

**VEGETABLES AND FRUITS CONSUMPTION CAMPAIGN AND SALES
FOR SUSTAINABLE ECONOMIC DEVELOPMENT OF VENDORS IN
CHAMAZI MARKET TEMEKE DISTRICT**

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

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CERTIFICATION

The undersigned certifies that I have read and hereby recommend for the acceptance by the Open University of Tanzania (OUT) a project entitled, Vegetables and Fruits Consumption Campaign and Sales for Sustainable Economic Development of Vendors in Chamazi Market Temeke District, Tanzania, in partial fulfilment of the requirements for the degree of Master of Community Economic Development (MCED) of the Open University of Tanzania.

Prof. D. Ngaruko

(Signature)

Date

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DECLARATION

I, Yalengeko **Melack** do hereby declare that this CED project report is my own original work and that it has not been presented and will not be presented to any other university for similar or any other degree award

Signature

Date

DEDICATION

This work is dedicated to my God in heaven, my lovely husband Isaack Michael, my son Henry, and my daughters Doreen and Catherine, for their encouragement, tolerance, support and prayer during the entire study of whom without, this study would not be achieved.

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ABSTRACT

A dissertation on Vegetables and Fruits Consumption Campaign and Sales for Sustainable Economic Development of Vendors in Chamazi Market is a result of the Community Needs Assessments (CNA) conducted in Chamazi Market to vendors and consumers of vegetables and fruits. The CNA revealed that vegetables and fruits consumption is very low to majority of residents in Chamazi. This situation has affected vendors of the products since they cannot generate high income to suffice their livelihood. There are a number of factors that contribute for low intake of vegetables and fruits among Chamazi residents including; lack of nutrition education on the importance of vegetables and fruits, low income that affects purchasing power and unavailability of different varieties of vegetables and fruits in Chamazi market. Consequently a number of factors that contribute to low sales among vendors are such as lack of entrepreneurial skills, poor marketing skill, poor working environment (market space)l lack of capital, unreliable market for some varieties which are not common in Chamazi market and poor technology i.e. lacks of preservative facilities (cold rooms) since vegetables and fruits are more perishable products. However, Vegetables and fruits selling is a very good and reliable business if it is done with expertise following the potential nutrients found for human health. Every individual and household requires to consume vegetables and fruits whether they like or not for their better health. Vendors should cultivate on this positive point of nutrition benefits of vegetables and fruits plus marketing skills to ensure high income through high sales. To achieve the project objectives, a participatory approach are necessary to be able to increase awareness to communities about the project equally nutrition education and consumption campaigns are continuously inevitable. In this view, stakeholders and policy makers are to be involved for project sustainability and up-scaling. The expected outcome is increased vegetables and fruits consumption resulting to increased sales for sustainable income generation to vendors in general.

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LIST OF ABBREVIATIONS

CBO	Community Based Organization
CED	Community Economic Development
CHC	Chamazi Health Centre
CNA	Community Needs Assessment
EfG	Equality for Growth
FAO	Food and Agriculture Organization
FIs	Financial Institutions
IFAD	International Fund for Agricultural Development
LGA	Local Government Authority
M&E	Monitoring and Evaluation
MAFC	Ministry of Agriculture Food security and Cooperatives
MCED	Masters' of Community Economic Development
NCDs	Non Communicable Diseases
NGO	Non-Government Organization
OUT	Open University of Tanzania
PNA	Participatory Needs Assessment
SPSS	Statistical Package for Social Sciences
TAHA	Tanzania Horticultural Association
TFNC	Tanzania Food and Nutrition Centre
VF	Vegetables and Fruits
VICOBA	Village Community Bank
WAEO	Ward Agriculture Executive Officer
WHO	World Health Organization

CHAPTER ONE

1.0 PARTICIPATORY NEEDS ASSESSMENT

1.1 Background Information

Vegetables and fruits have been part of the human diet from time immemorial. Fruits and vegetables have enormous advantages including health benefits, economic benefits, environmental benefits and social benefits. Dieticians recommend eating as much as one can do every day. This is because fruits and vegetables are low in fat, calories, and sodium, have no cholesterol, and are high in fibre. Fibre from fruits and vegetables helps one fill up so don't feel like eating more and it also helps move the digestive process along. These foods are also full of vitamins and minerals that provide body with energy. Particularly important are the antioxidant vitamins A, C and E.

A bare fact is that most people eat too little fruits and vegetables, both in quantity a day and in variety. People who eat the most vegetables and fruits have the lowest risk for chronic diseases. Research has shown that, compared with individuals who eat less than three servings of fruits and vegetables each day, those that eat more than five servings have an approximately twenty percent lower risk of developing coronary heart disease or stroke

Vegetables are eaten in a variety of ways, as part of main meals and as snacks. The nutritional content of vegetables varies considerably, though generally they contain little protein or fat and varying proportions of vitamins such as Vitamin A, Vitamin K and Vitamin B6, provitamins, dietary minerals and carbohydrates.

The value chain of fruits and vegetables business from cultivation, processing, preservation, storage, transportation, and marketing provides a number of economic opportunities in terms of employment creation, households' income, government revenue through taxes and so forth.

In Tanzania like many developing countries, the large part of its population eat too few fruits and vegetables, both in quantity a day and in variety. There are a number of reasons including poor income, lack of nutritional education, lack of supply of fruits and vegetables. Recently, there are signs for a positive trend in public awareness in form of nutritional education in Tanzania for example there are a number of herbalists in major towns who advocates consumption of fruits and vegetables in order to enhance or restore body immunity. Also a number of campaigns towards chronic disease emphasize consumption of fruits and vegetable as means to prevent from such diseases.

Prices for fruits and vegetables in local kiosks are quiet affordable by low income households in Dar es Salaam. Therefore, nutritional education and supply of fruits and vegetables are two important aspects as to why low intake of fruits and vegetables. This situation has called for the design of project aims to promote economic potentials from selling fruits and vegetables. The project intends to enhance economic status of poor men and women through (i) organize them in groups (ii) train them how to sensitize and create awareness on nutritional importance of fruits and vegetables consumption (iii) establish door to door fruits and vegetables supplying to hotels, restaurants, schools and individuals and (iv) train on fruits and vegetables marketing skills. The project outputs are (i) number of sensitization campaigns done, (ii) outreach through number of

brochures distributed to circulate nutritional education, and (iii) number of customers established (customer base). Project outcomes expected are (i) increased nutritional importance awareness, (ii) increased income. The project impact is poverty reduction among poor men and women in Chamazi through selling vegetables and fruits.

1.2 Community Profile

Chamazi market is located along Mbande road near the most populated Chamazi Bus Stop. The market is in a strategic location targeting people who drop at the bus station and dismiss to other streets in the interior. The market is small in size about 30 square metres only. At 90% the market is occupied by **vegetables and fruits vendors** however, due to limited space all vegetables and fruits vendors could not be accommodated inside the market , therefore other vendors are scattered at the nearby outside the market. This situation has caused competition and disagreement especially in price between those who operate inside the market who have to pay rental fees hence they sell at higher prices to compensate whereas those who operate outside do not pay rental fee therefore they set lower prices and make more customers. Nevertheless it remain to be advantage to those operating inside the market since they can stock more varieties of vegetables and fruits for sale than other group who sometimes walk in streets with dishes full of vegetables and fruits on head shouting and knocking to customers' homes.

1.2.1 Community Economic Activities

Most of fruits and vegetable vendors in Chamazi market are women who are also involved in other informal employment and petty business including fruits and vegetable vending, food vending and fish frying. The fruits and vegetables vendors in Chamazi

market have low education as majority are primary schools leavers who did not get chance to go to secondary school therefore, they lack essential skills in many aspects including business skills to manage well small and medium enterprises. Given poor skills and education background they can't compete into formal labour market therefore they are economically poor thus they lack income to finance their business; they have no valid collateral to seek credits and loans from various financial institutions. Further, these vendors have large nuclear families which they fail to support in provision of social services such as education and health. Jointly they formed an association called Mshikamano Women Group (MWG), the target community herein, which was founded by the Non-Government Organization called Equality for Growth (EfG), the host community in this work.

1.2.2 Community Health

Chamazi like other suburbs in Dar es Salaam is highly populated with majority being children, youth, men and women whom from nutritional point of view are supposed to eat balance food for enhanced growth and immunity. Many children are suffering from malnutrition due to poor nutrition, this being the case the researcher is interested to collaborate with the targeted community to establish the activity that will bring socio-economic development in Chamazi ward. In carrying out this activity, the researcher decided to work with the community of vegetable and fruit vendors, referred to as MWG in this work.

This group was chosen because of their common income generating activities, relevance of their activities to the intended project (V&F) because food vendors within the target

community have an important role in campaigning for V&F consumption hence increase sales. In order to fight against the issue of poverty to Vegetables and Fruits vendors, the researcher took an initiative to collaborate with host CBOs (Community Based Organization), beneficiaries, Chamazi LGA (Local Government Authority), Chamazi Health Centre, vegetable consumers and various professionals in a participatory mode from the initial stage of identifying problems, causes, ways to solve and plans for implementation.

The Participatory Needs Assessment Model was adopted because it enables target community and other stakeholders to come up with a project that intends to convene the prioritized community problems. The data and information gathered enabled the researcher to prepare the community profile as well as a summary of community problems, challenges and existing opportunities that can be utilized to solve the identified problem.

1.3 Community Needs Assessment

Community needs assessment was conducted in order to examine the level of economic development of vegetable and fruit vendors as community which is doing related products, to identify needs and gaps in their business and to examine available resources and opportunities that can be utilized by the community itself to influence their economic status while improve community health. It was conducted in a participatory way to enable identification of the real needs of the community and together suggested interventions to the critical problems. The CNA was done based on the appropriate use of aspects of research methods and research design in order to obtain relevant data from

relevant samples. The assessment will help to plan strategies and interventions which would bring a desirable economic change among VF vendors' community and the District as a whole.

The research findings are expected to be beneficial not only to the target community, but also to Chamazi residents, Local Government, development partners, the researcher, other interested stakeholders and national wide. The findings are also expected to be used by policy and decision makers for development planning purposes.

1.3.1. CNA Objectives

The CNA aimed at collecting information and data related to the community economic performance, challenges and constraints, problems and causes of the problems, contributing factors, community opinions and recommendations which would guide decision making process with practical information. On the other hand the CNA focused on building capacity of the community members to acquire skills and knowledge to be able to use available resources and opportunities to act on their own to improve their livelihood and that of Chamazi community. In this regard the target community will act as changing agents to other members of the community in circulating the facts of VF consumption health and economic benefits.

1.3.1.1 Overall Objective

To enforce vegetables and fruits consumption so as to increase sales for sustainable income generation of vegetable and fruit vendors

1.3.1.2 Specific Objectives

- i. To examine the Vegetables and Fruits vendors' sales rate and income status
- ii. To examine consumption status of Vegetable and Fruits in the community
- iii. To examine knowledge of nutritional importance of vegetables and fruits in the community.
- iv. To examine the need for establishing a project to enforce vegetables and fruits consumption to increase sales

1.3.2 CNA Questions

- i. How much sales is earned by vegetables and fruits vendors?
- ii. How much Vegetables and Fruits are consumed by the household daily?
- iii. Do the community have knowledge of nutritional importance of vegetables and fruits?
- iv. What can be done to enforce vegetables and fruits consumption so as to increase sales?

1.3.3 CNA Methodology

1.3.3.1 Research Design

In order to assess the needs of community of vegetable and fruit vendors in Chamazi Ward in Temeke District with regard to the sustainability of household economic status, the researcher used exploratory research approach. Therefore, a cross-sectional study using survey methodology through structured interviews or questionnaire and semi-structured interview through focus group discussion were undertaken by the researcher.

Data was collected once from respondents divided into two subcategories of vendors and consumers of vegetables and fruits. There has been no previous research on community needs for the vendors and consumers of vegetables and fruits in Chamazi, therefore exploratory approach is justified due to the fact that this approach provide basic information describing existing situation of vendors and consumers of fruits and vegetable in the area.

1.3.3.2 Sampling Technique

Chamazi is one of the poorest parts of Dar es Salaam suburbs with considerable highest rate of population growth such that there is no reliable information on population size. Further, retail selling is scattered all over Chamazi area such that there are a number of micro and small entrepreneurs engaged in agribusinesses including vegetables and fruits vendors. However, these micro and small entrepreneurs of fruits and vegetables in Chamazi are almost homogenous in the sense that they do not farm vegetables and fruits instead they purchase materials from large vegetable and fruit entrepreneurs who bring vegetables and fruits in bulk from upcountry or regions outside Dar es salaam. Given this situation and the fact that researcher has constraint related to time and funding, the sampling frame are vendors of vegetables and fruits around Chamazi Magengeni which is a commercial centre of Chamazi.

