from frost injury. A continuous supply of water provided by sprinkler irrigation may also protect plants from frost Yerima, (2014). As the water freezes on the plant leaves, it loses heat that is absorbed by the plant leaves, maintaining leaf temperature at 32° F (0° C). Because of the sugars and other substances in plant cells, the [freezing point](https://www.britannica.com/science/freezing-point) of cell sap is somewhat lower than 32° F.

**3.3.20** [**Growth**](https://www.britannica.com/science/growth-biology) **Regulators**

It is sometimes desirable to retard or accelerate maturity in [vegetable](https://www.britannica.com/topic/vegetable) crops. A [chemical compound](https://www.britannica.com/science/chemical-compound) may be applied to prevent sprouting in [onion](https://www.britannica.com/plant/onion-plant) crops. It is applied in the field sufficiently early for absorption by the still-green foliage but late enough to avoid suppressing the bulb yield. Another substance may be used to end the dormancy, or rest period, of newly harvested [potato](https://www.britannica.com/plant/potato) tubers intended for planting. The treated seed potatoes have uniform sprout emergence. The same substance is applied to celery from two to three weeks before harvest to elongate the stalks and increase the yield and is also used to accelerate maturity in [artichokes](https://www.britannica.com/plant/artichoke). A chemical [compound](https://www.merriam-webster.com/dictionary/compound), applied when adverse weather conditions prevail during the period of fruit setting, has Vegetable used to encourage fruit set. Yerima, (2014).

**3.3.21** [**Harvesting**](https://www.britannica.com/topic/harvesting)

The stage of development of vegetables when harvested affects the quality of the product reaching the consumer. In some vegetables, such as the bean and pea, optimum quality is reached well in advance of full maturity and then deteriorates, although yield continues to increase. Factors determining the harvest date include the genetic constitution of the vegetable variety, the planting date, and environmental conditions during the [growing season](https://www.britannica.com/topic/growing-season). Successive harvest dates may be obtained either by planting varieties having different maturity dates or by changing the sequence of planting dates of one particular variety, Asongwe (2014).

The successive method is applicable to such crops as [broccoli](https://www.britannica.com/plant/broccoli), cabbage, [cauliflower](https://www.britannica.com/plant/cauliflower), muskmelon, onion, pea, sweet [corn](https://www.britannica.com/plant/corn-plant) (maize), [tomato](https://www.britannica.com/plant/tomato), and [watermelon](https://www.britannica.com/plant/watermelon). Certain varieties of the [carrot](https://www.britannica.com/plant/carrot), celery, [cucumber](https://www.britannica.com/plant/cucumber), [lettuce](https://www.britannica.com/plant/lettuce), [parsley](https://www.britannica.com/plant/parsley), radish, spinach, or summer squash can be sown in succession throughout most of the year in some climates, thus prolonging the harvest period. Hand harvesting is employed along with various mechanical aids for broccoli, cabbage, cauliflower, muskmelon, and pepper crops.

Many vegetables grown for processing and some vegetables destined for the fresh market are mechanically harvested. Harvesting operations may be performed by a single machine in a single step for such vegetable crops as the bean, carrot, [lima bean](https://www.britannica.com/plant/lima-bean), onion, pea, potato, radish, spinach, sweet corn, sweet potato, and tomato. Designers of harvesting machinery have working to develop a multiple-picking harvester capable of adjustment for use with more than one crop. Vegetable breeders have able to produce vegetables with characteristics suitable for machine harvesting, including compact plant growth, uniform development, and concentrated maturity.

**3.3.22** [**Storage**](https://www.britannica.com/technology/storage-goods)

Fresh vegetables are living organisms, and there is a continuation of life processes in the [vegetable](https://www.britannica.com/topic/vegetable) after harvest. Changes that occur in the harvested, no processed vegetable include water loss, conversion of starches to sugars, conversion of sugars to starches, flavour changes, colour changes, toughening, vitamin gain or loss, sprouting, rooting, softening, and decay, Tening, (2014). Some changes result in quality deterioration; others improve quality in those vegetables that complete ripening after harvest.

Postharvest changes are influenced by such factors as kind of crop, air temperature and circulation, oxygen and [carbon dioxide](https://www.britannica.com/science/carbon-dioxide) contents and [relative humidity](https://www.britannica.com/science/relative-humidity) of the atmosphere, and disease-incitant organisms Mponji, (2019). To maintain the fresh vegetable in the living state, it is usually necessary to slow the life processes, though avoiding death of the tissues, which produces gross deterioration and drastic differences in flavour, texture, and appearance.

Storage of vegetables contributes to [price](https://www.britannica.com/topic/price-economics) stabilization by carrying over produce from periods of high production to periods of low production. It also extends the period of [consumption](https://www.merriam-webster.com/dictionary/consumption) of many kinds of vegetables. Storage conditions can contribute to the preservation of the natural living state of the edible portion and to the prevention of deterioration through control of temperature, relative humidity, and the quality of the produce to be stored. Vegetables for storage must be free from mechanical, insect, and disease injury and should be at the proper stage of maturity.

[Common (unrefrigerated) storage](https://www.britannica.com/topic/common-storage) and [cold (refrigerated) storage](https://www.britannica.com/technology/cold-storage) are the methods generally employed for vegetables. Common storage, lacking precise control of temperature and humidity, includes the use of insulated storage houses, outdoor cellars, or mounds. Cold storage allows precise regulation of temperature and humidity and maintenance of constant conditions by use of a [refrigeration](https://www.britannica.com/technology/refrigeration) and ventilation system Mponji, (2019).

Temporary storage, suitable only for very brief storage periods, is frequently practiced in the shipping season when large lots are accumulated for carload or [truck](https://www.britannica.com/technology/truck-vehicle) quantities. The refrigerator car or truck is a means of temporary storage used to protect produce while it is in transit. Short-term storage may last for four or six weeks. Economic factors, such as the probability that prices will increase later in the season, encourage long-term storage of such perishable vegetables as the [onion](https://www.britannica.com/plant/onion-plant), potato, and sweet potato, Mponji, (2019)..

**3.3.23 Premarketing Operations and Selling**

Premarketing operations include washing, trimming, waxing, precooling, grading, pre-packaging, and packaging, Yerima, (2014). Vegetables often require washing after harvest to remove any adhering soil particles. Such vegetables as the Vegetable t, carrot, celery, lettuce, radish, spinach, and turnip are trimmed before washing to remove discoloured leaves or to cut back the green tops. [Waxing](https://www.britannica.com/technology/wax) of the cucumber, muskmelon, pepper, [potato](https://www.britannica.com/plant/potato), [sweet potato](https://www.britannica.com/plant/sweet-potato), and tomato gives the product a bright appearance and controls shrivelling through reduction of moisture loss.

**3.3.24** [**Precooling**](https://www.britannica.com/topic/precooling)

Precooling, the rapid removal of heat from freshly harvested vegetables, allows the grower to harvest produce at optimum maturity with greater [assurance](https://www.merriam-webster.com/dictionary/assurance) that it will reach the consumer at maximum quality, Tening, (2014). Precooling benefits the vegetable by slowing the natural deterioration that starts shortly after harvest, slowing the growth of decay organisms and reducing wilt by retarding water loss. The major precooling methods include [hydro cooling](https://www.britannica.com/topic/hydrocooling), contact icing, vacuum cooling, and air cooling. In hydrocooling the vegetable is cooled by direct contact with cold water flowing through the packed containers and absorbing heat directly from the produce.

In contact icing crushed ice is placed in the package or spread over a stack of packages to precool the contents. The [vacuum cooling](https://www.britannica.com/topic/vacuum-cooling) process produces rapid evaporation of a small quantity of water, lowering the temperature of the crop to the desired level. Air cooling involves the exposure of vegetables to cold air; the air must be as cold as possible for rapid cooling but not low enough to freeze the produce exposed to the direct air blast, Tening, (2014).

The preferred method of precooling varies according to the physical characteristics of the vegetable. Hydrocooling is recommended for the [asparagus](https://www.britannica.com/plant/Asparagus), [Vegetable](https://www.britannica.com/plant/beet) [broccoli](https://www.britannica.com/plant/broccoli), [carrot](https://www.britannica.com/plant/carrot), [cauliflower](https://www.britannica.com/plant/cauliflower), [celery](https://www.britannica.com/plant/celery), [muskmelon](https://www.britannica.com/plant/muskmelon), [pea](https://www.britannica.com/plant/pea), radish, summer squash, and sweet [corn](https://www.britannica.com/plant/corn-plant) (maize); [cabbage](https://www.britannica.com/plant/Brassica-oleracea), [lettuce](https://www.britannica.com/plant/lettuce), and [spinach](https://www.britannica.com/plant/spinach) are suited to vacuum cooling; air cooling is preferred for [bean](https://www.britannica.com/plant/bean), [cucumber](https://www.britannica.com/plant/cucumber), [eggplant](https://www.britannica.com/plant/eggplant), [pepper](https://www.britannica.com/plant/pepper-plant-Capsicum-genus), and [tomato](https://www.britannica.com/plant/tomato). After the produce is precooled, it is desirable to maintain low temperature by shipping in refrigerator cars or trucks, by storing in cold-storage rooms, and by refrigeration in retail stores Asongwe, (2014).

**3.3.25** [**Grading**](https://www.britannica.com/technology/grading-industry)

Uniformity in size, shape, colour, and ripeness is of great importance in marketing any vegetable product, and can be secured through gradingTening, (2014). The establishment of standard grades furnishes a basis of trade. Grade standards are based mainly on general appearance, size, trueness to type, and freedom from blemishes and defects.