Mixed sampling techniques were used by the researcher. Purposive sampling method was used to select respondents based on criteria such as gender, type of vegetables and fruits, size of business in terms of micro and small, and age of respondent. Therefore, researcher selected respondents based on criteria above. Another method used is

accidental sampling method; this method has been selected to ensure that vendors and consumers who were available at the time of interview were eligible for sampling. Probability sampling such as simple random sampling, systematic sampling, and stratified sampling were not used since there was no data on population of the vegetable and fruit vendors in Chamazi.

A sample of fifty vegetable and fruit vendors and fifty vegetable and fruit consumers constitute the sample size for the community needs assessment of vegetable and fruit vendors in Chamazi. There were one hundred respondents in total whom their responses were analysed to evaluate needs for the target community. Both consumers and vendors of vegetables and fruits were surveyed to gather information of both demand and supply of vegetables and fruits.

1.3.3.3 Data Collection Methods

For the purpose of this study, only primary data was collected since secondary data on vegetable and fruit vendors in Chamazi none exists. Perhaps it is because Chamazi is peri-urban with trivial socioeconomic surveys done in the area. Data collection was done using structured questionnaire administered by the researcher. To ensure consistence, uniformity and reliable data, the researcher administered all the questionnaires. Questionnaire survey was followed by focus group interview using interview guide or checklist. Researcher used focus group discussion to validate and verify information collected through structured interviews.

The data collection exercise involved questionnaire pre-testing then followed by the actual survey. The researcher ensured to get permission from relevant local authorities

prior administration of the questionnaire. The researcher selected respondents using both purposive and accidental sampling, after selecting respondents the researcher administered structured questionnaire which lasted for thirty minutes maximum time.

Focus group discussion of vendors and consumers of fruits and vegetables was organized by researcher in order to verify information provided through questionnaire.

Likewise, group discussion took about twenty minutes whereby an interview guide or checklist with key questions was used to guide the interviews.

1.3.3.4 Data Analysis Methods

Information collected through questionnaire and focus group discussion was analysed to get results. Mostly, information gathered was qualitative; however, some information gathered was in quantitative form. Data was coded, summarized and entered into SPSS computer package for analysis and interpretation of CNA results which draws conclusion and offers some recommendations which ultimately answered research objectives.

1.4 Community Needs Assessment Findings

The findings from the CNA in Chamazi market are presented below based on the method and type of data collection. By using the questionnaires the researcher managed to get useful information on general issues regarding vegetable and fruits from consumers and vendors. Also from the Focus Group discussions with various stakeholders the researcher had an opportunity to get additional information which helped to enlarge the researcher's knowledge.

A total of one hundred questionnaires were used to collect information whereby 50 were for VF vendors and 50 for VF consumers. Both questionnaires were completed under close supervision of the researcher (enumerator) to ensure correctness of information required. The findings were analysed into the following results.

1.4.1 Findings on sales and income status of respondents

Table 1.1 : Average sales per day

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid less than 50000	28	56.0	56.0	56.0
between 50000 and 100000	20	40.0	40.0	96.0
above 100000	2	4.0	4.0	100.0
Total	50	100.0	100.0	

The findings in table 1.1 above show average sales of vegetables and fruits per day where 56% can collect less than Tsh 50,000/=. This amount is the total collection where they have to deduct cost of sales such as transportation cost, capital used to purchase materials and other fees. 40% of respondents collect between Tsh. 50,000 and Tsh. 100,000 of whom most of them are doing their business inside Chamazi market. Only 4% collects above Tsh. 100,000. Given data on the table below, it is revealed that vendors spend more money on transportation cost hence the profit remains very small. Vendors have to wake up very early in the morning rushing to the markets (Ilala, Sterio or Mbande) to collect materials. However they sometimes organize for collective transportation to reduce cost. Most of vendors use city buses (Daladala) for transport

to market place while others hire carry vans collectively.

Table 1.2 : Amount of money spent for transportation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 5000	20	40.0	40.0	40.0
	between 5000 and 10000	26	52.0	52.0	92.0
	above 10000	4	8.0	8.0	100.0
	Total	50	100.0	100.0	

Findings on family size of respondents revealed how poor the community is and the extent that their income cannot sustain basic needs of individuals in the household. 48% of respondents had between 3 and 5 dependents and 16% had above 5 dependents, these dependents require basic needs including food, clothes and education, therefore vegetables and fruits vendors are living substandard life due to their low income versus the number of dependents.

Table 1.3 : Number of dependents of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 3	18	36.0	36.0	36.0
	between 3 and 5	24	48.0	48.0	84.0
	above 5	8	16.0	16.0	100.0
	Total	50	100.0	100.0	

To some respondents it was difficult for them to calculate their profit since financial management and accounting is another area of their major weakness which needs to be addressed by other researchers. However, rough estimation of profit gained out of their business varied between individuals depending on the size of capital. Therefore the community needs capacity building in the area of financial management and accounting. They all commented that their sales volume is still very low compared to the population of Chamazi ward.

1.4.2 Findings on vegetables and fruits consumption status

In the table below it is learnt that at 72% people do not consider vegetables and fruits as part of their meals every day. They rather consider vegetables as a supplement where meat or fish is not enough for household. There were some comments by consumers that some varieties of vegetables and fruits are for rich people because they are very expensive, such varieties are broccoli, cauliflower, beetroots, parsley, and grapes apples etc. these varieties are not sold in Chamazi market regardless of their high nutritional benefits.

Table 1.4 : Information whether vegetables and fruits are part of meal everyday

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	14	28.0	28.0	28.0
no	36	72.0	72.0	100.0
Total	50	100.0	100.0	

The study results in the table below found that 84% of respondents did not have knowledge of how much an individual should consume every day. This is a reason for

them to consume less than required amount of vegetables and fruits. Another fact is that respondents do not know what nutrients are to be found in a certain variety of fruits and vegetables. This may be among the reasons to why people consume less vegetables and fruits assuming that the amount is enough. Other respondents commented in the individual face to face interview that whether you take much or less vegetables and fruits the nutrients you get is just the same. This notion is not true, in this aspect, the more you consume VF the more nutrients you get as seen in the literature review in chapter 3

Table 1.5 : Knowledge of quantity of vegetables and fruits to be consumed every day

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	8	16.0	16.0	16.0
no	42	84.0	84.0	100.0
Total	50	100.0	100.0	

Table below shows the amount of money which is spent by a household on fruits and vegetables. 76% of respondents spent below Tsh 2000/= which reveals that just a very small piece of fruit is take by an individual in a household of 5 members hence it's difficult to attain the reasonable quantity (0.4 kg) recommended by World Health Organization. Very few respondents spend above Tsh. 3000/= for fruits and vegetables..

Table 1.6 : House hold expenditure on vegetables and fruits

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid below 2000/-	38	76.0	76.0	76.0
between 2000/- and 4000/-	6	12.0	12.0	88.0
between 4000/- and 6000/-	6	12.0	12.0	100.0
Total	50	100.0	100.0	

Respondents gave some recommendation on challenges facing vegetables and fruits consumption as shown in the table below. At large respondents commented on poor knowledge of nutritional importance of fruits and vegetables as the reason for less consumption and not the price because people spend more money for treatment of diseases that could be cured by fruits and vegetables intake. Other challenges were on high price, poor quality and combination of challenges.

Table 1.7 : Challenges facing fruits and vegetables consumption

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid high price	8	16.0	16.0	16.0
poor knowledge of importance of fruits and vegetables	24	48.0	48.0	64.0
poor quality	2	4.0	4.0	68.0
combination	16	32.0	32.0	100.0
Total	50	100.0	100.0	

1.4.3 Findings on knowledge of vegetables and fruits nutrition importance.

In the tables below both vendors and consumers respondents had little knowledge of nutritional importance of vegetables and fruits. 88% of vendors and 72% consumers had no knowledge of nutritional facts of vegetables and fruits which means they sell what they do not consume and they consume what they don't know respectively. They had a common understanding and response in the oral discussion that they eat vegetables and fruits to increase blood and therefore if one had enough blood there is no problem without eating vegetables and fruits. For one to be able to buy vegetables and fruits it is highly associated to their knowledge of its importance and knowledge of the correct quantity that should be taken by an individual. People would easily buy the so called expensive vegetables and fruits if they know what it worth for their health. It is still cheap to buy vegetables and fruits than to buy one Kg of meat or fish.

Table 1. 8: Knowledge of vegetable and fruit nutritional importance (vendors)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	6	12.0	12.0	12.0
	No	44	88.0	88.0	100.0
	Total	50	100.0	100.0	

**Table 1. 9: Knowledge of Vegetables and Fruits Nutritional Importance
(Consumers)**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	14	28.0	28.0	28.0
no	36	72.0	72.0	100.0
Total	50	100.0	100.0	

The situation is also associated to education levels of respondents as shown in the table below. 44% of consumers were primary level of education. Due to low education level most of them have low paying jobs or small business that they live on a constrained budget. However, their poverty forces them to eat vegetables where they cannot afford the price for meat and fish; in this case they consider V&F as food for poor people not because of their nutrition quality. A correlation could be done to verify if 18% of consumers who have knowledge of V&F are the same group of 32% in tertiary education to draw a conclusion that education level has positive implication on V&F consumption.

Table 1.10: Education of a Respondent (Consumers)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid primary	22	44.0	44.0	44.0
secondary	12	24.0	24.0	68.0
tertiary	16	32.0	32.0	100.0
Total	50	100.0	100.0	

1.4.4 Findings on need for establishment of the project to enforce vegetables and fruits consumption to increase sales

Findings in the table below show that vendors lack business skills and marketing skills which can enable them to promote their business. They have no marketing techniques to attract consumers. Only 8% of vendors have got business skills attained from entrepreneurship short courses. A big group of 92% respondents had not got any training on business neither marketing skills. They lack different mechanisms under which the VF business operates i.e. entrepreneurial skills which could help them to do their business profitable. Such skills are like marketing strategies and linkage, quality control, business group operation and promotion of their products.

The study revealed that 100% of consumers of vegetable and fruits from Chamazi market are individuals rather than hotels and restaurants. This situation opens doors for vendors to expand their markets by supplying vegetables and fruits to hotels, restaurants and schools. These are places where there are many people hence they consume large quantity of vegetables and fruits. In this regard sales would increase much as Chamazi VF vendors will win many institutions as well as individuals..

Table 1. 11 : Knowledge of Business and Marketing Skills

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	4	8.0	8.0	8.0
No	46	92.0	92.0	100.0
Total	50	100.0	100.0	

The study reveals that there is a need to sensitize people on nutritional importance of vegetables and fruits as 92% of respondents in the table below agreed on need for nutrition education. Only 8% responded that no need to have nutrition education sessions. This result justifies the need for the project that can enforce V&F consumption to increase sales for vendors in Chamazi market.

Table 1.12 : Customers need for Nutrition Education

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	46	92.0	92.0	92.0
No	4	8.0	8.0	100.0
Total	50	100.0	100.0	

All respondents agreed that nutrition education will have impact on their business since people will be aware of the quantity of vegetables and fruits to be taken by an individual every day, in addition they will be aware of nutrients found in different varieties of vegetables, fruits and health benefits and diseases associated to low intake of vegetables and fruits. Having attained knowledge people will increase their intake of fruits and vegetables while vendors increase sales. Nutrition education will help vendors to build confidence and competence in explaining to customers so as to upscale knowledge to other communities.

Respondents also agreed to participate in consumption campaigns and sensitization of project activities of Mshikamano Women Group. Consumers as well had shown interest

to participate in the consumption campaigns to learn about nutritional facts of Vegetables and Fruits as well as the right amount of VF required for an individual per day so as to improve their eating habit for their health improvement

Respondents had recommendations regarding vegetables and fruits sales increase as shown in below table. 44% percent recommended on importance of nutritional education to increase sales, 12% recommended on access to loan in order to increase capital 24% recommended on combination of factors to increase sales, 8% recommended on having enough market space while the rest recommended on improving transportation and preservative facilities (cold rooms).

Generally all recommendations have significance with regard to increasing vegetables and fruits sales e.g. cold rooms are very important since vegetables and fruits are easily perishable, they add value by preserving goods from perishing and allow V& F maintain its freshness.

Table 1.13 : Recommendations to Improve Sales

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Nutritional Education of vegetable and fruits	22	44.0	44.0	44.0
	Loan to increase capital	6	12.0	12.0	56.0
	Big market space to accommodate all vendors	4	8.0	8.0	64.0
	Organized and reliable transportation	2	4.0	4.0	68.0
	Preservative facilities (cold room or freezers)	2	4.0	4.0	72.0
	Combination of the above	12	24.0	24.0	96.0
		2	4.0	4.0	100.0
	Total	50	100.0	100.0	

1.5 Community Needs Prioritization / levelling of need

The community had several options that they proposed through focus group discussion that can possibly help to increase their sales volume. Conducting consumption campaigns and supplying to hotels, restaurants and schools had a leading votes in the peer way ranking. The prioritization results paved a way to the researcher to draw conclusion that, conducting consumption campaigns and marketing the products to hotels, restaurants and schools can have positive impact in achieving project objectives. However, this goes in line with improving the quality of their products, market space cleanliness, preservative facilities, transport facility and other items which had been proposed by the community as shown in the table below.

Table 1.14 : Prioritization of Needs

	Capital	Nutrition Education	Transport	Preservative facilities	Quality control	Consumption campaign	Big market space	SCORE	RANKING
Capital		Nutrition Education	Transport	Capital	Consumption campaign	Consumption campaign	Big market space	2	5
Nutrition Education	Nutrition Education		Nutrition Education	Nutrition Education	Nutrition Education	Nutrition Education	Nutrition Education	7	1
Transport	Capital	Nutrition Education		Transport	Consumption campaign	Transport	Big market space	3	4
Preservative facilities	Nutrition Education	Nutrition Education	Transport		Preservative facilities	Consumption campaign	Big market space	2	5
Quality control	Nutrition Education	Preservative facilities	Quality control	Nutrition Education		Quality control	Nutrition Education	3	4
Consumption campaign	Consumption campaign	Nutrition Education	Consumption campaign	Consumption campaign	Consumption campaign		Consumption campaign	6	2
Big market space	Consumption campaign	Big market space	Big market space	Nutrition Education	Consumption campaign	Big market space		4	3

1.6 Conclusion

The Participatory Needs Assessment in chapter one has achieved its role of involving the community to identify their own problems, causes of the problem and the community has been able to propose the possible interventions to curb their business challenges by means of existing opportunities through community Needs Assessment. The findings have been useful in enabling the community to identify top ranking mechanisms that can sustainably increase their sales i.e. conducting consumption campaigns and providing education on nutritional importance of vegetables and fruits which will go hand in hand with supplying quality products to hotels, restaurants and schools especially boarding schools and individuals.

However, the Community Needs Assessment conducted in Chamazi Market revealed that most of Chamazi residents are semi-literate, poor and difficult to adapt to changing world. The study revealed that no prior nutritional education has been conducted neither by the LGA nor community health officers to change the mind sets of residents to improve community health. The community of both consumers and vendors of Vegetable and Fruits in this study agreed that the project will contribute to improvement of socio-economic status the target community and Chamazi residents as a whole. The project is also supported by other stakeholders such as Equality for Growth (EFG), community Development staff from the Local Government Authority (LGA), Nutrition officers from the Ministry of Agriculture Food security and Cooperatives (MAFC) and health officers from Chamazi Health Centre.

CHAPTER TWO

2.0 PROBLEM IDENTIFICATION

2.1 Background of Research Problem

The Participatory Needs Assessment exercise has helped the researcher in identifying problems affecting vegetables and fruits vendors in Chamazi Magengeni market by means of involving the community of vendors in determining major needs and problems in their business and plans the ways to solve them. The study revealed that income poverty is still huge among vegetable and fruit vendors in Chamazi perhaps throughout the country due to **low sales** they make. The average income generated by vegetables and fruits vendors per day is between Tsh.5000/= to 10,000/=. This amount is relatively very low given the cost of living. Consequently health problems due to low consumption of vegetables and fruits among people have increased. Fruits and vegetables are important components of a healthy diet. Reduced fruit and vegetable consumption is linked to poor health and increased risk of non-communicable diseases (NCDs). An estimated 6.7 million deaths worldwide were attributed to inadequate fruit and vegetable consumption in 2010. (WHO Technical staff, 2014).

There has been little attention given to educate people on nutrition more specifically health benefits of vegetables and fruits and nutritional content of a variety of vegetables. Only those who can access internet and have interest to speculate nutritional matters can read and understand the facts, importance, quality and quantity of vegetables and fruits required to human. If you go to the community health offices you would not find relevant books where people can get knowledge of nutrition. Doctors are guiding

patients to consume more vegetable when they are found with low blood counts whereby many people know that vegetables are for increasing blood consequently one could eat vegetables with the sake to increase blood and once they have enough blood there is no need for vegetables and fruits either they consume very little. Hence nutrition education and consumption campaigns are inevitable, the more the consumption the more the sales.

Fruit and vegetable consumption varies considerably among and within countries, in large part reflecting the prevailing economic, cultural and agricultural environments, but consumption in many parts of the world remains low. Low intake of fruits and vegetables is frequently observed with low socioeconomic status and is often due to the high cost of fruits and vegetables relative to other foods and/or limited access as well as wide availability of unhealthy options, such as energy-dense foods. Additional determinants of fruit and vegetable consumption among children are parental food consumption patterns and availability of fruits and vegetables at home (Elena, 2015).

Given the above technical expertise, Chamazi residents are of low social economic status that have low intake of fruits and vegetables. They always assume high cost of fruits with less consideration of nutritional importance. Here the need for supplying vegetables and fruits to big consumers arises to Chamazi vendors in order to increase their sales. The community found that despite sensitization of Chamazi residents for VF consumption they should not rely only on consumers in Chamazi but they should extend their market to supply to hotels, restaurants, schools and other places with high population so as to make good sales. This mechanism will not only increase their sales

but also expose them to other varieties of vegetables and fruits which are not found in Chamazi market because they will be demanded by hotel customers for supply.

However, there are other factors affecting more sales of vegetables and fruits such as low capitals, poor transport from the source of materials to market place, poor quality of vegetables and fruits in Chamazi market due to that VF are more perishable and not enough customers to consume fresh VF, poor facilities e.g. cold room for good preservation since the products are more perishable and the small market space which has caused other vendors to operate outside the market and make a bad competition especially in terms of price.

2.2 Problem Statement

Low vegetables and fruits consumption is a major problem resulting to low sales for vegetables and fruits vendors at Chamazi magengeni. This attributes to their low income as well as community poor health. As a result households suffer economic implication due to money spent for treatment of nutritional related diseases. Incidentally, there has been little emphasis by relevant policies on importance of vegetables and fruits on public health in Tanzania however; poor eating behaviour has also a large per cent of the fact. *WHO/ FAO (2003)*, report shows that approximately 1.7 million (2.8%) of deaths worldwide are attributable to low fruit and vegetable consumption. There is scientific evidence indicating that Tanzanians are eating far less than the desired amount of fruits and vegetables. Mean daily fruit intake is 56 g below the minimum of five servings (0.4 kg) of fruit and vegetables per day recommended by WHO (*Keller, 2012*).

Research gap: Many studies conducted in Tanzania in horticulture sub-sector have dealt with production chain of vegetables and fruits whereas consumption is an important part that determines production; the higher the consumption the higher the production the higher the sales. Low consumption has been a constraint to high production and altogether has affected vendor's income. The project intends to widen up knowledge of nutritional importance of vegetables and fruits through consumption campaigns, sensitization, marketing and sales.

2.3 Project Description

The project is about Vegetables and Fruits Consumption Campaign and Sales (**VFCS**) for sustainable economic development of vendors in Chamazi ward. The project is located at Chamazi Megengeni in Temeke District. The location is very ideal because of its accessibility along Chamazi to Mbande high way, close to Chamazi bus terminal where many people drop and take diversions. Given high population of Chamazi residents, having an improved market place is inevitable in order to attract consumers and increase sales volume.

The project is implemented by Mshikamano Women Group in collaboration with the Market leadership committee. The identification of this CBO was done after consultation and discussion with the LGA who introduced me to the Market leadership hence they paved a link to Mshikamano Women Group who are willing to run the project. The Equality for Growth (EfG) CBO being the stakeholder and founder of Mshikamano Women Group promised to support the CBO with technical skills and training to the target community.

2.3.1 Target Community

The target community is Vegetables and Fruits vendors in Chamazi magengeni, however, due to small market space some vendors have no permanent place to do their business whereby they are scattered outside the market others doing home delivery and sell at very low prices hence making a bad price competition to vendors in the market who seem to be selling at higher price than vendors outside the market.

The study shows that street vendors despite their low prices their profit is lower than those in the market and those in market have added advantage of selling more varieties than those selling in streets because they cannot move along in streets with heavy bags. Therefore the project comes at the right time to address these challenges to vendors and seek to establish new and reliable customers. From the study findings it is revealed that the project will enhance the community to increase sales of vegetable and fruits as well as community physical health. The community has high expectations on the project to improve market facilities and nutritional education to customers which together will attract customers to their business. The project will also benefit vegetable and fruit producers and food vendors since they will increase profit in their businesses. Food vendors will see the importance of cooking more vegetables for their customers and adding fruits in their menu which will add to their sales. Customers will be sensitized on the balanced diet and importance of vegetables and fruits in every meal for their health maintenance.

2.3.2. Stakeholders

The stakeholders in this project include: Mshikamano Women Group, Equality for Growth (EFG), Community Development staff from the Local Government Authority (LGA), Nutrition officers from MAFC, Health officers from Chamazi Health Centre, individuals, Hotels, Restaurants and schools as consumers of vegetables and fruits. This team will contribute in one way or another to the success of the project as analysed on table below.

Table 2.1 : Roles and Expectations of Various Stakeholders

Na.	Name of the stakeholders	Role of the stakeholders	Expectations
01.	Chamazi LGA	1.1 Provision of technical support to the CBO 1.2 Provide venue for meetings 1.2 Provision of market space	Project sustainability Income for the CBO and vegetable and fruit vendors increased. Improved community health
02.	Vegetables and Fruit vendors, Vegetables and fruits producers	2.1 Improve work environment 2.2 To ensure quality vegetables and fruits 2.3 Vegetable and fruits Consumption campaign 2.4 Having a common market and common price of VF	-Improved standard of living -Increased customers -Increased production
03.	Mshikamano Women Group	3.1 Improve work environment 3.2 Perform Vegetable and fruits Consumption campaign 3.3 Establishment of collective selling centre.	- Improved standard of living -Increased sales
04.	Equality For Growth CBO	4.1 Capacity building and training in entrepreneurial skills and financial management.	-Improved servings behaviour -Knowledge on business operations
05.	Chamazi Community.	5.1 Consumption of Vegetables and Fruits	-Improved health
06.	MAFC and CHC	Provide nutritional education of Vegetable and Fruits	Improved health

2.3.3 The Project goal

The project gears towards helping the target community i.e. vegetable and fruit vendors to increase their income through collective sales. At large the project will have impact on poverty reduction to the target community and other beneficiaries. Consumption campaigns will create awareness on nutritional importance of vegetables and fruits, knowledge of the quantity of vegetables and fruits that an individual should consume daily, which beyond doubt people are consuming less than wanted volume of vegetables and fruits hopping less importance of VF accompanied with non-constructive reasons that its food for poor people who cannot afford meet and fish. These reasons were collected from some respondents in the field. Once sensitization is achieved consumers will increase VF consumption hence reliable market of the products for sustainable income generation to vendors.

2.3.4 Project Objectives

2.3.4.1 General objective

Increase income of vegetables and fruits vendors through consumption and sales campaigns by the end of the project.

2.3.4.2 Specific objectives

- a) Sensitising vendors and consumers on nutritional importance of vegetables and fruits through distribution of 2000 brochures within six months.
- b) Training 25 vegetables and fruits vendors (Mshikamano Women Group) on marketing skill by the end of the project.

- c) Sensitising vendors and consumers on adopting the international quantity of 0.4 Kg of vegetables and fruits for individual consumption daily.
- d) Constructing 10 shelves for proper arrangement of vegetables and fruits by variety in Chamazi market by the end of the project.
- e) Introducing new varieties of vegetables and fruits in Chamazi market

2.4 Host Organization / CBO profile

Equality for Growth (EfG) is a community based organization that has consented to host the project. It was established in February 2008 as a Working Group in Tanzania. As of 6th August 2008, it was formalized as a registered company limited by guarantee and not having share capital with registration number 66935. The conceptual idea of Equality for Growth (EFG) originated from a meeting of women economic leaders held in Cape Town South Africa, during which the funding director, Ms Jane Magigita was motivated by testimonies of women in Senegal who were successfully engaged in business and inspired by SELFINA in Tanzania which was running a leasing business company supporting women to engage in business.

“In Dar es Salaam I had seen and been constantly touched by the plight of women in the informal business sector struggling to vend small merchandise on the streets for a small profit to earn a living. I had seen women moving from one area to another running away in fear from the city militias and municipal authorities who often confiscated their small merchandise and sometimes detained the women for failure to pay municipal fines [Jane Magigita]”.

The targeted beneficiaries of EFG's work are self-employed women workers, in both the formal and informal sectors. EFG's main focus is on women running micro, small and medium sized enterprises but also assists women entrepreneurs running larger enterprises, particularly in the arena of advocacy and establishing women's associations.

2.4.1 EfG Strategic Plan

Equality for Growth Strategic Plan of 2014-2018 is designed as part of hastening and systemizing processes of achieving its vision, mission and objectives. The Plan is first of its kind for EfG as it has never had one since its inception in 2008. However, this does not mean that EfG was dormant. It has successfully implemented several activities which have resulted to increased awareness of socio-economic rights amongst informal sector's actors in Tanzania, particularly the small scale market traders in Dar es Salaam. This makes EfG to be first ever Civil Society Organization (CSO) in Tanzania to address gender-based rights in market trading (business informal sector).