**3.3.26** [**Packaging**](https://www.britannica.com/technology/packaging)

Pre-packaging, or consumer packaging, has become a highly organized practice, often employing elaborate equipment. The product is placed in bags made of transparent film, trays or cartons overwrapped with transparent film, or mesh or paper bags. The packaging of produce in consumer packages lends itself to self-service in retail stores. The production region is often the most satisfactory location for pre-packaging, especially when a packaging centre serves a large vegetable-growing area.

Master containers for consumer packages are commonly made of paperboard. Cartons, bags, baskets, boxes, crates, and hampers of various kinds and sizes are all used in packaging vegetables for marketing, Marsh, (2021). The type of container is selected to fit the kind of vegetable; it furnishes a convenient means for transport, loading, and stacking, with security and economy of space. Uniform product throughout the package is an important consideration in packing vegetables.

**3.3.27** [**Selling**](https://www.britannica.com/topic/marketing)

Producers sell vegetables through various [retail](https://www.britannica.com/topic/retailing) and [wholesale](https://www.britannica.com/topic/wholesaling) practices. Retail sales are made directly to the consumer, often through roadside stands. Many growers sell most of their produce at wholesale to retail stores, to various types of buyers on local markets in nearby cities, or in regional markets Mwebembezi, (2021).Growers located long distances from markets sell largely to wholesale dealers or jobbers. Some growers have contracts with processors. Wholesale marketing arrangements are also made through auction markets in the producing regions and through cooperative organizations of producers.

**3.4 Empirical Literature**

Mlelwa (2013) conducted a study on contribution vegetable production to house poverty reduction in Ludewa district Njombe region. The study adopted descriptive and cross sectional approach. Both qualitative and constitutive data were collected through questionnaire, semi structured interview and check list from 70 respondents chosen purposively and randomly. Data were analyzed by the use of inferential statistics.

The study established that, there is an increase in house hold income of household engaged in vegetable production. Also the project resulted increase the level of food security and improve accessibility to health and education. Consequently, the study concluded that, there is significant contribution of vegetable production to house hold poverty reduction. The study recommends to government to allocate special area for horticulture and improving rural infrastructure for easy transport.

Similar study was conducted, Jonas (2019) aimed at assessing the contribution of onions (Allium cepa) production to household’s income of smallholder farmers at Kilolo District Tanzania. A study adopted a cross sectional research design with a sample size of 120 smallholder farmers chosen purposively and randomly. Descriptive and Inferential statistics were employed by using in data analysis. Findings were presented in form of tables and figures. It was observed that, most of growers were indigenous people without enough capital to invest, while the main participants were males by 70% with a big group of youth being involved. Productivity level per acre observed to be lower.

Harvesting was done throughout the year although June to November had a higher supply with low price which call up for storage structures and processing. Main constraints were capital and low price, which call up for intervention to support farmers. The research ascertained factors which hindered smallholder farmers not to generate enough income to improve their living standards. Findings provided the base for policy makers and planners at different levels to set appropriate strategies on improvement

Mwatawala, Mponji & Sesala (2019) conducted a study titled the Role of Tomato Production in Household Income Poverty Reduction in Mvomero District, Tanzania. Specifically, it, examines the socioeconomic characteristics of the farmers, determines the status of tomato production, determines the contribution of tomato production and other income sources to the total annual household income and determines the contribution of tomato production to household expenditures.

A sample size of 220 tomato farmers was chosen in the study. A cross-sectional research design adopted in this study while data were collected though, Household survey, observations, Focus Group Discussion and documentary review employed to collect data. Data were analyzed by the use of Descriptive statistics such as frequencies, percentages, mean and standard deviations. The study found that, the average yield from tomato production was 9182.9 Kg per acre.

Furthermore, the study depicted that, the mean income from tomato production per year was TZS 1,198,136.4, which amounted to 63% of the total annual household income. While other income was generated from The livestock production (TZS 141,208.3) equivalent to (7%), petty business (TZS 164,285.7) equivalent to 9% and other crops (TZS 396,192.7) equivalent 21%. Furthermore, findings revealed that earnings from tomato production help farmers in accessing food (66.4%) access to clothes (63.6%), access to healthcare (54.1%) access to children's education (54.5%) and access to housing (73.2%).

The study concludes that tomato production contributes substantially to the total annual household income and household income poverty reduction. The study recommended to the t government and other stakeholders to ensure the availability of inputs, assist in marketing and storage facilities while the time take initiatives to establish agro-processing industries value addition so to increase farmer’s income. Another similar study was conducted by Umugiza (2016) at Rwimbogo village in Rwanda. the aim of the study was collect information which enable to analyze the needs and challenges facing the community and choosing appropriate intervention to solve the most pressing problem community of Rwiambogo Village in Rwanda in data collection participatory methods such as Focus Group Discussions (FGD), semi-structured Interviews and Field visit were used. During the course sustainable source of income ranked as need number one.

The study concluded that the communities can use their farm and forest based activities as sustainable sources of income provided that they agree to plan and implement them is a means that poverty is eradicated. The study recommended that, more initiatives are needed to involve all stakeholders in implementation of community economic development projects to make them sustainable and impactful in poverty reduction Similar study was conducted by Simon (2017) on assessing the Contribution of cassava farming in promoting socio-economic activities at Mkamba ward in Mkuranga district council. Participatory methods were used in data collection including Focus Group Discussions (FGD), semi-structured Interviews and Field visit.

The result of the community needs assessment come with reliable source of income as priority needs among similarity Cassava production was identified as an appropriate and feasible intervention for them to increase income. The study concluded that, communities can use their production and based farm activities as sustainable sources of income provided that they agree to plan and implement them are a means that poverty is reduced. The study recommended on involving more stakeholders with regard with implementation of community economic development projects to ensure sustainability hence to be effective in poverty reduction.

**3.5 Policy Review**

**3.5.1 Zanzibar Macroeconomic Policy Framework**

The Zanzibar macroeconomic policy frame work in vested in Zanzibar development vision 2050 and medium term development strategy (MTDS) and sector policy. Within this policy there are very close linkages between agriculture and other sectors of the economy. Agro-processing industries, some agro-based manufacturing industries and some portion of the transport, trade and financial sector depend largely on the volume and value of agricultural output.

On the other hand, the development of agro-based enterprises, trade and marketing, and improvement of physical infrastructure and expansion of tourist activities will promote agricultural production. While agriculture is the most important sector currently, the policy is not to encourage FDI into the crop and livestock sub-sectors, due to shortage of land and the fact that the sector provides employment to many Zanzibar is. Hence emphasis will be put on attracting national investors. The objectives and agriculture sector in this policy are: Promote and redirect food production and commercial farming to meet food demand by the tourist industry and other consumers, promote commercial production in the livestock sector, including processing and marketing of high quality livestock products, Institute a secure land tenure system that promotes maximum use of land resources and Undertake research in high value agricultural products such as horticultural produce for exports.

**3.5.2 Zanzibar Development Vision (Vision 2050)**

Agriculture production is among the key priority adopted in Vision 2050 in order to transforms the Zanzibar economy into upper middle country (RGoZ, 2021a). Also, in the priority area related to human capital and social services, social protection and employment are maters of concern. Hence the project is compatibles with the Zanzibar Development Vision 2050.

**3.5.3 Zanzibar Medium Term Development Strategy (ZMTDS -2021-2025)**

With respect to agriculture ZMTDS aspires to make Investment in appropriate high quality and facilitative inputs, technologies, research and capacity development to produce quality products for exports and local markets, including tourism, in line with the green and blue economies, focusing on nutrition-sensitive agriculture to achieve high food and nutritional security (RGoZ, 2021b). Likewise, in relation to employment, MTDS aspires to inculcate Inclusive, sustainable and decent employment, marked by the integration of social security as part of labor and focusing on occupational safety and health, workers’ compensation, self-employment and an entrepreneurial culture. This will achieve though among others things enhancing the availability of employment opportunities through apprenticeship program.

**3.5.4 Sector Policy**

With regard to sector policies the proposed projects are in conformity with Zanzibar agricultural policy, Zanzibar empowerment policy Zanzibar SMEs policy, and Youth action plan among others.

**3.6 Literature Review Summary**

Literature review chapter included going through researches and works of different writers. Meaning of Vegetable production, importance obtained from literature reviewed. This aimed at alleviating poverty same as the goal of the Tujiongeze Youth group at Mvumoni Community of income improvement for livelihood The main economic activity in rural Tanzania is agriculture; it accounts for about 45% of the country’s GDP and occupies 70% of the Tanzanian population. Vegetable farming in villages as integral part of Tanzania's rural economy and plays an essential role in improving household income and nutrition.

Participatory Community needs assessment revealed characteristics of the Mvumoni Youth. It is marginalized group which deserved financial inclusion. However, a problem arose as who was to voice out the need of the group. The researcher received full participation since the group was eager and ready to work very hard for their livelihood and income poverty alleviation. Challenges were sorted out where needs were discussed and finally came up with an intervention to alleviate the income improvement need. Therefore, I proposed a project to improve the income of Kiliko Group Coops through Vegetable production sustainable economic development at Mvumoni village.

**CHAPTER FOUR**

**PROJECT IMPLEMENTATION**

* 1. **Overview**

This project of vegetable production aimed at improving the income of Mvumoni Community and it had the following plans that were to be implemented. The chapter covers Project Outputs, Project Planning Project Implementation Plan (PIP)Project Outputs and Staffing Pattern. Project outputs are the direct immediate term results associated with a project, (Krishnaswami, 2013). In other words, they are usually what the project has achieved in the short term. An easy way to think about outputs is to quantify the project activities that have a direct link on the project goal.