2.4.2 Vision

The EfG envisions vibrant and economically empowered women in the informal sector. The empowered women in the informal sector will be supported and facilitated by a business market-place that is free from gender, legal and economic barriers, where women informal traders of all levels operate freely on an equal footing with men and are free from all types of exploitation.

2.4.3 Mission of EfG CBO

Empower the informal sector in Tanzania, particularly informal sector women to increase incomes and reduce household poverty through ensuring their access to legal and human rights education, business related opportunities, active engagement in policy and practice reforms and capacity building.

2.4.4 Objectives of EfG

The objectives of EfG as stated in its Constitution are:-

- 1) To facilitate processes that ensure women and men have equal access to ownership, management and utilization of land and other productive resources for their livelihood.
- 2) To influence for socio-economic policies and practices aimed at promoting gender relations that equally benefits women and men for development of their country.
- 3) To enable women access justice through legal aid services on issues related to enforcement of contracts, land, leasing, taxation and the like.
- 4) To raise awareness to the public on women's human rights through seminars, sensitization meetings, radio and television programs and publications.
- 5) To encourage and support poor women in establishing self-help groups and to offer education on how to manage established groups or associations under the Laws of Tanzania.
- 6) To encourage poor women to engage in entrepreneurial activities and empower them through organizing various trainings of building their capacity and imparting skills in order to raise their economic capacity.

g) To research on policies and laws affecting the vulnerable groups particularly women (with the aim of using the findings as a basis for advocating for change).

Table 2.2 : EfG Organization Structure

Annual General Meeting (AGM)						Monitoring and Evaluation Specialist (M&E-S)
Board of Directors (BDs)						
Executive Director (ED)						
Finance & Administrative Manager (FAM)			Programs Manager (PRM)			
Financial officer and Accountant (FO and A/C)	H/Resource Officer (HRO)	Resource Mob. Officer	Empowerment Officer (EO)	Advocacy Officer (AO)	Research and Info. Officer (RIO)	
Auditors	Staff	Fundraising	Legal Aid Services	Networking	Researches	
Financial Reports	Volunteers	Public relations	Paralegals and legal community supporters	Meetings	Documentation	
Resources Management	Interns	Development/Social enterprise	Facilitation of informal sector groups, associations and membership	Policy/Legal Analysis	Publications	
Consultants	Staff Meetings		Trainings	Lobbying	Media	
	Support Staffs		Public awareness	Mobilization and Awareness	Monitoring	
	Staff appraisals		Business empowerment and Saving and credit groups	Advocacy campaigns	Internal Evaluation	
			Partnership with other service providers i.e reproductive health, vocational, HIV and AIDS			

Source: EfG CBO

2.4.6 The Roles of CED Student in the Project

The role of CED student is to make sure that plans and activities are implemented to meet objectives.

- a) To conduct Training of Trainers (ToT) in order to mobilize VF vendors on the project.
- b) To facilitate vegetables and fruits nutrition education in collaboration with nutrition officer to the community.
- c) To facilitate consumption campaigns and VF promotion
- d) To visit prospective customers (schools, hotels and restaurants) for marketing and sales promotion of vegetables and fruits
- e) To prepare materials used for consumption campaigns and sales promotion.
- f) Collaborate with host CBO, nutrition officer, Local Government Authority and community development officer to conduct consumption campaigns.

2.4.7 Roles of Mshikamano Women Group

- i. To do marketing for marketing and sales promotion of vegetables and fruits.
- ii. To supply vegetables and fruits to customers.
- iii. To facilitate and participate in the consumption campaigns and sales
- iv. To keep records of sales and reporting.

3.5 Roles of host CBO

The host CBO will provide technical support in the areas of economic empowerment and capacity building to the target community such as;

- i. To conduct training on marketing skills, entrepreneurship skills and financial management.
- ii. To provide material or non-material support for project implementation and sustainability.
- iii. To perform Monitoring and Evaluation of the project activities.

CHAPTER THREE

3.0 LITERATURE REVIEW

3.1 Introduction

This chapter gives a review of different authors and publishers who wrote about issues related to vegetables and fruit production, consumption and supply. The researcher cultivated good knowledge of vegetables and fruits values and possibility for business opportunity from a list of theoretical literature, empirical literature, policy reviews and research reports as shown in this chapter. The chapter is divided into four parts. In theoretical reviews, the emphasis is to analyse the theory behind vegetables and fruits industry. The empirical review has the objective of reciting work done by different researchers and detecting their similarity and relevance to the intended project of vegetables and fruits consumption campaign and sales promotion (VFCS). The chapter will also analyse policy issues and their impact to the project.

3.2 Theoretical Literature

There have been theories that Fruit and vegetable consumption varies considerably among and within countries, in large part reflecting the prevailing economic, cultural and agricultural environments, but consumption in many parts of the world remains low. Low intake of fruits and vegetables is frequently observed with low socioeconomic status and is often due to the high cost of fruits and vegetables relative to other foods and/or limited access as well as wide availability of unhealthy options, such as energy-dense foods. Other theorists suggest that education may influence nutritional knowledge about fruits and vegetables and consequently also influence their intake. Also they

indicate that family origin and socioeconomic status affect the purchasing power of food, food choice, food preparation and food availability which in turn affects consumption. Fruits and vegetables are important components of a healthy diet. Reduced fruit and vegetable consumption is linked to poor health and increased risk of non-communicable diseases (NCDs). An estimated 6.7 million deaths worldwide were attributed to inadequate fruit and vegetable consumption in 2010 (WHO, 2014)

Fruit and vegetable consumption may reduce the risk of NCDs through the increased availability of various nutrients and their ability to modulate associated risk factors, though exact mechanisms remain unclear. Elevated blood pressure and cholesterol are risk factors for coronary heart disease and stroke, and the potassium provided by fruits and vegetables has been demonstrated to lower blood pressure. Dietary fibre may also help to lower blood pressure and together with phytochemicals such as plant sterols, flavonoids and other antioxidants may be important in modulating cholesterol. (European Journal of Nutrition. 2012).

Statistics in Canada reports that in 2012 sales of fruits and vegetables by Canadian farmers reached \$1.7 billion in 2012, up 9.2% from 2011. Fruit sales increased 13.1% to \$872 million, while vegetable sales rose 5.4% to \$847 million. In 2013 report showed that fresh vegetables and fruit represent 10.4% of all food sales in Canada at major retail outlets 26 this represents a total of \$8.8 billion in food sales and is up 3% in 2013. Fresh vegetables represented 51% of the dollars spent on fresh produce. Despite the sales statistics, surveys reveal that less than half of Canadians aged 12 years and older (40.4%) consume servings of vegetables and fruit five or more times each day, down for

a second year since 2009. Men (33.5%) are less likely than women (47.2%) to consume five servings a day, 13 and when it comes to children, seven out of 10 children aged 4 to 8 years eat fewer than 5 servings each day. Common reasons for not consuming vegetables and fruit are 'it takes too much time to prepare vegetables and fruit', 'vegetables and fruit are not readily available at home/school/work', 'vegetables and fruit spoil too quickly', 'vegetables and fruit cost too much', 'it is too difficult to eat the recommended amount', and individuals 'don't like the taste of many vegetables and fruit'. Children who report a greater liking to vegetables and fruit are more likely to consume higher intake levels than children who do not like vegetables and fruit. Increasing taste preference through introducing a variety of vegetables and fruit in the home and taste testing may be effective and practical approaches to improving vegetable and fruit consumption. Price and affordability of vegetables and fruit is a growing concern as food prices rise in Canada, and around the world. Researchers forecast that in 2013 the expenditures for vegetables and fruit (fresh, preserved and prepared) will increase in the range of 1 to 3%.³⁰ The increase in reported sales of vegetables and fruit could be attributed to increased price as opposed to increased volume. Canadian Community Health Survey, 2011)

3.2.1 Status of Vegetable and Fruits Consumption in East Africa

Low fruit and vegetable intake kills hundreds of East Africans in their prime and if the trend does not change by 2030, health experts warn, people younger than 40 will go to an early grave. "Low fruit and vegetable intake are among the top 10 selected risk factors for mortality," WHO's senior expert, said recently at a workshop on the Promotion of Fruits and Vegetables for Health in Arusha. Globally, insufficient intake

of fruit and vegetables is estimated to cause around 14 per cent of gastro-intestinal cancer deaths, about 11 per cent of anaemic heart disease failures and nine per cent of deaths as a result of stroke. A recent WHO/FAO expert consultation joint report on diet, nutrition and prevention of chronic diseases, sets population nutrient goals and recommends intake of a minimum of 0.4 kg of fruits and vegetables per day for the prevention of chronic diseases such as heart diseases cancer, diabetes and obesity. The report states there is convincing evidence that adequate consumption of fruits and vegetables decreases the risk of obesity, stomach and colorectal cancer and diabetes. (WHO 2003).

Further, there is convincing evidence that fruit and vegetables lower the risk of cardiovascular diseases. WHO technical officer on surveillance and population-based prevention in the Department of Chronic Diseases and Health Promotion says fruits and vegetable consumption in the EAC stands at 38 per cent of the recommended ratio. WHO and FAO experts recommends 146 kg per capita consumption of fruits and vegetables, but Kenya, Uganda and Tanzania's consumption stand at 80 kg per capita, equivalent to 38 per cent of the recommended amount. "The East African populations are not eating nearly enough fruits and vegetables, despite the fact that they are the major producers," the WHO technical officer explained. Most people in Kenya consume 0.3kg of fruits and veggies a day per person, 0.1 kg below the recommended dietary guidelines. WHO report show that Kenya's fruits and veggies consumption stands at 115kg per capita, equivalent to nearly 79 per cent of the required ratio. Non-communicable diseases are estimated to account for 28 per cent of all deaths in Kenya. Ugandans eat nearly 0.2 kg of vegetables and fruits per day per person. The per capita

consumption for Ugandans of 65kg, accounts for around 45 per cent of the 146k recommended by WHO and FAO. As a result non-communicable diseases (NCDs) are estimated to account for 25 per cent of all deaths in Uganda. In Tanzania, the situation is worse as every Tanzanian eat 0.164kg per day or only 60kg per capita consumption (The East African, 2015).

Aljazeera (2013) reported the 46-year-old Tanzanian farmer mainly eats stiff porridge popularly known as ugali, toss in a few cooked beans, tea or instant coffee and this completes a typical meal. "This is how we are raised to eat," says the farmer. "No one really talked about fruit." "Due to traditional reasons, fruits are never considered as part of the main meal," says nutrition specialist. Mwanzo Bora is a five-year regional nutrition project led by Africare and supported by the USAID's Feed the Future Initiative. The project was launched in 2011, to addresses malnutrition. One of their strategies involves setting up Farmer Field Schools and demonstration garden plots to teach local communities about diet diversification and conduct trainings on home gardening to grow fruits and vegetables.

3.2.2 Nutrition Education in Tanzania

Nutrition education activities in Tanzania can be traced back into the early 1920s when campaigns in increased cash and food crop production included the establishment of gardens at government schools and lessons in child feeding practices for the mothers. Since then the development of nutrition education has grown over the years, but has always been treated separately in different sectors. In addition the persistence of the concept of the "four food groups" in nutrition education in some sectors (especially

Agriculture) has resulted into some inconsistencies about the messages delivered. The main target of nutrition education has been women and the assumption has been that people are uninformed about what to eat and conservative in their dietary practices. Thus, nutrition education is meant not only to change behaviour, through influencing knowledge and perceptions but as an empowering tool for sustained nutrition intervention. (Bureau of Statistics, Tanzania and Macro International Inc., (1996).

3.2.3 Problems Facing Vegetables and Fruits market in Tanzania

Information of all kinds is very important for increasing production and consumption of fruit and vegetables. The information needs are very broad including marketing information and price signals to help growers and producers decide what to market and when; and diet, nutrition and food preparation information to encourage consumers to purchase and eat fruit and vegetables. As supermarkets become more important for marketing fruit and vegetables there are concerns that small growers may be excluded. Two complementary responses would be to improve the capacity of small farmers to help them meet the quality and supply standards of supermarkets while also working to establish and strengthen other marketing opportunities, including niche markets for certain products. Small growers in some countries including Tanzania cannot market their produce due to lack of infrastructure. Transport systems and cold chains need to be developed. Adding value to a product will help farmers find a market for goods and encourage consumption. (FAO/WHO, 2004).