(Daniel, 2013) and it is the initial expectation that informed the community that the impact will be archived at the end of the project. This could be reported in form of the report for service and tangible product for goods. And the following were the project outputs 5 leaders and 25 members of Kiliko Group Coops received Vegetable training by August 2021, Registration of the group by July 2021, 20 Vegetable farms prepared and technology identified by September 2021 and Market access of vegetable from Kiliko Group Coops by October 2021.

**4.2. Project Planning**

Project planning is a procedural step in project management, where required documentation is created to ensure successful project completion, ([Harold 2013).](https://en.wikipedia.org/wiki/Harold_Kerzner)Documentation includes all actions required to define, prepare, integrate and coordinate additional plans. The project plan clearly defines how the project is

executed, monitored, controlled and closed. Project planning is part of [project management](https://en.wikipedia.org/wiki/Project_management), which relates to the use of [schedules](https://en.wikipedia.org/wiki/Schedule_(project_management)) such as [Gantt charts](https://en.wikipedia.org/wiki/Gantt_chart) to plan and subsequently report progress within the project environment ([Harold 2013).](https://en.wikipedia.org/wiki/Harold_Kerzner)Project planning is the most important step towards project implementation. It involves a number of steps as follows that enabled smooth implementation of the project.

These activities are; identification of project activities which involves the sequential outlining of all the activities that will be conducted, the time they will be conducted and the person who will be responsible in doing them, UNDP, (2018). Vegetable farming comprised various planned activities which were successfully implemented to tackle the Mvumoni community need of improving youth income. Planed activities included training to Vegetable farmers to ensure they use properly the opportunity of improved vegetable and the market to raise their income. 3 leaders and 6 members of Kiliko Group Coops received Vegetable training by August 2021, Registration of the group by July 2021, 20 Vegetable farms prepared and technology identified by September 2021 and Market access of vegetable from Kiliko Group Coops by October 2021.

**Table 4.1: Project Planning**

|  |  |  |
| --- | --- | --- |
| **Objectives** | **Outputs** | **Activities** |
| 1.1 5leaders and 25 members of Kiliko Group Coops received Vegetable production training by August 2021 | Output 1.1 Conducted Training on Vegetable production | Activity1.Budget preparation for training |
| Activity 2. Planning and coordination of the Vegetable production training |
| Output 1.2 Total of 30 members trained | Activity 1 send the invitation to 30 members of Kiliko Group Coops  Activity 2 Community mobilized to select 30 group members |
| Output 1.3 A total of 30 members of the group mobilized and joined the group |
| Activity 2 Sending invitation to the Agricultural officer |
| Objective 2 Registering of the group by October 2021 | Output 2.1 Visiting the ward office for introduction of the Group | Activity 1. Consulting local government officer  Activity 2: knowing clearly the details of the project and policies  Activity 3: preparing invitation letter to the send it to the government ward leaders |
| Output 2.2 documentation of the group to the office | Activity 1: Preparing the group document  Activity 2: Ensuring the documentation |
| Output 2.3 payment of registration fee of the group | Activity 1: Preparing the payments  Activity 2: Collecting the receipt |
| Output 2.4 Planning for the date of collecting certificate | Activity 1: payments of the registration fee  Activity 2 documentation of the date to collect certificate  Activity 3 details submitted |
| Output 2.5 received by the ward officer | Activity 2 Preparing the day of mobilization of the community |
| Output 2.6 Location to run the farm identified | Activity 1: Procurement of farming materials |
| Objective 3 Vegetable farms prepared and technology identified by September 2021 | Output 3.1 Farms prepared  Output 3.2 Technology identified  Output 3.2 farming materials prepared | Activity 1 Budget allocation for the farm preparation  Activity 2: training on the importance of irrigation |
| Activity 2 Purchasing farming materials |
| Objective 4: Market access of vegetable from Kiliko Group Coops by October 2021. | Output 4.1 Harvesting prepared  Output 4.2 market places accessed | Activity 1. Preparing the harvesting materials  Activity 2 New market accessed |

**4.2.1 Project Implementation Plan (PIP)**

A project implementation plan (also called a strategic plan) is a combination of strategy, process, and action. It outlines the steps a team will use to achieve a shared objective, ([Harold 2013).](https://en.wikipedia.org/wiki/Harold_Kerzner)An implementation plan covers all aspects of a project including budget, timeline, and personnel. The project executed by the Community Economic Development Student. However, it settled a separate project committee which responsible for the day to day coordination and implementation of the project activities. The student also responsible for planning, supervising, monitoring and reviewing all project activities, Implementation called for close collaboration with a wide range of partners such as buyers, Veterinary Officer, VEO, YO and input supplier. This enhanced the opportunities for the realization of the broad goals and objectives of this project.

**Table 4.2: Project Implementation Plan (PIP)**

| **Objectives** | **Outputs** | **Activities** | **Implementation month** | | | | **Resource** | **Responsible person** | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Jul** | **Aug** | **Sept** | **Oct** |  | |  |
| 1.1 5leaders and 25 members of Kiliko Group Coops received Vegetable production training by August 2021 | Output 1.1 Conducted Training on Vegetable production | Activity1.Budget preparation for training |  |  |  |  | Logistics and Stationery | | CED Student and Group chair |
| Activity 2. Planning and coordination of the Vegetable production training |  |  |  |  | Logistics and Stationery | | CED Student and Group chair and treasury |
| Output 1.2 Total of 30 members trained | Activity 1 send the invitation to 30 members of Kiliko Group Coops  Activity 2 Community mobilized to select 30 group members |  |  |  |  | Logistics and Stationery | | CED Student and Group chair |
| Output 1.3 A total of 30 members of the group mobilized and joined the group |  |  |  |  | Logistics and Stationery | | CED Student and Group chair and treasury |
| Activity 2 Sending invitation to the Agricultural officer |  |  |  |  | Logistics and Stationery | | CED Student and Group chair and treasury |
| Objective 2 Registering of the group by October 2021 | Output 2.1 Visiting the ward office for introduction of the Group. | Activity 1. Consulting local government officer  Activity 2: knowing clearly the details of the project and policies  Activity 3: preparing invitation letter to the send it to the government ward leaders |  |  |  |  | Logistics and Stationery | | CED Student and Group chair and treasury |
| Output 2.2 documentation of the group to the office | Activity 1: Preparing the group document  Activity 2: Ensuring the documentation |  |  |  |  | Logistics and Stationery | | CED Student and Group chair and treasury |
| Output 2.3 payment of registration fee of the group | Activity 1: Preparing the payments  Activity 2: Collecting the receipt |  |  |  |  | Logistics and Stationery | | CED Student and Group chair and treasury |
| Output 2.4 Planning for the date of collecting certificate | Activity 1: payments of the registration fee  Activity 2 documentation of the date to collect certificate  Activity 3 details submitted |  |  |  |  | Logistics and Stationery | | CED Student and Group chair and treasury |
| Output 2.5 received by the ward officer | Activity 2 Preparing the day of mobilization of the community |  |  |  |  | Logistics and Stationery | | CED Student and Group chair and treasury |
| Output 2.6 Location to run the farm identified | Activity 1: Procurement of farming materials |  |  |  |  | Logistics and Stationery | | CED Student and Group chair and treasury |
| Objective 3 Vegetable farms prepared and technology identified by September 2021 | Output 3.1 Farms prepared  Output 3.2 Technology identified  Output 3.2 farming materials prepared | Activity 1 Budget allocation for the farm preparation  Activity 2: training on the importance of irrigation |  |  |  |  | Logistics and Stationery | | CED Student and Group chair and treasury |
| Activity 2 Purchasing farming materials |  |  |  |  | Logistics and Stationery | | CED Student and Group chair and treasury |
| Objective 4: Market access of vegetable from Kiliko Group Coops by October 2021. | Output 4.1 Harvesting prepared  Output 4.2 market places accessed | Activity 1. Preparing the harvesting materials  Activity 2 New market accessed |  |  |  |  | Logistics and Stationery | | CED Student and Group chair and treasury |

**4.2.1.1 Project Logical Framework**

This is analytical tool which is used to plan, monitor and evaluate projects. Its name has project derived from its logical relationship set by planner to bring about a connection between project means and its ends, ([Harold 2013).](https://en.wikipedia.org/wiki/Harold_Kerzner)The framework that has used is sometimes known as four by four matrixes. It consists of vertical logic which shows the hierarchy of objectives known as narrative summary. It describes arrangement of objectives logically. It starts with goals followed by objectives, outputs and activities. (CED handbook 2016).

The Matrix allowed the planner to arrange objectives in logical order by asking simple questions such as what objectives are needed to achieve this goal?what output are expected to realize objectives and what activities should be done to realize outputs? After the question on the output the last variable which is not necessarily to be within the matrix is what inputs are needed to undergo the planned activities (CED handbook 2016).

The horizontal logic shows the progress against each objective. That mean it shows indicators and its mean of verifications as well as external factors which might hinder the fulfilment of the assumptions. Most of the time in planning; killer assumptions must be avoided and encourage positive assumptions to show that objectives can be achieved. Therefore, killer assumptions need to be nullified /changed before committing any resources.