3.2.4 Vegetables and Fruits Consumer domains

An important issue in the design of intervention strategies is the fact that different types of consumers (i.e. socioeconomic groups) acquire and utilize fruit and vegetables in different ways, and there are different types of producers and suppliers. Fruit and vegetables are acquired in varying amounts and from various supply sources, ranging from home production, through purchase in local, rural markets to supermarkets in urban centres. Some consumers – they may be classified as auto consumers – produce their own fruit and vegetables. Those who are totally dependent on markets to procure fruit and vegetables may be termed market-dependent consumers and may be further divided into two distinct groups; those who acquire fruit and vegetables for the needs of the household, and those for whom fruits and vegetables are purchased and prepared by others, e.g. feeding programs. The latter category, loosely defined as institutional consumers, also includes consumers of school and hospital meals, military and worksite catering, hotel and restaurant catering, etc. Those consumers that both produce and purchase fruit and vegetables may be classified as mixed consumers. Similarly, different types of suppliers produce and market fruit and vegetables in different ways and through different channels. Smallholder subsistence farmers produce for themselves and possibly for a local market, while small-scale commercial producers and large commercial firms produce mainly for markets both near and far (FAO, 2015).

Institutional consumers' characteristics

- a) Schools – here the consumers are children and youth. Fruit and vegetables are acquired through school meal programmes/government provisions, private companies, brought from home or purchased at school.

- b) Worksites – here the consumers are usually healthy adults. Fruit and vegetables are usually brought from home, bought on site (at cafeteria, vending machines, pre-paid programmes), or bought outside e.g. fast foods/restaurant foods.
- c) Hospitals and care facilities, including child care and care of the elderly – here the consumers are usually persons who are unwell or at high risk e.g. orphans/elderly. Fruit and vegetables are provided as part of institutional meals.
- d) Military – here the consumers are usually healthy, young adults. Fruit and vegetables are provided as part of set meals.
- e) Prisons – here the consumers may be at risk of malnutrition. Fruit and vegetables are provided as part of institutional meals.
- f) Feeding programs – here the consumers are at risk of malnutrition. Fruit and vegetables are provided, in kind or through purchase vouchers, as part of the programme.

Buyer motivations are quite complex and vary according to gender, age, cultural, ethnic, regional etc. There are other factors which also influence buying decisions. The main objective of buying is to obtain satisfaction. For fruits and vegetables, this means being able to meet nutritional requirements as well as being able to enjoy different tastes, textures, colours and aromas. There are two key considerations. The tangible quality attributes such as uniformity, freshness, quality, colour, ripeness, packaging, etc. which affect appearance and make produce more appealing or attractive compared to similar products. Buying decisions are also influenced by some intangible quality attributes such as quality, environmentally friendly production techniques, brand reputation, image of the supplier, etc. (FAO, 2015) .

Different studies show that many consumers prefer direct contact with the producer/seller compared to an impersonal service, although the latter are in some cases more efficient. One of the main advantages of direct sales to consumers is the opportunity to reduce marketing costs and to add value to the product. In this way, the profit margin is increased. Producers need to become aware of existing marketing tools in order to maximize sales. Direct buying by restaurants, hotels, hospitals, etc. is undertaken to reduce costs and to simplify the daily supply and preparation of different dishes served. Steady all year round demand is the main advantage to the farmer or supplier. The farmer has the opportunity of adding value to the product by washing, peeling, pitting, slicing, portioning, etc. One of the main disadvantages is the difficulty of satisfying steady demand with seasonal products and prices can vary significantly. Other factors include: limited storage space in restaurants, regular delivery of small volume orders, higher telephone and transport costs and extra documentation which increase operational costs (FAO, 2015)..

3.3 Empirical Literature.

3.3.1 Vegetables and Fruits Consumption rate

Empirical studies show that frequency of vegetable consumption is high, especially among rural communities where they are included in every meal, but generally quantities are small. Therefore, vegetables do not contribute substantially to nutrient intake. Fruits are not commonly consumed, as they are not considered as important by many adults. However, Common food preparation techniques such as cooking vegetables for a long time and discarding the cooking water, removal of bran and

soaking of maize before milling, can lead to significant destruction and loss of nutrients such as heat sensitive vitamins (vitamin C and carotenes) and water soluble vitamins (especially B group vitamins). Inadequate information and knowledge of food and nutrition can contribute to a poor diet in terms of nutrient intake. Nutrition related problems among the high-income group include obesity, diabetes, and cardiovascular diseases. The diet is also changing among the middle-income group as this group also replaces traditional vegetables and plant food with highly processed imported food. (National Bureau of Statistics and ORC Macro, 2005)

3.3.2 Efforts to control Malnutrition

There have been various efforts to control malnutrition in Tanzania. Nutrition programs have been categorized into two major groups: Programs to control malnutrition in children and Programs to control micronutrient deficiencies. Iron deficiency anaemia program started in 1974. Currently it is implemented through a National Anaemia Consultative Group. Focus is on major causes of anaemia i.e. deficiencies of iron and folic acid in the diet and anaemia causing diseases (malaria and helminthes). The malaria and parasite control programs in the Ministry of Health. Iron and folic acid supplementation to pregnant women in RCHC since 1974, promotion of production and consumption of iron and vitamin rich foods, public health measures for the control of malaria and helminthes. The program to control Vitamin A deficiency Started in 1981 in drought stricken regions of the country Vitamin A supplementation to children below 5 years of age is done routinely as it is integrated in the government health delivery system and through campaigns twice a year in June and December and to lactating mothers; promotion of production and consumption of vitamin A rich foods and

improving child feeding practices in general and prevention of diseases and infections. (FAO. 2006.).

Tanzania Horticultural Association (TAHA) helps families grow and integrate a variety of fruits and vegetables into their diet. In October 2014, a family member met with an Association nutritionist, and learned nutritional benefits from consuming fruits and vegetables. She also learned how to establish a home garden. In a bid to eliminate malnutrition, hunger and poverty in Tanzania, the Association with support from USAID through the U.S. Government's global hunger and food security initiative Feed the Future has reached out to more than 1,000 families over the past five years to improve nutrition-related behaviours. These initiatives are focused on engaging more women as agents of change in communities and the entire country. Today, as a result of the Association's interventions, some families consume vegetables twice daily, where previously they consumed vegetables only once a week and their health has improved with testimonies as quoted from one of the head of the family below.

“Nurses told me that my daughter’s health condition is progressing well, she is no longer anaemic, and her body weight is now standard. I no longer buy vegetables. My home garden provides it! I know this achievement is attributed to consumption of vegetables and fruits. “I am now earning an average weekly income of \$5 (10,000 Tanzanian shillings) by selling the vegetables to her neighbours and plans to expand her home garden to further increase her income (TAHA 2014)

3.4 Policy Review

The existing policy on horticulture development is still what is contained in the agricultural policies of 1983 and 1997. In view of the importance of this sub-sector, there is need for the Ministry of Agriculture and Food Security to formulate a horticultural policy to address aspects of production, processing, marketing, and consumption. Much as the Tanzania Government does not yet have a specific policy on horticulture development, serious concern has been given to improvement of exports of non-traditional products including fresh fruits, and vegetables. Data on export volumes and earnings of the horticulture products have been scanty and hard to locate, basically due to the un-coordinated institutions responsible for export, monitoring and control. However, available data indicate slow but notable contribution of horticultural crops to the country's total crop exports, which has been increasing since early 1990s to reach 4.6% in year 2001 (MAFSC, 2015).

Changes in the nutritional and living standards of Tanzanians have increased demand for horticultural food crops. Increased food processing industries have created demand for raw materials (juices, syrups, pulps, pickles, etc.). Horticultural crops are now gaining status in the cash economy, sometimes at the expense of existing cash crops because in most cases they have higher value per unit area (tomatoes, passion fruits, avocado, mushroom, flowers, etc.). With the liberalization of trade new markets are now available outside the country where vegetables and fruits from Tanzania are steadily gaining export market. The Policy observes that the external market of fruits and vegetables present good opportunities in the neighbouring and some overseas countries such as the

Middle East and Europe. A lot of these crops are grown at homesteads for household consumption and within city gardens for sale in the local market.

Tanzania Food and Nutrition Centre (TFNC) undertakes some horticultural research on all vegetables and fruits rich in vitamin A and Ascorbic Acid to sensitize communities on the importance of these fruits and vegetables. They also train on simple drying techniques using simple solar driers and jam and fruit juices making as well as provision of recipes that preserve the nutritional qualities of vegetables (MAFSC, 2015).

3.5 Literature Review Summary

Issues of food supplements as a national program to fight malnutrition may not be the best solution since there are people who miss that opportunity to attend the clinic for some reasons. It would save the purpose if the national program could stress on educating people to change their eating behavior and education of nutrition content of every food that one takes and its importance for human health. Vegetables and fruits contribute considerably to improving the quality of diet and human nutrition and income. These crops are excellent sources of Vitamins A and C, iron, calcium, carbohydrates and proteins. Some vegetables have a higher protein content than rice and legumes when expressed in dry matter content, as such nutrient deficiencies can be corrected using selected vegetables and fruits and may also be the means of ensuring food security for households.

A nation-wide nutrition education and consumption campaign of vegetable and fruits is needed to provide awareness of the importance of fruits and vegetables. The existing

policy on horticulture development is still what is contained in the agricultural policies of 1983 and 1997. In view of the importance of this Subsector, there is need for the Ministry of Agriculture Food Security and Cooperatives to formulate a horticultural policy to address aspects of production, processing, marketing, and consumption to accomplish the value chain of the products.

Therefore this project intends to raise awareness to increased vegetables and fruits consumption among people which will complement sustainable income generation to vendors while people are becoming more healthy and productive enough to contribute to the national income. It will help to educate people on importance of taking natural foods rather than taking nutrient supplements.

CHAPTER FOUR

4.0 PROJECT IMPLEMENTATION

4.1 Introduction

This chapter explains how the project was planned, action taken at each step of project implementation. It is an important chapter since it analyses products and output from the project, activities undertaken to meet the objective, resources required, responsible personnel and time frame to accomplish the project. It also analyses tentative budget and other expenses incurred during implementation. The vegetables and fruits consumption and sales project (VFCS) had been planned to start its initial operation by August 2015 after completion of preparatory activities.

The VFCS project was officially launched at Chamazi Market on the 1st April 2015 by distributing brochures which explained nutritional importance of vegetables and fruits. As identified in the PNA findings low vegetables and fruits consumption is caused by lack of knowledge about importance of VF, the brochures carried nutritional education message for readers to be educated about qualities and quantity of vegetables and fruits to be consumed by an individual every day. Alongside with brochures banners were fixed around Chamazi Market to display different types of vegetables which are sold in Chamazi Market and other varieties which were not commonly found in Chamazi market like broccoli, beetroots and cauliflower. Nutritional qualities of different varieties of vegetables and fruits were indicated in the brochures as well as diseases associated with low consumption of vegetables and fruits. Vendors were trained so as to be competent about nutritional facts of vegetables and fruits hence to be able to explain

to customers who come to buy at the market and where they go for marketing i.e. schools, hotels and restaurants and to food vendors.

4.2 Project Outputs

The project intends to enhance economic status of low income vegetable and fruits vendors through (i) sensitizing and creating awareness to vendors and consumers on nutritional importance of fruits and vegetables (ii) training vendors on fruits and vegetables marketing skills, and door to door supply. (iii) Sensitizing the quantity of vegetables and fruits to be consumed by an individual daily (iv) construction of shelves for proper arrangement of vegetables and fruits by variety, and (v) Introducing new varieties of vegetables and fruits in Chamazi market. The project outputs are (i) number of sensitization campaigns done, (ii) outreach through number of brochures distributed to circulate nutritional education, and (iii) number of vendors trained (iv) number of training sessions conducted, (v) quantity of vegetables and fruits purchased by a household, (vi) number of shelves constructed (vii) varieties of vegetables and fruits sold by vendors, (v) Number of new varieties introduced. Outcomes expected are increased nutritional importance awareness, increased income, and increased customers. The project impact is poverty reduction among vegetables and fruits vendors in Chamazi market through selling vegetables and fruits.

The VFCS project aims at helping vendors at Chamazi to have reliable market for their vegetables and fruits. In achieving this goal vendors need to acquire skills in vegetables and fruits marketing. Both vendors and consumers must have knowledge of nutritional benefits of Vegetables and fruits and knowledge about the required amount of

vegetables and fruits to be taken by an individual per day. Implementation of VFCS project was done along with the following activities;

- i. Preparation of training manuals, brochures, banners, and other advertisements which displayed vegetables and fruits nutritional facts.
- ii. To distribute brochures to vendors and consumers
- iii. Training Mshikamano Women Group members on vegetables and fruits marketing skills.
- iv. Conducting study tour to successful vegetables and fruits consumption campaign done at TUSIIME SECONDARY SCHOOL and Farmers Market at Masaki.
- v. To do marketing and campaigning the project activities.
- vi. To conduct public consumption campaigns and sales promotions
- vii. Door to Door supply of vegetables and fruits
- viii. Monitoring and evaluation of project implementation

Achievements realized are as follows;

More than 1000 people were reached and sensitized about the project and mobilized to increase vegetables and fruit intake, vendors gained knowledge of marketing skills, consumers have increased vegetables and fruits intake, the project supply vegetables and fruits to some customers' sites, new varieties of vegetables and fruits have found market, Mshikamano Women Group participated in the study tours and learnt new business skill.