**Table 4.3: Project Logical Framework**

| **Hierarchy of Objectives** | **Objectively Verifiable Indicators (OVIs)** | **Means of Verification (MOVs)** | **Assumptions** |
| --- | --- | --- | --- |
| Goal 1: Increased income through Vegetable farming | Increased incomes and improved  standards of living of Kiliko Group Coops | Survey reports, observations and sales reports | Openness and honesty of  The Vegetable farmers about their income  status |
| 1.1 5 Leaders and 25 members of Kiliko Group Coops received Vegetable production training by August 2021 | | | |
| Output 1.1 Conducted Training to 30 members of the group on Vegetable production | Conducted Training to 30 members of the group on Vegetable production | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 1.2 Total of 30 members trained | Total of 30 members trained | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 1.3 A total of 30 members of the group mobilized and joined the group | A total of 30 members of the group mobilized and joined the group | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Budget preparation for training | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Planning and coordination of the Vegetable production training | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Objective 2 Registering of the group by October 2021 | | | |
| Output 2.1 Visiting the ward office for introduction of the Group | Visited the ward office for introduction of the Group | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 2.2 documentation of the group to the office | Documented of the group to the office | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 2.3 payment of registration fee of the group | Paid registration fee of the group | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 2.4 Planning for the date of collecting certificate | Planned for the date of collecting certificate | Date for collecting planned | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 2.5 send the invitation to 30 members of Kiliko Group Coops | sent the invitation to 30 members of Kiliko Group Coops | List of letters in the dispatch | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| output 2.6 Community mobilized to select 30 group members | Community mobilized to select 30 group members | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| output 2.7 Sending invitation to the Agricultural officer | Community mobilized to select 30 group members | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| output 2.8. Consulting local government officer | Consulting local government officer | Communication | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Activity 2.9 knowing clearly the details of the project and policies  Output 2.10 preparing invitation letter to the send it to the government ward leaders | knowing clearly the details of the project and policies  Prepared invitation letter to the send it to the government ward leaders | knowing clearly the details of the project and policies  Prepared invitation letter to the send it to the government ward leaders | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 2.11 Preparing the group document | Preparing the group document | Documentation | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 2.12 Ensuring the documentation | Ensuring the documentation | Documentation | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 2.13 Preparing the payments | Preparing the payments | Receipt | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 2.14 Collecting the receipt | Collecting the receipt | Receipt | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 2.15 payments of the registration fe | Payments of the registration fee |  | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 2.16 documentation of the date to collect certificate | documentation of the date to collect certificate | documentation of the date to collect certificate | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 2.17 details submitted | details submitted | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 2.18 received by the ward officer | received by the ward officer | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 2.19 Location to run the farm identified | Location to run the farm identified | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Objective 3 Vegetable farms prepared and technology identified by September 2021 | | | |
| Output 3.1 Farms prepared | Farms prepared | Budget allocation for the farm preparation | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output3.2 Technology identified | Technology identified | training on the importance of irrigation | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 3.2 farming materials prepared | farming materials prepared | Purchasing farming materials | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Objective 4: Market access of vegetable from Kiliko Group Coops by October 2021. | | | |
| Output 4.1 Harvesting prepared | Preparing the harvesting materials | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |
| Output 4.2 market places accessed three market accessed | New market accessed three market accessed | Attendance list and report | Availability of Kiliko Group Coops for training and willingness of the youth to attend the training |

* + 1. **Project Inputs**

In order to meet the overall project goal, the following project inputs were injected to support the implementation of the project activities and attainment of the project objectives;

1. Human resource
2. Physical resource
3. personnel resources
4. Financial resources
5. Transportation tools
6. Stationeries
   * 1. **Staffing Pattern**

Vegetable production project was designed to help improve the household income of youth at Mvumoni community. The project was running under the project committee that was formulated to include all project stakeholders. The committee included the village government, staffs from ward office, extension officer and the community members.

**Table 4.4: Staffing Pattern**

|  |  |
| --- | --- |
| **Position** | **Role** |
| **Chairperson** | 1. Chairs all project group meetings 2. Overseer of the project implementation 3. Supervises the implementation of the plan 4. Acts as a link of all project stakeholders 5. Plays an important role in fundraising for the project 6. Manages the projects’ resources |
| **Secretary** | 1. Records and keeps minutes of the committee meetings 2. Keeps all project records 3. Supervises day to day project activities 4. Participates in fundraising activities for the project 5. Follows up on the utilization of the project resources |
| **Treasurer** | 1. Keeps records of all financial transaction in the project 2. With the help from the CED student, prepares and submits projects income and expenditure reports on a monthly basis |

Since the project is basically a development project, it falls under the Community Development Services Committee which also reports to the Village Council. The chairperson of the Community Development Services Committee assumed the Chair of the project committee. The committee secretary and treasurer were elected from

the participating households. Other positions were the committee members that were held by the project stakeholders.

* + 1. **Project Budget**

The host organization, group leader, secretary and the project treasurer were involved in preparing the budget and the below in table 20.

**Table 4.5: Project Budget**

| **Objective** | **Output** | **Activities** | **Resources needed** | **Qty** | **Type** | **Price**  **unit (Tshs)** | **Total**  **amount (Tshs)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Objective 1**  5 Leaders and 25 members of Kiliko Group Coops received Vegetable production training by August 2021 | A total of 30 Vegetable production were identified and mobilized to join the project. | 1. Conduct beneficiary mapping activity | Stationeries | 50 | Copies | 100/= | 5,000/= |
| Transport (fuel) | 20 | Liters | 2,250/= | 45,000/= |
| Allowance | 4 | People | 30,000/= | 120,000/= |
| 1. Produce and provide beneficiary registration questionnaires | Stationeries | 30 | Copies | 100/= | 3,000/= |
| Transport (fuel) | 5 | Liters | 2,250/= | 11,250/= |
| Three days preliminary training on Vegetable production was conducted to the project | 1. Inviting Vegetable production and extension experts | Facilitators’ fare (to and from) | 2 | People | 30,000/= | 60,000/= |
| Facilitators’ accommodation | 4 | Days | 40,000/= | 160,000/= |
| 1. Theoretical and practical trainings on Vegetable production are conducted | Venue | 3 | Days | 100,000/= | 300,000/= |
| Meals and refreshments | 40 | People | 15,000/= | 600,000/= |
| Stationeries | 1 | Purchase | 50,000/= | 50,000/= |
| Participant’s transport (3 days) | 30 | People | 1,000/= | 90,000/= |
| 1. Provision of Vegetable production handouts/manuals/guidelines to the participants. | Stationeries | 30 | Copies | 500/= | 15,000/= |
| 1. Selection of the better sites for setting up Vegetable hives. | Transport (fuel) | 5 | Liters | 2,250/= | 11,250/= |
| Vegetable production groups were formed and maintained | 1. Training on groups formation. | Rim papers | 1 | Pcs | 10,000/= | 10,000/= |
| Mark pens | 1 | Box | 10,000/= | 10,000/= |
| Ball pens | 1 | Box | 10,000/= | 10,000/= |
| Flip chart | 2 | Pcs | 10,000/= | 20,000/= |
| Manila cards | 1 | Bundle | 10,000/= | 10,000/= |
| 1. Formulation of the group’s constitutions | Stationeries | 1 | Purchase | 50,000/= | 50,000/= |
| 1. Registration of the groups to the WEO | Transport (fuel) | 10 | Liters | 2,250/= | 22,500/= |
| Registration fee | 1 | Time | 5,000/= | 5,000/= |
|  | **Sub total** | | | | | | **1,608,000/=** |
| **Objective 2**  To raise monthly household income from 100,000/= in 2020 to 200,000/= through Vegetable production project by November 2021. | Project participants provided with startup toolkits for Vegetable production activities | 1. Purchase the toolkits | Vegetable seed | 60 | Pcs | 55,000/= | 3,300,000/= |
| Vegetable production materials | 60 | Kits | 65,000/= | 3,900,000/= |
| 1. Disseminate the toolkits to the project participants. | Transport (fuel) | 10 | Liters | 2,250/= | 22,500/= |
| Signup sheets | 2 | Copies | 100/= | 200/= |
| 1. Setting up the Vegetable sites |  |  |  |  |  |
| Continuous technical support is provided through project visits | 1. Conduct time to time project visit by the team. |  |  |  |  |  |
| 1. Observing and recording the changes of the project behaviors. | Recording books | 3 | Copies | 500/= | 1,500/= |
| 1. Address the technical challenges that are likely to affect the project |  |  |  |  |  |
| Continuous technical support is provided through project visits  Project participants have Vegetable n capacitated with Extension officer and skills | 1. Conduct business development trainings to the participants. | Venue (4 times) | 2 | days | 100,000/= | 800,000/= |
| Stationeries | 4 | Purchase | 50,000/= | 200,000/= |
| Refreshments | 65 | People | 10,000/= | 650,000/= |
| Facilitation fee (4 times) | 2 | Days | 50,000/= | 400,000/= |
| 1. Establish a shared one stop center for Vegetable products in Tibirinzi Market | Center Rent | 12 | Months | 30,000/= | 360,000/= |
| Show cases | 4 | Pcs | 70,000/= | 280,000/= |
|  | **Sub total** | | | | | | **9,914,200/=** |
| **Objective 3**  To link 3 Vegetable production women groups the group with local and international markets of Vegetable products b November 2021 | Link the project groups to Tibirinzi Market services | 1. Introduce the project concept to Tibirinzi Market | Transport (fuel) | 20 | Liters | 2,250/= | 45,000/= |
| 1. Invite the site visit from Extension officer for the project assessment |  |  |  |  |  |
| 1. Apply for business registration |  |  |  |  |  |
| Design and develop proper packages for the products | 1. Consult market network for the selling of the products |  |  |  |  |  |
|  |  |  |  |  |
| 1. Design the product logo for branding | Logo design fee | 1 | Contract | 50,000/= | 50,000/= |
| Printing labels | 300 | Copies | 600/= | 180,000/= |
| 1. Obtain the barcodes from Tibirinzi Market | Barcode’s fee | 1 | Contract | 100,000/= | 100,000/= |
| Plan to showcase during the International Women’s Day and participate in Nanenane and Sabasabazonal exhibitions | 1. Consult other stakeholders of the products | Transport (fuel) | 20 | Liters | 2,250/= | 45,000/= |
| 1. Prepare and send representatives and products to participate in International Women’s Day, Sabasaba and Nanenane zonal exhibition. | Exhibition fee | 4 | Times | 50,000/= | 200,000/= |
| Accommodations (3 people) | 18 | Days | 20,000/= | 360,000/= |
| Allowances (3 people) | 20 | Days | 20,000/= | 1,200,000/= |
| Transport | 30 | Liters | 2,250/= | 67,500/= |
|  | **Sub total** | | | | | | **2,247,500/=** |
| Improve household income through Vegetable production project |  | 1. Harvesting of Vegetable products | Transport | 15 | Liters | 2,250/= | 33,750/= |
| 1. Conducting ongoing project monitoring | Transport | 30 | Liters | 2,250/= | 67,500/= |
| Allowances (3 people) | 4 | Times | 30,000/= | 360,000/= |
| Household are able to easily afford living expenses and attaining to social services | 1. Conduct semi and annual project evaluation | Allowance (4 people) | 3 | Days | 40,000/= | 480,000/= |
| Project report write up | 1 | Document | 300,000/= | 300,000/= |
|  | Vegetable Farm preparation | 1. Vegetable farm and seed prepared | Seed  Materials | 20 |  | 35,000/= | 700,000/= |
|  | **Sub total** | | | | | | **1,241,250/=** |
| **GRAND TOTAL** | | | | | | | **15,710,950/=** |