4.3 Project planning

Project planning is an important aspect of any project. It shows schedules of activities step by step based on project goals which should always be Specific, Measurable, Achievable, Realistic and Timed. The project planning involved major steps i.e. identification of project objectives, out puts and activities as planned in the table below;

Table 4.1 : Project planning

Objectives	Output	Activities
1. Sensitising vendors and consumers on nutritional importance of vegetables and fruits through distribution of 2000 brochures by the end of the project	i) Number of sensitization campaigns done	- Designing and Printing Brochures - Launching public campaigns
	ii) Number of brochures distributed to circulate nutritional education	- Distributing brochures - Introducing project activities to the public
2. Training 25 vegetables and fruits vendors (Mshikamano Women Group) on marketing skills by the end of the project	i) Number of vendors trained	- Preparation of training manuals
	ii) Number of training sessions conducted	- Conducting training sessions
3. Sensitising vendors and consumers on adopting the international quantity of 0.4 Kg of vegetables and fruits for individual consumption daily.	i) Quantity of vegetables and fruits purchased by a household	- Selling vegetables and fruits - supplying to customers sites.
	ii) Door to door vegetables and fruits supplying	
4. Constructing 10 shelves for proper arrangement of vegetables and fruits by variety in Chamazi market by the end of the project.	i) Number of shelves constructed	- Constructing Wooden and iron shelves
5. Introducing new varieties of vegetables and fruits in Chamazi market	Number of new varieties introduced	- Networking with farmers / suppliers from Lushoto. - Purchasing vegetables from whole sellers

4.3.1 Implementation plan

In order to ensure smooth implementation of the project, a work plan was prepared indicating different activities to be carried out, the required resources, time frame and person responsible for each project objective. The market leadership, Mshikamano Women Group in this case Mshikamano Women Group and the host CBO EfG leaders were fully engaged in the implementation of the project because they are key actors in the project. The implementation also involved different stakeholders who acted as consultants having advisory roles to get their views especially on several technical aspects like nutrition and health aspects. These were nutrition Officer from the Ministry of Agriculture Food security and cooperatives (MAFC), Clinical Officer from Chamazi Health Centre. The implementation follows the project implementation plan as shown in table 4.1 below.

Vegetables and fruits vendors in Chamazi market were involved and consumers became part of the project when they participated in the consumption campaign. A big support was received from Chamazi LGA who provided venue for the meetings. Activities were coordinated carefully so as to avoid duplication of activities, to maintain efficiency and to be cost effective. The CED student and CBOs leadership were monitoring the progress and challenges in the implementation process. Any reported incident would be considered and dealt with accordingly.

Table 4.2 : Project implementation plan

Objective	Output	Activities	Implementation Month							Resources Needed	Responsible person
			1	2	3	4	5	6	7		
1. Sensitising vendors and consumers on nutritional importance of vegetables and fruits through distribution of 2000 brochures by the end of the project	i) 10 sensitization campaigns done	- Designing and Printing brochures - Launching public campaigns								Stationeries, Funds Human resource	CED student, Vendors (MWG)
	ii) 2000 brochures distributed to circulate nutritional education	- Distributing brochures - Introducing project activities to the public									
2. Training 25 vegetables and fruits vendors (Mshikamano Women Group) on marketing skills by the end of the project	i) 25 vegetables and fruits vendors trained	-Preparation of training manuals								Stationeries, Funds Human resource	EFG CBO CED student
	ii) 3 training sessions conducted	- Conducting training sessions									
3. Sensitising vendors and consumers on adopting the international quantity of 0.4 Kg of vegetables and fruits for individual consumption daily.	i) Purchasing volume increased from 2 to 4 bunches.	- Selling vegetables and fruits in the market								Packaging materials Logistics	MWG CED student Chamazi Clinick Officer
	ii) door to door vegetables and fruits supplying	supplying orders by customers to their sites									
4. Constructing 10 shelves for proper arrangement of vegetables and fruits by	i) 10 Shelves constructed 5-for vegetables ,	- Constructing Wooden and iron shelves								Raw Materials, Funds	MWG Welder

variety in Chamazi market by the end of the project.	5- for fruits.									Human resource	Carpenter
5. Introducing new varieties of vegetables and fruits in Chamazi market	7 new varieties vegetables and fruits introduced	- Networking with farmers / suppliers from Lushoto.								Funds ,Human resource, Logistics	MWG CED student
		- Purchasing vegetables from whole sellers									

Project Implementation involves carrying out planned activities in a systematic manner which requires being highly coordinated, monitored and evaluated at every stage to ensure that activities are in time. Stakeholders and individuals in the community have been involved in implementing the project. Roles and responsibilities were distributed among stakeholders to ensure efficiency and costs sensitivity. Any shortcoming during implementation process was dealt with effectively to ensure that the project moves on track within the limited budget. Key actors in the implementation of the project were; CED student, Mshikamano Women Group, EfG- host CBO and other facilitators from Chamazi LGA, CHC and Nutrition officer from MAFC.

Resources for implementing the project were mobilized within the CBOs and from other organization being Premier education Centre and individuals who were interested by the project. EfG CBO greatly contributed in providing project professionals who facilitated trainings and follow ups. The CED student was responsible for facilitating trainings and advice in project management, planning, and collaboration with other stakeholders in implementation, and monitoring of planned activities.



Figure 4.1 Mshikamano Women Group joyful after a marketing training at Chamazi LGA Office

Table: 4.3 : Project Logical Framework.

Hierarchy of Objectives	Objectively Verifiable Indicators (OVIs)	Means of verification (MOV)	Assumptions
Goal: Improved living standard through increased income of vegetables and fruits vendors in Chamazi market)	Improved household asset index	Impact study / changes in household asset index	Assurance of good business environment
Objective 1: Sensitising vendors and consumers on nutritional importance of vegetables and fruits through distribution of 2000 brochures by the end of the project			
Outcome : improved knowledge of nutritional importance of Vegetables and Fruits	. 50% of vendors and consumers understand key nutritional importance of vegetables and fruits. . 50% increase in consumption volume of vegetables and fruits	Project progressive report	Vendors and consumers value and apply knowledge provided
Output: i) 10 sensitization campaigns done. ii) 2000 brochures distributed to circulate nutritional education	Vendors participated in the campaigns . 80% of consumers got nutrition education through brochures	Training reports Monitoring & Evaluation report	Vendors are willing to upscale consumption campaigns
Activities			
Brochures preparation and distribution	. 2000 brochures were prepared and distributed to vendors and consumers . One banner installed around Chamazi market	Project progressive report	Willingness of consumers to read the brochures and banner
Objective 2: Training 25 vegetables and fruits vendors (Mshikamano Women Group) on marketing skills by the end of the project			
Outcome: improved vegetable and fruits marketing skills	. 50% of vendors performed marketing	Project progress report	Willingness of vendors to do marketing
Output: vegetables and fruits vendors trained	. 50% of vendors practiced marketing in field.	Project progress report	Willingness to do field marketing and sales
Activities.			
Preparation of training manuals	30 copies of training manuals produced	Project progress report	Willingness to attend training

Objective 3: Sensitising vendors and consumers on adopting the international quantity of 0.4 Kg of vegetables and fruits for individual consumption daily.			
Outcome : Increased income of vendors	50% vegetables and fruits consumption increased	Sales report	Vegetables and fruits have become part of main menu
Output: Increased purchasing volume from 2 to 4 bunches	40% Increased income of vendors	Sales report	Vegetables and fruits have become part of main menu
Activities:			
Selling vegetables and fruits in the market and supply to customers' site	Vegetables and fruits on shelves in the market, 15 orders from customers received	Sales report	Customer satisfaction
Objective 4: Constructing 10 shelves for proper arrangement of vegetables and fruits by variety in Chamazi market by the end of the project.			
Outcome: Improved quality of vegetables and fruits	Vegetables and fruits are well arranged on the shelves	Physical visit to the market	Customer satisfaction
Output: : 10 Shelves constructed	Vegetables and fruits are well arranged on the shelves	Physical visit to the market	Quality of vegetables and fruits improved and maintained
Activities:			
Construction of the shelves	10 shelves in use	Project monitoring report	Proper utilization of limited space.
Objective 5: Introducing new varieties of vegetables and fruits in Chamazi market			
Outcome: Increased income	Increased sales	Report books and receipts	Achievement of Project goal and objectives
Output: 7 new varieties of vegetables and fruits introduced in Chamazi Market.	Broccoli, cauliflower, beetroots, pensions, zucchini, red cabbages, celery, lettuce are sold in Chamazi market	Sales report	Improved knowledge of nutritional importance of the new varieties
Activities:			
Networking with farmers / suppliers from Lushoto District.	Phone contacts of farmers and whole sellers	Report books	Constant supply of vegetables and fruits
Purchasing vegetables from whole sellers	Materials purchased from Ilala market	Sales report	Quality and fresh V& F sold

4.3.2 Inputs

The project implementation involved use of various inputs including human resources, financial resources, and materials input. Human resources who were key implementers of the project were Mshikamano Women Group, EfG CBO members, Officers from the ministry of Agriculture, Clinical officer from Chamazi Health Centre, Market leadership committee members, PEC staff and extension staff from Chamazi LGA. Project implementation depended much on financial resource input as a major component used for capacity building, purchase of project equipment and for payment of various expenses such as consultation cost, transportation, refreshments, entertainment during the consumption campaign and publicity, material preparation, vegetables and fruits for demonstration and sampling.

4.3.3 Staffing Pattern

Project coordination is done by a team of leaders committed to managing project activities. Project implementation unit (PIU) staffing is composed of chairperson, vice-chairperson, secretary and accountant. The chairperson assisted by vice-chairperson is overall in-charge responsible for supervision of day to day project operation including interpersonal roles, informational roles and decisional roles. The chair person organizes meetings, monitors project activities, and organizes trainings and consumption campaigns. Project Secretary performs office administrative roles including secretarial duties, office management, front office duties, and inventory management. Project accountant performs aspects of project involving financial management and procurement management. The accountant manages records; prepare reports and statements of financial transactions namely income and expenditures. The EfG CBO provides

technical backstopping to support group members strengthening leadership skills, management skills and financial management training through VICOBA. Currently the project has 20 members where as they are trying to influence more members to join. They conduct their meetings within the LGA building where they meet once or twice a week depending on issues to be discussed and settled. They set to have meetings on every Thursday where they assign weekly duties to members and receive performance reports of assignments provided in the previous meeting, evaluating success and failures and planning for improvement.



Figure 4.2 : Mshikamano Women Group Project Implementation Unit (PIU) in evaluation meeting.

4.3.4 Project Budget

The project budget was five million and five hundred thousand (TSh. 5,500,000/=) where Premier Education Centre contributed Tsh. 3,000,000 and Tsh. 2,500,000 was obtained from members contributions and other individual donors. This was the actual implementation budget used for project activities, however, were done under constrained finance where other activities were performed to substandard while others had to be skipped. Project implementation unit did most of work voluntarily (human resource capital) spending most of their time, energy and private money just to get activities done without pay. The budget is shown in the table below.

Table 4.3 : Vegetables and Fruits Consumption and sales Project Budget

Objective	Output	Activities	Resources needed	Quantity	Unit price	Total
1. Sensitising vendors and consumers on nutritional importance of vegetables and fruits through distribution of 2000 brochures by the end of the project	i) 10 sensitization campaigns done	-Designing and Printing brochures - Launching public campaigns	Brochures	2000	500	1,000,000
			Banners	3	100,000	300,000
			T-Shirts printing	20	10,000	200,000
	ii) 2000 brochures distributed to circulate nutritional education	- Distributing brochures - Introducing project activities to the public	Logistics	1	150,000	150,000
			Refreshment	1	100,000	100,000
2. Training 25 vegetables and fruits vendors (Mshikamano Women Group) on marketing skills by the end of the project	i) 25 vegetables and fruits vendors trained	-Preparation of training manuals	Stationeries	1	50,000	50,000
			Logistics	1	100,000	100,000
	ii) 3 training sessions conducted	- Conducting training sessions	Facilitators Allowance	3	50,000	50,000
			Refreshment	1	100,000	100,000
3. Sensitising vendors and consumers on adopting the international quantity of 0.4 Kg of vegetables and fruits for individual consumption daily.	i) Purchasing volume increased from 2 to 4 bunches.	- Selling vegetables and fruits in the market	Vegetables and fruits (goods)	1	400,000	400,000
			Packaging	1	50,000	50,000
	ii) 3 consumption campaigns	Cooking vegetable recipes and fruits for tasting	Vegetables and Fruits	3	200,000	600,000
			Juicer/ blender	1	50,000	50,000

			Electricity Bills	1	50,000	50,000
			Catering service provider.	3	150,000	450,000
	ii) door to door vegetables and fruits supplying	supplying orders by customers to their sites	Logistics	1	200,000	200,000
4. Constructing 10 shelves for proper arrangement of vegetables and fruits by variety in Chamazi market by the end of the project.	10 Shelves constructed	- Constructing Wooden and iron shelves	Materials	10	100,000	1,000,000
			Logistics	1	100,000	100,000
5. Introducing new varieties of vegetables and fruits in Chamazi market	7 new varieties vegetables and fruits introduced	- Networking with farmers / suppliers from Lushoto.	Logistics	1	200,000	200,000
		- Purchasing vegetables from whole sellers	Transport	1	350,000	350,000
Grand Total						5,500,000

4.3.5 Project Implementation Report

The project implementation was done in a participatory way involving various stakeholders. The key stakeholders in the project implementation were CED student, Mshikamano Women Group, EfG host CBO and V&F consumers in general. Each had a role to play to ensure that project activities are efficiently implemented. Schedule of activities are shown in the implementation plan sequentially that resulted into achievement of project objectives.