**Source:** Research Data, 2021

**4.3 Project Implementation**

Implementation simply means carrying out the activities described in your work plan, ([Harold 2013).](https://en.wikipedia.org/wiki/Harold_Kerzner)[Executing](https://sswm.info/content/executing) a project in the hot culture sector is a very complex mission, as it requires the coordination of a wide range of activities, the overseeing of a team, the management of budget, the [communication](https://sswm.info/content/communication) to the public, among other issues. Independent of whether it is a social project to raise the awareness and promote hygiene or it is a construction project for service delivery, there is a certain process that has to be followed,([Harold 2013).](https://en.wikipedia.org/wiki/Harold_Kerzner)

**4.3.1 Project Implementation Report**

The project was successfully implemented and the below are the details of its implementation to each objective and the general objective of the project was to experience the increased income through Vegetable farming in Mvumoni Ward through the Kiliko group coops. The group has shown the indicator through its sustainability the data collected through survey reports, observations and sales reports were enough to show how the group standards of living has been improved. The first objective was to train 30 members of Kiliko Group Coops to receive the training and the training was done by the extension officer by the name JumaAbdallah and all the group members received training received.(Figure 2).

The total of 30 group members was trained and the attendance list and report has been attached to **(Figure3)**. It has been observed that the group has had willingness and ability to attend and they fully participated in the training. Members were mobilized and able to attend the training sessions. The budget was prepared and contributed by members a total of 15,710,950/= were used to start the project (see table 20 above). All members of the group were fully involved in the preparation and the implementation of the budget. The MCED student and the group members were able to plan and coordination of the Vegetable production training. The group had to be registered and the process started when mobilizing started and the registration was made the group were called Kiliko Group Coops (Figure 4).

The group was introduced to the ward office and were successfully received. The information of the group was recorded in the ward office and were given the registration number as P.8860/2021 it was on 27th October 2021 as the registration fee were paid of tsh 35,000/= as registration fee for the group. The invitation was sent to the extension officer who made training and he was able to attend and the training were conducted successfully. The technology that was advised by the trainer is irrigation that draws the water from the well **(Figure 5)**. Group leaders and the MCED student were able to access new market for the Vegetable at Tibirinzi Market.

**4.3.2 Project implementation on Gantt chart**

**Table 4.6: Project implementation on Gantt chart**

| **Objectives** | **Outputs** | **Activities** | **Implementation month** | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **July** | **August** | **September** | **October** |
| 1.1 5leaders and 25 members of Kiliko Group Coops received Vegetable production training by August 2021 | Output 1.1 Conducted Training on Vegetable production | Activity1.Budget preparation for training |  |  |  |  |
| Activity 2. Planning and coordination of the Vegetable production training |  |  |  |  |
| Output 1.2 Total of 30 members trained | Activity 1 send the invitation to 30 members of Kiliko Group Coops  Activity 2 Community mobilized to select 30 group members |  |  |  |  |
| Output 1.3 A total of 30 members of the group mobilized and joined the group |  |  |  |  |
| Activity 2 Sending invitation to the Agricultural officer |  |  |  |  |
| Objective 2 Registering of the group by July 2021 | Output 2.1 Visiting the ward office for introduction of the Group | Activity 1. Consulting local government officer  Activity 2: knowing clearly the details of the project and policies  Activity 3: preparing invitation letter to the send it to the government ward leaders |  |  |  |  |
| Output 2.2 documentation of the group to the office | Activity 1: Preparing the group document  Activity 2: Ensuring the documentation |  |  |  |  |
| Output 2.3 payment of registration fee of the group | Activity 1: Preparing the payments  Activity 2: Collecting the receipt |  |  |  |  |
| Output 2.4 Planning for the date of collecting certificate | Activity 1: payments of the registration fee  Activity 2 documentation of the date to collect certificate  Activity 3 details submitted |  |  |  |  |
| Output 2.5 received by the ward officer | Activity 2 Preparing the day of mobilization of the community |  |  |  |  |
| Output 2.6 Location to run the farm identified | Activity 1: Procurement of farming materials |  |  |  |  |
| Output 3.1 Farms prepared  Output 3.2 Technology identified  Output 3.2 farming materials prepared | Output 3.1 Farms prepared  Output 3.2 Technology identified  Output 3.2 farming materials prepared | Activity 1 Budget allocation for the farm preparation  Activity 2: training on the importance of irrigation |  |  |  |  |
| Activity 2 Purchasing farming materials |  |  |  |  |
| Objective 4: Market access of vegetable from Kiliko Group Coops by October 2021 | Output 4.1 Harvesting prepared  Output 4.2 market places accessed | Activity 1. Preparing the harvesting materials  Activity 2 New market accessed |  |  |  |  |

**CHAPTER FIVE**

**PARTICIPATORY MONITORING, EVALUATION AND PROJECT SUSTAINABILITY**

**5.1 Overview**

This chapter covers the project participatory monitoring evaluation and the project sustainability. It provides information on how the project was monitored so as to see whether the project is complying with the planned project activities and the evaluation process to see whether the project is attaining the intended goal. The chapter also analyses the project sustainability plan that shows how the project will continue to exist even after the funding period.

**5.2 Participatory Monitoring**

Participatory Monitoring is the systematic recording and periodic analysis of information that has been chosen and recorded by insiders with the help of outsiders Ngilo(2014). The objective for conducting participatory project monitoring was to control the project progress by assessing the activities to see if they are on track and lead to achieving of the project objectives. This was done by regular visits to the project, project data collection, sharing of the collected data with other stakeholders and addressing of the challenges that would lead to the project deviation from its initial planned objectives.

Monitoring was conducted on every first week of the second month after the previous monitoring. This timeframe gave enough time for the project to progress while the project implementers working on the identified problems during the previous monitoring. It assessed the efficiency and effectiveness of the project methods and tools used and how the project was achieving its intended goal.

**5.2.1 Monitoring Information System**

Monitoring information system was based on the monthly recorded information regarding to the planned and implemented activities in a particular month (Ngailo 2014). The information includes all the activities that were conducted by the project implementers under the supervision of the CED student. For this project, the information required was the work plan, implemented activities, costs and expenditures, tools and equipments used, the involved labor and time used for implementing the project activities. All this information was acquired through the project monthly reports, activity reports and field visits by the monitoring team.

**5.2.2 Participatory Monitoring Methods**

The project monitoring employed three monitoring methods of Focus Group Discussion (FGD), Interviews and Observations. The purpose for using triple methods was to make sure that all the useful information was gathered. FGD was conducted with the project participants by using the three subgroups with 10 participants each formed out of the big group of 30 participants. On every monitoring activity, three FGDs were conducted by discussing matters patterning to the project progress.

The observation method was an essential monitoring method as it involved direct eye observation of the project activities, changes and behaviors. During the monitoring, field visits were conducted in which all the observations and recording of the observed changes were done(, [Harold 2013).](https://en.wikipedia.org/wiki/Harold_Kerzner). The interview guide was developed and used for face-to-face interviews. These were used to interview only the few people in the project. the interview also intended to assess how the project is contributing to individual development of the project participants through the acquisition of the skills provided through the project implementation.

**5.2.3 Participatory Monitoring Plan**

The objective of participatory monitoring plan was to monitor project objective, activities implemented and the outcomes of the project, ([Harold 2013).](https://en.wikipedia.org/wiki/Harold_Kerzner)Also, to monitor project inputs, assess if the action plan was implemented accordingly and whether the project stakeholder was kept informed of the progress, challenges and lessons learnt during the project implementation. The project indicates participatory plan as agreed by the team involved in project operations.

**Table 5.1: Participatory Monitoring Plan**

| **Objective** | **Output** | **Activities** | **Indicators** | **Data source** | **Method** | **Responsible person** | **Time frame** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1.1 5leaders and 25 members of Kiliko Group Coops received Vegetable production training by August 2021 | A total of 30 Vegetable production were identified and mobilized to join the project. | Conduct beneficiary mapping activity | Number of households visited | Activity report | Meetings and interviews | CED student, CDO,  VEO, WEO and staffs | September, 2021 |
| Produce and provide beneficiary registration questionnaires | 30 households’ heads recruited for the project | Activity report and project progressive report | Interviews | CED student, CDO,  VEO, WEO | September, 2021 |
| Three days preliminary training on Vegetable training was conducted to the project | Theoretical and practical trainings on Vegetable training are conducted. | 30 project participants attended the training | Training report, Attendance register | Observation, FGD | CED student, CDO,  VEO, and staffs | Late September, 2021 |
| Provision of Vegetable training handouts/manuals/guidelines to the participants. | 30 project participants provided with handouts | Project report, training report and goods received signup sheets | Observation, FGD and interviews | CDO, CED student,  VEO, and staffs | Late September, 2021 |
| Selection of the better sites for setting up well digging | 3 sites selected | Activity and project reports | Observation, FGD | Facilitators from, CED student, VEO, and staffs | Early October, 2021 |
| 3 Vegetable groups were formed and maintained. | Training on groups formation. | 3 groups formed to work under one umbrella | Activity report,  Project report | Meetings and trainings | CED student,  VEO and CDO | October, 2021 |
| Formulation of the groups constitutions | 1 constitution formulated | Activity report,  Project report | FGD and training | CED student,  VEO, WEO. | October, 2021 |
| Registration of the groups to the Ward office | 1 group registered | Registration certificate and receipt,  Project report | Meetings | Ward CDO, group chairperson, secretary and treasurer | October, 2021 |
| To raise monthly household income from 200,000/= in 2020 to 300,000/= through vegetable production by August 2021 | Project participants provided with startup toolkits for Vegetable training activities | Purchase the for the vegetable farm | 60 toolkits purchased | Receipt, project reports | Observation, meetings | CED student,  VEO and CDO | Late October, 2021 |
| Disseminate the toolkits to the project participants. | 20 toolkits disseminated to project participants | Goods received signup sheets, project report | Observation, meetings | CED student,  VEO and CDO | Late October, 2021 |
| Setting up the farms for vegetable | 20 farms prepared | Activity report, project report | Observation | Facilitators from, CED student, Ward CDO,  VEO and WEO | October 2021 |
| Continuous technical support is provided through project visits | Conduct time to time project visit by the team. | Number of project visits conducted and technical support provided | Guests book records, project reports | FGD, interviews and observation | Facilitators ward, CED student, Ward CDO,  VEO and WEO | Throughout the project |
| Project participants have been capacitated with Extension officer and skills | Conduct business development trainings to the participants. | 4 business trainings conducted  30 project participants attended each training | Training report, project report and attendance sheets | FGD, interviews and observation | Extension officer Facilitators, CED student, Ward CDO,  VEO and WEO | November, February, May and July |
| Establish a shared one stop centerfor Vegetable products | 1 center established | Project report | FGD, interviews and observation | CED student, Ward CDO  VEO and WEO | February, 2021 |
| To link 3 Vegetable group with local and international markets November May 2021 | Link the project groups to TIBIRINZI MARKET services | Introduce the project concept to TIBIRINZI MARKET leaders | 2 meetings with TIBIRINZI MARKET officers | Activity report, project report | Meetings and FGD | CED student, and group chairperson, secretary and treasurer | Late December 2020 and Early January 2021 |
| Invite the site visit from TIBIRINZI MARKET for the project assessment | 2 project assessments by TIBIRINZI MARKET office | Project reports, assessment reports and guests book | Meetings and observation | CED student and TIBIRINZI MARKET | January, 2020 |
| Plan to showcase during the International Women’s Day |  | 5 preparation meetings attended by the representative of the project group | Project report, | Meetings, interviews | CED student, staffs from ward office and project participants | February and June and July |
| Prepare and send representatives and products to participate business showcase | 3 representatives attend the exhibitions | Exhibition reports, project report | Observation and meetings | Project participants | March, July and August, 2021 |
| Registration of the group at ward level by October 2021 | 30 The group own the Vegetable training projects as their sources of income | Harvesting of vegetable products |  | Project report | Interviews and observations | Project participants, CED | April and May |
| Conducting ongoingproject monitoring | 6 project monitoring visits conducted | Project report,  Monitoring report and guests book | Interview, FGD and observation | CED student, CDO,  VEO, WEO and staffs | Throughout the project |
| Household are able to easily afford living expenses and attaining to social services | Conduct semi and annual project evaluation | 2 evaluation activities conducted | Evaluation reports  Project report | Interview, FGD and observation | CED student, CDO,  VEO and WEO | February and August |

**5.2.4 Participatory Evaluation**

Participatory evaluation is an approach that involves the stakeholders of a project or policy in the evaluation process, ([Harold 2013).](https://en.wikipedia.org/wiki/Harold_Kerzner) This involvement can occur at any stage of the evaluation process, from the evaluation design to the data collection and analysis and the reporting of the study. A participatory approach can be taken with any impact evaluation design, and with quantitative and qualitative data, Ngailo (2014). However, the type and level of stakeholder involvement will necessarily vary between different types, for example between a local level impact evaluation and an evaluation of policy changes. It is important to consider the purpose of involving stakeholders, and which stakeholders should be involved how, in order to maximize the effectiveness of the approach. In this particular project, the stakeholders together with the project participants (30 heads of households) had an opportunity to reflect on the project performance and the achievement of the project goals.

The evaluation in this project was conducted twice, the first evaluation was conducted in the mid of the project implementation in February and the annual evaluation was planned to be conducted in August. The semi-annual evaluation will lay a foundation for the annual evaluation. Participatory evaluation was conducted focusing on collection of the information that would be used for judging the project performance and conclude whether the project has achieved its intended objectives and hence achieve the overall project goal.

**5.2.5 Performance Indicators**

Performance Indicators are the critical indicators of progress toward an intended result. Performance Indicators provide a focus for strategic and operational

improvement, create an analytical basis for decision making and help focus attention on what matters most. Managing with the use of Performance Indicators includes setting targets (the desired level of performance) and tracking progress against that target. Managing with Indicators often means working to improve leading indicators that will later drive lagging benefits. Leading indicators are precursors of future success; lagging indicators show how successful the project was at achieving results.

**Table 5.2: Performance indicators**

| **Objective** | **Output** | **Activities** | **Resources Needed** | **Performance Indicator** |
| --- | --- | --- | --- | --- |
| 1.1 5leaders and 25 members of Kiliko Group Coops received Vegetable production training by August 2021 | A total of 30 were identified and mobilized to join the project. | 1. Conduct beneficiary mapping activity 2. Produce and provide beneficiary registration questionnaires | 1. Personnel 2. Stationeries 3. Transport 4. Financial resources | Number of households visited and recruited |
| Three days preliminary training on Vegetable training was conducted to the project | 1. Theoretical and practical trainings on Vegetable training are conducted. 2. Provision of Vegetable training handouts/manuals/guidelines to the participants. 3. Selection of the better sites | 1. Personnel 2. Venue 3. Transport, 4. Stationeries and funds | 1. Number of participants attended the training 2. Sites visited and selected |
| 3 bee keeping groups were formed and maintained. | 1. Training on groups formation. 2. Formulation of the group’s constitutions 3. Registration of the groups to ward level | 1. Personnel 2. Venue 3. Transport 4. Stationeries 5. Funds | Number of groups formed and registered |
| To raise monthly household income from 200,000/= in 2020 to 300,000/= through Vegetable training project by November 2021. | Project participants provided with startup toolkits for Vegetable training activities | 1. Purchase the toolkits for farm preparation 2. Disseminate the toolkits to the project participants. 3. Setting up the farming site | Personnel, transport and funds | Number of toolkits purchased and disseminated to the project participants |
| Continuous technical support is provided through project visits | 1. Conduct time to time project visit by the team. | Personnel, transport and funds | Number of project visits conducted and technical support provided |
| Project participants have been capacitated with Extension officer and skills | 1. Conduct business development trainings to the participants. | Personnel, venue, stationeries and funds | Number of Extension officer trainings conducted |
| 1. Establish a shared one stop center for Vegetable products | Personnel, venue, stationeries and funds | Number of centers established |
| To link 3 Vegetable training groups the group with local and international markets of bee products by November 2021 | Link the project groups to TIBIRINZI MARKET services | 1. Introduce the project concept to TIBIRINZI MARKET 2. Invite the site visit from TIBIRINZI MARKET for the project assessment | Personnel, funds and transport | 1. Number of meetings with TIBIRINZI MARKET conducted 2. Number of project assessment conducted by TIBIRINZI MARKET |
| Plan to showcase during the International showcase | 1. Prepare and send representatives and products to participate international showcase | 1. Vegetable products 2. Personnel 3. Transport 4. Fund | Number of exhibitions and anniversary participated by the project participants |
| Improve household income through Vegetable training project | 30 Vegetable group own the Vegetable training projects as their sources of income | 1. Harvesting of vegetable products 2. Conducting ongoing project monitoring | 1. Personnel 2. Stationeries 3. Transport | 1. Vegetable farm harvested |
| Household are able to easily afford living expenses and attaining to social services | 1. Conduct semi and annual project evaluation | 1. Personnel 2. Stationeries 3. Transport | Percent of the project participants with increased household income |

**Source**: Field Data, (2021)

**5.2.6 Participatory Evaluation Methods**

A combination of data collection methods and techniques was used discussion to find out whether the project is on schedule, ([Harold 2013).](https://en.wikipedia.org/wiki/Harold_Kerzner)Such methods used included questionnaires, interviews and Focus Group Discussion. Individual interviews and Focus Group Discussion were conducted to the project beneficiaries. Informal discussion with the project participants and the stakeholders were also employed in order to have a wide variety of information on the progress and achievement of the objectives. The information gathered was shared with all project stakeholders for assistance and to keep them updated to enhance the planning for next stages and new projects.