Figure 4.3 : A signboard at Chamazi Bus stand advertising Project activities and Group contacts

The implementation was done in phases whereby it started by creating awareness or sensitization to Vegetables and Fruits vendors regarding business opportunities that can be obtained from selling Vegetables and fruits. The CED student in collaboration with

host CBO, Nutrition Officer prepared educational materials i.e. brochures and banners which were distributed to both vendors and consumers for them to have knowledge of nutritional importance of vegetables and fruits, detailed information about how much is appropriate for an individual intake, the best way of preparation and cooking of vegetables and fruits to preserve required nutrients, various nutrients that are found in each variety of vegetables and fruits, diseases that are caused by low intake of vegetables and fruits and other health problems associated with low vegetables and fruit consumption. Nutrition specialist says;

'It is very important to wash all fruits and vegetables before cutting, slicing and eating. It is also advisable to store fruit and vegetables in the refrigerator but once cut or sliced, fruits and vegetables should be placed in a refrigerator in tightly sealed plastic bags and consumed within two to three days'



Figure 4.4 : A Catering Service Provider Preparing Vegetables Recipes for Tasting.

Capacity building was conducted to Mshikamano Women Group to enlighten them on basic marketing skill so as to be competent and confident enough to market their Vegetables and Fruits business. The training was conducted by EfG specialized staff in marketing in collaboration with CED student. Vegetables and fruits are easily perishable materials that need immediate market and need to be consumed fresh for the best results. Vendors in Chamazi market are faced with a number of challenges in vegetable and fruits business, one of the challenges is lack of storage facilities which results in having vegetable and fruits perish.

Few customers of the products cause low business transaction whereby vendors have to buy little products fearing of where to store the remaining products. If you would visit the market place you will find some vegetables and fruits which are withered and rotten on the shelves and no longer attractive to consumers. Consumers would be attracted by only fresh, colour, and well-shaped vegetables and fruits whereas vendors count loss for the vegetables which overstay and get deformed on the shelves. They either sell at very low price to consumers who do not care of the quality but quantity. Marketing skills enables vendors to cultivate reliable customers who will buy the products in its freshness at reasonable price. However they are making efforts to have a cold room or a refrigerator for best preservation of their products. Further, they make use of juicer machine to blend vegetables into new products like juice to add value to those which have lost freshness e.g. carrot juice, beetroot juice etc.

The CED student in collaboration with Mshikamano Women Group and host CBO participated fully in all arrangement of searching markets for Vegetables and fruits

where consumption campaigns and sensitization were done. Application letters were drafted and sent to schools, restaurants and hotels to request for opportunity for consumption campaigns and supplying vegetables and fruits based on their requirements. Vendors demonstrated their knowledge in marketing and managed to attract customers to whom they supply vegetables and fruits. They also have improved Chamazi market environment, cleanliness of their products and generally improving the quality of their products looking very attractive to customers on new shelves, eliminating rotten fruits and vegetables from the shelves.



Figure 4.5 : Fruits in Chamazi Market

Supplying vegetables and fruits to customers is a continuous process since the project has got established customers. Mshikamano Women Group is committed to ensure constant supply based on customer order. However there is a continuous effort in

marketing and sensitization of nutritional facts of vegetables and fruits where people slowly are changing their behaviour to increase vegetables and fruits intake resulting to increased sales. Marketing is also done through distribution of brochures and the banner that is placed along Chamazi highway to advertise the project to passers. There are new varieties of vegetables that have been introduced in Chamazi market whereby people can access them at Chamazi rather than going to supermarkets and big markets like Kariakoo where they buy at relatively higher prices compared to Chamazi price. Vendors are connected to major suppliers of the new varieties from Lushoto District to ensure constant supply to esteemed customers and availability in Chamazi Market. Such new varieties are broccoli, cauliflower, beetroots, pensions, parsley, celery, red cabbage, salad, etc. Previously there were only common vegetables and fruits namely; mchicha (amaranth) matembele (potato leaves), cassava leave (kisamvu) – seasonal, spinach, tomatoes, Chinese and, fruits are such as oranges, bananas, melons, avocados (seasonal). Fruits are considered high in price hence many people cannot afford enough quantity.



Figure 4.6 : Vegetables and Fruits Displayed for Sale during Consumption Campaign



Figure 4.7 : Study tour at Farmers Market - Masaki



Figure 4.8 : A Vendor Supplying Vegetables Door to Door.

Monitoring of day to day activities was conducted under the supervision of the Project Implementation Unit and weekly reports were shared among all members. Annual

evaluation will be done at the end of the project to see the per cent at which the project achieved its goals. The report on consumption campaign shows a tremendous success since it is revealed that many people perceived that vegetables and fruits are supplements to main menu of stiff porridge (ugali) or rice with meat or fish which are considered to be main dishes in many African countries. Food vendors changed their menu by introducing rice / ugali with vegetables; a new menu which does not include meat neither fish, whereby previously vegetables were a little addition or not at all in the main lunch or dinner. In most families vegetables and fruits would be saved in one meal mainly for lunch and that would cause them to buy only a little to serve as supplement. In another aspect the family that had to buy much vegetable was considered poor that cannot afford the price of meat and fish.

4.3.6 Project Implementation Gantt Chart

Project implementation schedules of activities are shown in the implementation Gantt chart table below. It shows a series of activities from participatory needs assessment where community needs assessment was done in the first month of the project through which findings were good basis for project design. Needs were summarized and prioritized to know the needs which are mostly to be intervened by means of available resources. The results of needs prioritization were summarized into project objectives as shown in the Gantt chart. Schedule of activities were objectively planned and implemented successfully in a logical manner. In the second month of the project the researcher took time to review different literatures in order to know what other researches have done with regard to vegetables and fruits domain. In the third month campaigns and sensitization of the project activities started by distributing brochures

with nutrition education content to vendors and consumers in Chamazi area. Preparation of training manuals were done by CED student in collaboration with EfG host CBO ready for use to train 25 vegetables and fruits vendors in Chamazi market on basic marketing skills. From the 4th month the project took off by selling in volumes, conducting consumption campaigns and supplying to customers who pressed orders for home delivery. New vegetables and fruits varieties were introduced in Chamazi market to serve customers who demanded such varieties. Since the new varieties are not produced farmers in Dar es Salaam, the researcher networked with suppliers and farmers in Lushoto District for business partnership.

Table 4.4 : Project implementation Gantt chart

Objective	Output	Activities	Implementation Month							
			1	2	3	4	5	6	7	8
Participatory Needs Assessment	C N A findings	Community Needs Assessment	■							
		Literature review and problem identification		■						
1. Sensitising vendors and consumers on nutritional importance of vegetables and fruits through distribution of 2000 brochures by the end of the project	i) 10 sensitization campaigns done	-Designing and Printing brochures		■						
		- Launching public campaigns			■					
	ii) 2000 brochures distributed to circulate nutritional education	- Distributing brochures - Introducing project activities to the public			■					
2. Training 25 vegetables and fruits vendors (Mshikamano Women Group) on marketing skills by the end of the project	i) 25 vegetables and fruits vendors trained	-Preparation of training manuals			■					
	ii) 3 training sessions conducted	- Conducting training sessions			■	■				
3. Sensitising vendors and consumers on adopting the international quantity of 0.4 Kg of vegetables and fruits	i) Purchasing volume increased from 2 to 4 bunches.	- Selling vegetables and fruits in the market			■	■	■	■	■	■

for individual consumption daily.	ii) 3 consumption campaigns	Cooking vegetable recipes and fruits for tasting							
	ii) door to door vegetables and fruits supplying	supplying orders by customers to their sites							
4. Constructing 10 shelves for proper arrangement of vegetables and fruits by variety in Chamazi market by the end of the project.	10 Shelves constructed	- Constructing Wooden and iron shelves							
5. Introducing new varieties of vegetables and fruits in Chamazi market	7 new varieties vegetables and fruits introduced	- Networking with farmers / suppliers from Lushoto.							
		- Purchasing vegetables from whole sellers							

CHAPTER FIVE

5.0 PROJECT PARTICIPATORY MONITORING, EVALUATION AND SUSTAINABILITY

5.1 Introduction

This chapter discusses project participatory monitoring, evaluation and sustainability. It is here that the project goal, objectives, outputs and outcomes are evaluated whether they can be achieved or not and resource utilization is monitored to see its effectiveness. Monitoring is the systematic and routine collection of information from a projects and project activities. Participatory monitoring and evaluation has the purposes of; learning from experiences to improve practices and activities in the future; having accountability of the resources used and the results obtained; taking informed decisions in the future of the project; empowerment of beneficiaries of implementation processes and effective allocation of resources.

Evaluation is assessing, as systematically and objectively as possible, a completed project or programme (or a phase of an on-going project or programme that has been completed). Evaluations appraise data and information that inform strategic decisions, thus improving the project or programme in the future. Evaluations should help to draw conclusions about five main aspects of the intervention; relevance, effectiveness, efficiency, impact and sustainability.

Monitoring and evaluation are linked together since monitoring sets benchmarks for evaluation. It is through this part that one can understand the health of the project

whether it will die or be sustained regardless of changes in external support (funding sources) or internal resources (change in staff).

5.2 Participatory Monitoring

Participatory monitoring is involving all stakeholders of the project from the beginning to the end of the project activities. In this approach participants become aware of ongoing activities and challenges which they are facing so as to discuss them and come up with solutions. PM allows beneficiaries to feel the sense of ownership of the project activities which in turn contribute to self-reliance hence contribute to project sustainability regardless of changes in external support (funding sources) or internal resources (change in staff). It is the process of routinely gathering information on all aspects of the project activities that involves the members of the group/community in project implementation. Participatory monitoring was intended to monitor the implementation of all activities, that include advocacy meeting to community members, preparing and distributing brochures, training to target community, conducting consumption campaigns and preparations and cooking different vegetables and fruits recipes, conducting study tour, visiting prospective customers for marketing and sensitization of project activities, door to door delivery and in monitoring and evaluating project activities. PM is sub divided into parts such as monitoring information system, participatory monitoring methods and participatory monitoring plan.

5.2.1 Monitoring Information System

It is a system designed to collect and report information on a project and project activities that enable a project manager to plan, monitor and evaluate the operations and performance of the project. The VFCS project adopted the system of having meetings every Thursday where all members meet to submit reports on activities done for a week and plan activities for the following week. Challenges were shared among members of a group and responsibilities were distributed based on one's specific areas of competence and familiarity of locations for delivery. They adopted order book, receipt book and daily record sheets where each member can record relevant information of activities that were planned in a specified period. Information required includes; **what** products are needed, **where**, by **whom**, **to whom**, **when** and **how**. This information helps the project coordinator to plan facilities and resources required for effectiveness.

The CED student together with steering committee members and representative vegetables and fruits vendors prepared a daily recording sheet that allows all members to see schedules. The daily record sheet is used by project coordinator in preparation of a weekly report to be presented in a monthly report. The project also adopted a simple accounting system where they have a counter book in which the accountant records income and expenses on daily, weekly and monthly bases.

5.2.2 Participatory Monitoring Methods

Various methods and techniques were used to involve members in the monitoring process of project activities. The methods applied were mainly Group discussions, interviews and simple surveys. These Participatory Monitoring methods involved a

number of steps in which made it simple for members to grasp the reasons and rationale of performing monitoring.

5.2.2.1 Group discussion

In group discussions, members reviewed the benefits and purpose of monitoring, so that members can decide for themselves whether monitoring will help them to understand each step of the project implementation and to know different challenges which they are likely to face in the field. Also they had a review on objectives and activities which they are targeting to allow members to set their minds on activities to be accomplished and the goals to be achieved. After objectives and activities are reviewed, they discussed the information needed to help them know if activities are going well then they had to develop monitoring questions which guide them on truck with focus on the questions "What do we want to know?" and "What do we monitor that will tell us this?". The facilitator did write (or draw), on large sheets of paper or a blackboard, monitoring questions generated around each objective and activity. There were agreement by the group on each monitoring question and tentative answers were provided. Each monitoring question, determined indicators that are described in chapter 4 and for each indicator or monitoring question, the most appropriate information gathering tool was chosen. Remember one tool can gather information that answers many monitoring questions. Some of the information gathering tools used were record books. Through discussion they agreed that vegetable suppliers should be those who have been trained and are competent and confident to market the products.