**5.2.7 Participatory Evaluation Summary**

During evaluation three major project objectives were examined using the predetermined performance indicators for each objective. Expected outcomes and actual outcomes of the project were also examined and noted in detail during the midterm evaluation exercise which was conducted. Below is the table (24) which presents the evaluation summary.

**Table 5.3: Participatory Evaluation Summary**

| **Objective** | **Output** | **Activities** | **Resources needed** | **Performance indicator** | **Expected outcome** | **Actual outcome** |
| --- | --- | --- | --- | --- | --- | --- |
| 1.1 5leaders and 25 members of Kiliko Group Coops received Vegetable production training by August 2021 | A total of 30 were identified and mobilized to join the project. | Conduct beneficiary mapping activity  Produce and provide beneficiary registration questionnaires | 1. Personnel 2. Stationeries 3. Transport 4. Financial resources | Number of households visited and recruited | Positive response from the community and 30 vegetable identified and recruited | 30 group members positively responded and joined the program |
| Three days preliminary training on Vegetable training was conducted to the project | Theoretical and practical trainings on Vegetable training are conducted.  Provision of Vegetable training handouts/manuals/guidelines to the participants.  Selection of the better sites | 1. Personnel 2. Venue 3. Transport, 4. Stationeries and funds | 1. Number of participants attended the training 2. Sites visited and selected | 30 participants to attend the training | All 30 participants attended the training |
| 3 bee keeping groups were formed and maintained. | Training on groups formation.  Formulation of the group’s constitutions  Registration of the groups to ward level | 1. Personnel 2. Venue 3. Transport 4. Stationeries 5. Funds | Number of groups formed and registered | Participants will be divided into 3 subgroups | 3 subgroups were formed |
| To raise monthly household income from 200,000/= in 2020 to 300,000/= through Vegetable training project by November 2021. | Project participants provided with startup toolkits for Vegetable training activities | Purchase the toolkits for farm preparation  Disseminate the toolkits to the project participants.  Setting up the farming site | Personnel, transport and funds | Number of toolkits purchased and disseminated to the project participants | 20 farms prepared | 20 farms prepared |
| Continuous technical support is provided through project visits | Conduct time to time project visit by the team. | Personnel, transport and funds | Number of project visits conducted and technical support provided | The project will be visited twice every month | The project was not visited twice in every month especially during rainy season |
| Project participants have been capacitated with Extension officer and skills | Conduct business development trainings to the participants. | Personnel, venue, stationeries and funds | Number of Extension officer trainings conducted | 4 Extension officer trainings will be conducted in the project year | All 4 Extension officer trainings were conducted |
| Establish a shared one stop center for Vegetable products | Personnel, venue, stationeries and funds | Number of centers established | One center will be established | One center will be established |
| To link 3 Vegetable training groups the group with local and international markets of bee products by November 2021 | Link the project groups to TIBIRINZI MARKET services | Introduce the project concept to TIBIRINZI MARKET  Invite the site visit from TIBIRINZI MARKET for the project assessment | Personnel, funds and transport | Number of meetings with TIBIRINZI MARKET conducted  Number of project assessment conducted by TIBIRINZI MARKET | One center will be established | One center will be established |
| Plan to showcase during the International showcase | Prepare and send representatives and products to participate international showcase | 1. Vegetable products 2. Personnel 3. Transport 4. Fund | Number of exhibitions and anniversary participated by the project participants | One center will be established | One center will be established |
| Improve household income through Vegetable training project | 30 Vegetable group own the Vegetable training projects as their sources of income | Harvesting of vegetable products  Conducting ongoing project monitoring | 1. Personnel 2. Stationeries 3. Transport | 1. Vegetable farm harvested | i.TIBIRINZI MARKET will have two meetings with the project team  ii. 2 project assessments will be conducted by TIBIRINZI MARKET | 2 meetings were organizing  2 project assessment were conducted by TIBIRINZI MARKET |
| Household are able to easily afford living expenses and attaining to social services | Conduct semi and annual project evaluation | 1. Personnel 2. Stationeries 3. Transport | Percent of the project participants with increased household income | 3 exhibitions will be attended | 3 exhibitions were attended |

**Source**: Field data, (2021)

**5.3 Project Sustainability**

Sustainability means continuation of benefits for a long time after donors withdraw to support the project (FAO, 2003). In this project’s case, sustainability means the ability of a project to maintain its operations, services and benefits for more than five years after donors’ technical, managerial and financial support has ended. The sustainability plan was meant to ensure that the project continues to exist and benefits the target group even after the normal support from the stakeholders has been minimized or withdrawn.

**5.3.1 Institutional Sustainability**

The Vegetable training project to improve the household income is more likely to be sustainable since the project effectively participatory from the first phase of planning to the implementation phases. The heads of households were ready and willing to take part in the project from the beginning of the project. The project committee and hosting organizations were very supportive throughout the project. The capacity building activities done through the trainings that were provided during the project implementation capacitated the project participants with necessary skills that they will use in future management of the project even if the CED student will not be around (FAO, 2003). The project participants together with the whole project committee have even planned to use the money that they will generate from the farm to support more beneficiaries and have more people join the project.

**5.3.2 Financial Sustainability**

From the beginning of the project members were very motivated to take part. This was noted since during the CNA activity and prioritizing of the need, the community was guided to see the opportunity of improving their economic situation in the project. The project earned financial support from the supporting organizations and the individual donor, the support that helped the implementation of the project activities. In the next project year, the project will be able to use its own internal funds to support the project activities.

**5.3.3 Political Sustainability**

There is a relationship between local government and the community members and the project. During the initial stages of the project, the government from the ward level to the village government level was involved. This made project to be well known by the local government, local leaders and even the councilors in the area, it is easier to get support from the government where needed. The project utilizes an opportunity of working with different people. The leaders who were involved from the initiation stage of the project design, implementation, monitoring and evaluation.

**CHAPTER SIX**

**CONCLUSION AND RECOMMENDATION**

**6.1 Overview**

This project on income improvement through the vegetable production was community based project and in one way or another has remained in the hands of the community. A community needs assessment was done among the group and a project designed to mitigate the needs of the group through the interventions by training the group to be able to be formalization so that to improve their performance hence generate income. The highlights of the project design, literature review, project implementation, monitoring, evaluation and sustainability are presented in this section with the challenges faced the project implemented.

**6.2 Conclusions**

The overall context for the vegetable production is increasingly in the community due to the economic difficult and need for the growth in the community. The group inability to move fast and attain its mandated goal is a common problem among civil society organizations Civil Society Organizations, such as Non-Governmental Organizations in the developing countries including Tanzania. The traditional understanding of group formation is, to date, still dominated by the notions of ‘giver and receiver’, ‘rich and poor’, ‘developed and less developed’; all of which make the negotiation part group formation a challenging for the majority of Community Social Organizations in Tanzania and the rest of the developing world.

Despite all of the challenges related to the formation of the group in the community, there is a need for key actors in development; namely Governments, CSOs, donors, and any believers in development in general, to re-define the relationships and commitments that are part of changing the world to be a better place for everyone. New approaches to community development should be adopted, especially by Civil Society Organizations themselves because resources are a key component to any development achievement. The community needs assessment Community Needs Assessment revealed crucial areas of concern that affect most of the economic group in the community. Among these areas of concern are matters pertaining to lower economic status, lack of business skills to effectively manage a business, lack of collateral for loans and the presence of gender discrimination practices.

The study showed that the members did not know how the systems work and so they did not formalize their group that’s why the group was performing under. The study also showed the group did not understand how the group can make money works and thus required some skills to replicate the village community bank practice. Finally, the study also established that even though majority of the group are learned, they do not operate bank accounts. Therefore, training was important to the group to impart the knowledge to cultivate the culture of saving among the groups and the community. The literature review has highlighted the concept of vegetable farming and the concept of group. Formalization enabled the group to be registered by the government systems. The literature also noted and highlighted the relationship of group stability and successfully.

The two needs; group formalization and training on vegetable production were running simultaneously and were implemented between successfully. The main project activities included: Conducting a Joint Meeting to discuss the matter of formalization, obtaining a registration form, getting it signed by the members, returning to the authorities and collecting the Registration Certificate. The projects were to move on without the reached to use tools for the data collection so that to understand what to be report. Observation and document review methods were used to control the activities whether they were on the right track. The project’s objectives were on the right track and were achieved by the required percent of the entire implemented project.

**6.3 Recommendations**

This study recommends thus:

1. The pending four needs identified should be integrated in the future project plans by the community or other coming students in the same program
2. The developed policies, bylaws and new culture within the community should be enhanced.
3. The group should be able to open a bank account to ensure that their savings are safely and securely taken care of by a credible financial institution
4. The group to seek a physical location for their regular meetings
5. In general, Tanzania has no learning institutions that provide specialized learning on financial services
6. There is a need for a comprehensive intervention by the government and other stakeholders to improve the status of women in the market place.

**REFERENCES**

Mwatawala, H. W., Mponji, R., &Sesela, M. (2019).Role of Tomato Production in Household Income Poverty Reduction in Mvomero District, Tanzania. *International Journal of Progressive Sciences and Technologies*, *14*(1), 107-113.

Asongwe, G. A., Yerima, B. P., &Tening, A. S. (2014).Vegetable production and the livelihood of farmers in Bamenda Municipality, Cameroon. *International Journal of current microbiology and applied sciences*, *3*(12), 682-700.

Gerny, R., Marsh, R., &Mwebembezi, J. (2021). The promise and challenges of vegetable home gardening for improving nutrition and household welfare: new evidence from Kasese District, Uganda. *African Journal of Food, Agriculture, Nutrition and Development*, *21*(1), 17272-17289.

Gweba, E. F. (2017). *Improving Income of Vijibweni Youth Club through Green Vegetable Production in Kigamboni Municipal Council Dar Es Salaam* (Doctoral dissertation, The Open University of Tanzania).

Mwatawala, H. W., Mponji, R., & Sesela, M. (2019). Role of Tomato Production in Household Income Poverty Reduction in Mvomero District, Tanzania. *International Journal of Progressive Sciences and Technologies*, *14*(1), 107-113.

Umuziga, Angelique. "Improving Livelihood of Vamubwigunge Disability Group Members ThroughVegetableproduction inGatsibo District Rwanda." PhD diss., The Open University of Tanzania, 2016.

O. Serrat, (2017). Knowledge Solutions, DOI 10.1007/978-981-10-0983-9\_5 Asian Development Bank

Cardno (2017) Agricultural development as a key role in food security and economic development in most of the world’s population in rural area.

NwachukwuI (2018) Planning and evaluation of agricultural and rural development project. Lambhouse publishers. p. 1-6.

Omorogbe O, Jelena Z, Fatima A (2014) The role of agricultural development in the economic growth of Nigeria. European Scientific Journal 10(4).

Researchclue.com (2013) The impact of agricultural development on economic growth of Nigeria. Home for Nigerian researchers.

European Commission (2018) Sustainable agriculture and rural development policy-agricultural development. International cooperation and development. https//ageconsearch.umn-edu/bitstream/135054/ Fris-1972-11-02-245pdf.

Ruttan VW (2018) Induced innovation and agricultural development. Food policy 2(3): 196-202.

FAO, (2018). “Poultry Sector Country Review; the Structure, Marketing and Importance of Commercial and Community Poultry Industry in Tanzania”. Dar es Salaam: Tanzania.

Horst, P. (2019). “Native Fowl as Reservoir for Genomes and Major Genes with Direct and Indirect Effects on Production Adaptability”. In Proceedings, 18th World Poultry Congress, Nagoya, Japan.

Johnston, (2018). “Health and Productivity of Community Poultry in South East Asia; Economic Impact of Developing Techniques to Vaccinate Birds Orally Against Newcastle Disease”; ACIAR Working Paper Number 31, Canberra, Australia.

Kihwele, D. V. N. (1991). Paper presented on 4 July, 2018. Da Es Salaam, MNRT. pp 54:4.

Kihwele, D. V. N. and Bradbear, N. (2019).TFAP, Tanzania Sector Review Mission Report of Beekeeping. Dar Es Salaam, MNRT. pp 15

Melewas, J. N. (2016). “The Contribution of Poultry Industry to National Economy”.In Proceedings of the 7th Scientific Conference of Tanzania Veterinary Association.Arusha, Tanzania.

Ministry of Finance, 2013. Bangladesh Economic Review, Finance Division, Government of the People’s Republic of Bangladesh.

Mlay, C.2017). Opening remarks. In Edited by NWRC) 19 - 21 20171, A.I.C.C. Arusha, Tanzania, pp 79: 8 -9.

Moreki, J. C; Petheram R. J. and Tyler, L. (2011). A Study of Small Scale Poultry Production

Systems InSerowe-palapye Sub District of Botswana; In Proceedings INFPD Workshop, Mbour, Senegal.

Rahman, M.A.R, Abdullah-Al-Amin, M. and Howlider, M.M, Ahmmed, M.M. 2017. “An Article on Disposal of Layer Droppings Reared in Case and Impact on Environment Pollution”, J. Bangladesh Agri. Uni., 7(2): 281-290, 2019.

# APPENDICES

**Appendix 1: Description of the demographic characteristics Mvumoni Community**

1. 1.Part A: Respondents’ Profile
2. Age: Between 18 – 25 years
3. Between 26 - 40 years
4. Between 40 – 59 years Above 60 years
5. How many people depend on you for a living?
6. 1-5
7. 6 – 10
8. More than 10

Put a tick (ѵ) at the row showing your level of education

|  |  |
| --- | --- |
| Level of Education | Put a tick (ѵ) at the row of appropriate level of education |
| Below STD seven |  |
| STD seven |  |
| Form two dropout |  |
| Form four |  |

1. Fill the table below on your marital status by putting a tick (ѵ) in the relevant place

|  |  |
| --- | --- |
| Marital status | Put a tick (ѵ) in the relevant place of your marital status |
| Married |  |
| Single |  |

1. A. Can you rank the listed challenges facing MvumoniCommunity Youth Community? Rank by putting a tick (ѵ) at the appropriate row of your choice

|  |  |
| --- | --- |
| Challenges | Put a tick (ѵ) in the row of your choice |
| Lack of starting capital |  |
| How to increase income |  |
| Farming skills |  |
| Lack of education |  |

B. Rank the following sources of income found in MvumoniCommunity by putting a tick(ѵ) in the appropriate column and row of your choice (1- Very important, 2- Important, 3- Somehow important, 4- Not important

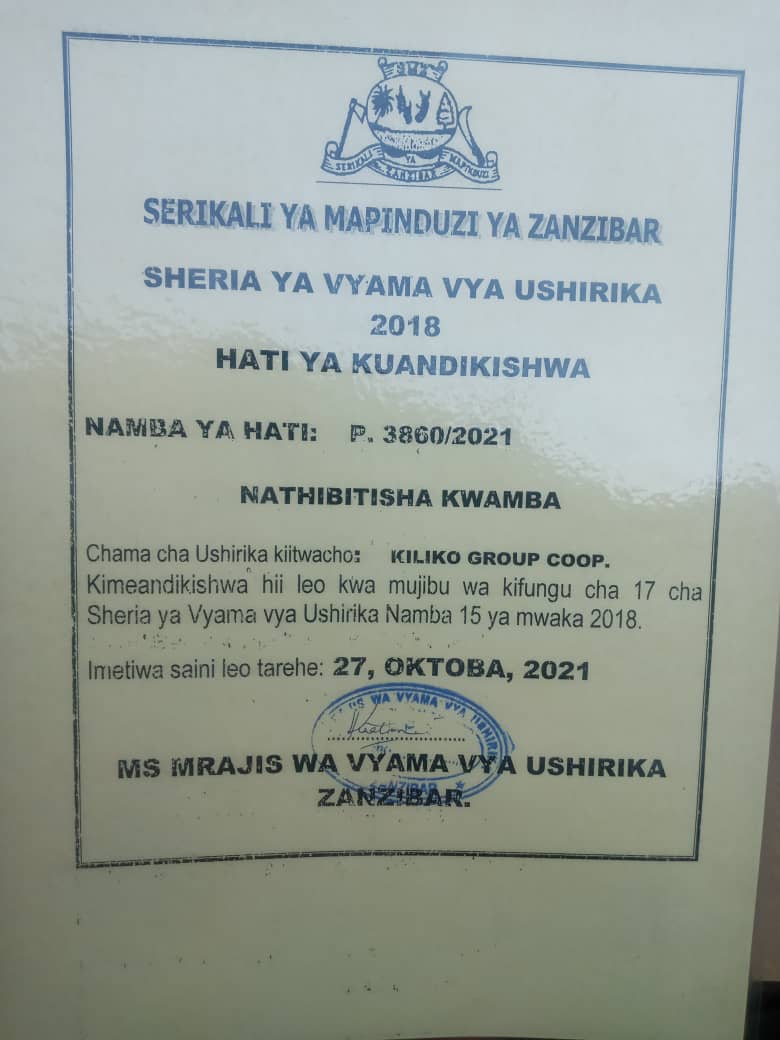
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sources of income | Ranks | | | |
| 1 | 2 | 3 | 4 |
| Crop production |  |  |  |  |
| Vegetable production |  |  |  |  |
| Food vending |  |  |  |  |
| Dairy cattle farming |  |  |  |  |

1. Rank the following different ways of raising funds for project implementation by putting a tick (ѵ) in the appropriate column and row of your choice showing which one is number 1, number 2, number 3 and number 4 ((1- Very important, 2- Important, 3- Somehow important, 4- Not important)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Different ways of raising funds for project implementation | Ranks | | | |
| Number 1 | Number 2 | Number 3 | Number 4 |
| Saving contributions |  |  |  |  |
| Loan from Microfinance |  |  |  |  |
| Youth Development Funds |  |  |  |  |
| Fundraising |  |  |  |  |

1. Whichof the following projects will suit your position in alleviating income poverty? Rank by putting a tick at the appropriate row of your choice. (1- Very important, 2- Important, 3- Somehow important, 4- Not important)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project | Put a tick of ranking in the appropriate row of your choice | | | | |
| 1 | 2 | 3 | 4 |
| Crop production |  |  |  |  |
| Diary production |  |  |  |  |
| vegetable production |  |  |  |  |
| Food vending |  |  |  |  |

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**Figure 2.2: Certificate**

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**Figure 3: MCED student during mobilization**





**Figure 4: MCED Student during preparation of a well for irrigation**

**Source:** Field Data (2021)