5.2.2.2 Interview and Simple Surveys

Information about customer satisfaction, opinions about the project and vegetable and fruits consumption status was gathered through key informants in the face to face interviews and structured questions.

The interviews were directed to consumers, vendors and other stakeholders for them to give their opinions about the project in order to measure to what extent the project is going to be successful in terms of income generation and nutrition improvement. Comments were collected and brought into discussion by all members.

Main issues that were raised by the customers in these interviews were about improving the quality of vegetables and fruit and price especially on the new varieties introduced in the market. Consumers consider them to be expensive regardless of their high nutritional value. Much as they would like to buy these new varieties like broccoli, zucchini, apples, grapes and others they are constrained by high prices hence they are forced to a variety which is not expensive. This became a challenge in the business and members are struggling together to see how they can overcome this challenge in collaboration with producers and whole vendors.

5.2.3 Participatory monitoring plan

The steering committee took time to prepare and plan monitoring which helped everyone to know why they are monitoring, and how it will be done. They did a meeting to plan for monitoring which include all those directly involved in the activities as well as other interested stakeholders attended, however, the concentration was on those directly involved in the business or those selected by the groups who are responsible for

marketing. Planning for monitoring used a framework much like the one used for Participatory Evaluation. The table below shows how monitoring was planned based on objectives, outputs, activities, indicators, data source, tools responsible person and time frame.

Table 5.1 : Participatory monitoring plan

Objective	Output	Activities	Indicators	Data source	Methods/Tools	Person responsible	Time frame
1. Sensitising vendors and consumers on nutritional importance of vegetables and fruits through distribution of 2000 brochures by the end of the project	i) 10 sensitization campaigns done	-Designing and Printing brochures	Vendors participated in the campaigns	Project progressive report	Public campaigns	CED student MWG-Vendors EfG CBO	March 2015 to April 2015
		- Launching public campaigns	80% of consumers got nutrition education through brochures		Horn Speakers		
	ii) 2000 brochures distributed to circulate nutritional education	- Distributing brochures - Introducing project activities to the public			Meetings Visiting		
2. Training 25 vegetables and fruits vendors (Mshikamano Women Group) on marketing skills by the end of the project	i) 25 vegetables and fruits vendors trained	-Preparation of training manuals	50% of vendors practiced marketing in field	Training report	Lecture	CED student EfG CBO	April 2015
		- Conducting training sessions			Training manuals		
3. Sensitising vendors and consumers on adopting the international quantity of 0.4 Kg of vegetables and fruits for individual consumption daily.	i) Purchasing volume increased from 2 to 4 bunches.	- Selling vegetables and fruits in the market	40% Increased income of vendors	Sales report	Public consumption campaigns	CED student MWG-Vendors EfG CBO Nutrition Officer Clinical officer.	May 2015 To date
	ii) 3 consumption campaigns	Cooking vegetable recipes and fruits for tasting		Project progressive report	Door to door sales campaign		
	ii) door to door vegetables and fruits supplying	supplying orders by customers to their sites					

4. Constructing 10 shelves for proper arrangement of vegetables and fruits by variety in Chamazi market by the end of the project.	10 Shelves constructed	- Constructing Wooden and iron shelves	Vegetables and fruits are well arranged on the shelves	Project progressive report	Wood and iron	Carpenter MWG-Vendors	June 2015
5. Introducing new varieties of vegetables and fruits in Chamazi market	7 new varieties vegetables and fruits introduced	- Networking with farmers / suppliers from Lushoto.	Broccoli, cauliflower, beetroots, pensions, zucchini, red cabbages, celery , lettuce are sold in Chamazi market	Project progressive report	Mobile communication Means of transport	CED student MWG-Vendors	June 2015 Todate
		- Purchasing vegetables from whole sellers					

5.2.4 Actual Project Monitoring Report

Table 5.2 : Actual Project Monitoring Report

Objective	Output	Activities	Indicators	Project target	Actual
1. Sensitising vendors and consumers on nutritional importance of vegetables and fruits through distribution of 2000 brochures by the end of the project	i) 10 sensitization campaigns done	-Designing and Printing brochures	Vendors participated in the campaigns	10 sensitization campaigns	10 sensitization campaigns
		- Launching public campaigns	80% of consumers got nutrition education through brochures	2000 brochures	1600 brochures distributed
	ii) 2000 brochures distributed to circulate nutritional education	- Distributing brochures - Introducing project activities to the public			
2. Training 25 vegetables and fruits vendors (Mshikamano Women Group) on marketing skills by the end of the project	i) 25 vegetables and fruits vendors trained	-Preparation of training manuals	50% of vendors practiced marketing in field	50 vendors	25 vendors involved in marketing
	ii) 3 training sessions conducted	- Conducting training sessions		5 training sessions	3 training sessions

3. Sensitising vendors and consumers on adopting the international quantity of 0.4 Kg of vegetables and fruits for individual consumption daily.	i) Purchasing volume increased from 2 to 4 bunches.	- Selling vegetables and fruits in the market	Increased income of vendors	Tsh. 100,000 average sales per day	Tsh. 120,000 sales per day
	ii) 3 Consumption campaigns	Cooking vegetable recipes and fruits for tasting		5 consumption campaigns	3 consumption campaigns
	ii) Door to door vegetables and fruits supplying	supplying orders by customers to their sites		20 established customers	5 established customers
4. Constructing 10 shelves for proper arrangement of vegetables and fruits by variety in Chamazi market by the end of the project.	10 Shelves constructed	- Constructing Wooden and iron shelves	Vegetables and fruits are well arranged on the shelves	20 shelves	10 shelves constructed
5. Introducing new varieties of vegetables and fruits in Chamazi market	7 new varieties vegetables and fruits introduced	- Networking with farmers / suppliers from Lushoto.	Broccoli, cauliflower, beetroots, pensions, zucchini, red cabbages, celery , lettuce are sold in Chamazi market	15 new varieties	7 new varieties
		- Purchasing vegetables from whole sellers			

5.3 Participatory Evaluation

Participatory Evaluation was done to make people learn more about the things that worked well, and why they worked. They also learned more about the things that didn't work well, and why they didn't. It is in this stage when people involved went through the process of examining achievement of objectives. It is more likely that corrective measures will be implemented in the future because challenges are discovered and understood by the members.

The CED student, Mshikamano Women Group and CBO were involved in participatory evaluation of VFCS project. Problems, such as lack of interest in the activities were realized in some members, other members were too busy with their private businesses hence could not attend meetings Participatory Monitoring provided more information that could help to determine why there are such problems and looked for the best solutions being to eliminate members who were not serious from the group and others who seemed not committed to activities were given a warning and encouraged to collaborate to make their business profitable. Generally the Participatory evaluation report showed that the two objectives i.e., strengthening knowledge of nutritional importance of vegetables and fruits and enhancing sales and marketing skills of vegetables and fruits had been achieved by the target community. This could be proved through increased sales, extended market and increased varieties of vegetables and fruits sold in Chamazi market.

5.3 1 Performance Indicators

Performance indicators are type of performance measurements used to evaluate the success of project activities. Performance indicators of the Vegetables and Fruits consumption and sales project fall in two categories qualitative and quantitative based on project objective and project goal. To measure the input indicator members were to examine resources that were utilized in project implementation that include how much money spent while for output indicators involves number of people trained whereas impact indicators is measured by examining actual changes in the livelihood of vegetable vendors that they are expected to have improved living standard and poverty reduction through increased income of the target community (vegetables and fruits vendors in Chamazi market) and Improved household asset index.

Project goal and project objectives performance indicators were developed as shown in Table 5.2 below. The table shows that 90% of vendors participated in the project campaigns and 80% of consumers received nutrition education in the first project objective. In the second objective the achievement indicates that 70% of vendors practiced marketing skills they received in the training. There is 40% increase in vendors' income due to increased sales. It is proved that consumption campaigns did very good sales as people were alerted by the situation hence everyone wanted to test the new recipes. Door to door supplying is another marketing technique that proved to be profitable. Project members receive orders from customers and supply accordingly. Sales have been done on cash basis.

Table 5.2 : Project Performance Indicators

Objective	Output	Activities	Performance Indicators
1. Sensitising vendors and consumers on nutritional importance of vegetables and fruits through distribution of 2000 brochures by the end of the project	i) 10 sensitization campaigns done	-Designing and Printing brochures	90% of vendors participated in the campaigns
		- Launching public campaigns	80% of consumers got nutrition education through brochures
	ii) 2000 brochures distributed to circulate nutritional education	- Distributing brochures - Introducing project activities to the public	
2. Training 25 vegetables and fruits vendors (Mshikamano Women Group) on marketing skills by the end of the project	i) 25 vegetables and fruits vendors trained	-Preparation of training manuals	70% of vendors practiced marketing in field
	ii) 3 training sessions conducted	- Conducting training sessions	
3. Sensitising vendors and consumers on adopting the international quantity of 0.4 Kg of vegetables and fruits for individual consumption daily.	i) Purchasing volume increased from 2 to 4 bunches.	- Selling vegetables and fruits in the market	40% Increased income of vendors
	ii) 3 consumption campaigns	Cooking vegetable recipes and fruits for tasting	
	ii) door to door vegetables and fruits supplying	supplying orders by customers to their sites	
4. Constructing 10 shelves for proper arrangement of vegetables and fruits by variety in Chamazi market by the end of the project.	10 Shelves constructed	- Constructing Wooden and iron shelves	Vegetables and fruits are well arranged on the shelves
5. Introducing new varieties of vegetables and fruits in Chamazi market	7 new varieties vegetables and fruits introduced	- Networking with farmers / suppliers from Lushoto. - Purchasing vegetables from whole sellers	Broccoli, cauliflower, beetroots, pensions, zucchini, red cabbages, celery, lettuce are sold in Chamazi market

5.3.2 Participatory Evaluation Methods

Just like in participatory monitoring, various methods and techniques were used to involve members in the evaluation process of project goal to see if there will be any impact in doing the business. Given that the project goal is to have improved living standard and poverty reduction through increased income of the target community (vegetables and fruits vendors in Chamazi market), indicators were observed to see if there is any hope to achieve the goal considering the assumption of assurance of good business environment as set in the logical framework. Choice of evaluation method depended on available resources, environment, and required information. They mainly used monitoring reports to evaluate general performance through general meeting that was done by the steering committee at the end of every month. They discussed indicators in each part of the logical framework and watched the expected output, expected outcome, resources allocated and actual resources utilized.

Participatory evaluation came up with several decisions and issues that required immediate solutions such as building strong reputation to Chamazi community since this business seems new to many and was not easily accepted in the community, building good relationship with the nearby restaurants, schools, potential individuals and to be ready to advocate group activities in the community where slowly people will recognize the project activities and its importance to people's livelihood in terms of nutrition improvement and economic gain. One of the measures taken to improve the situation was to print T-shirts which are worn during consumption campaigns and when they go for marketing. They also emphasized to be a strong working in collaboration and transparency in order to know the challenges, weaknesses and strengths of the group.

However, the evaluation committee noticed some weaknesses in Chamazi market leadership which could not be cooperative to advocate the vegetable and fruit business for their personal reasons. Strategies were set to ensure the situation does not affect the business now moving on.

5.3.3 Project Evaluation Summary

Generally the evaluation shows that there is a strong commitment of vegetable and fruits vendors in Chamazi market to do VF business and this is a result of sensitization done to educate people on nutrition importance of vegetables and fruits which led to increased consumption of vegetables and fruits in the community. Various stakeholders were involved in the business set up from the planning stage, implementation of activities through monitoring and evaluation. This indicates that the project came at the right time as a real need to the direct beneficiaries and community at large. Mshikamano Women Group is now popular in Chamazi for their quality vegetables and fruits and for selling highly nutritious vegetables that were previously not found in Chamazi market. The community appreciated nutrition education provided to Chamazi community with regard to vegetables and fruits consumption, nutrition issues and knowledge of diseases associated with low consumption of vegetables and fruits. Table 5.3 indicates the project evaluation summary based on the project goal, objectives, performance indicators, expected outcomes and actual outcome.

Table 5.3 : Project Evaluation Summary

Objective	Output	Activities	Performance Indicators	Expected outcome	Actual outcome
1. Sensitising vendors and consumers on nutritional importance of vegetables and fruits through distribution of 2000 brochures by the end of the project	i) 10 sensitization campaigns done	-Designing and Printing brochures - Launching public campaigns	90% of vendors participated in the campaigns	Improved knowledge of nutritional importance of Vegetables and Fruits	Vendors and consumers gained knowledge of nutritional importance of vegetables and fruits
	ii) 2000 brochures distributed to circulate nutritional education	- Distributing brochures - Introducing project activities to the public	80% of consumers got nutrition education through brochures		
2. Training 25 vegetables and fruits vendors (Mshikamano Women Group) on marketing skills by the end of the project	i) 25 vegetables and fruits vendors trained	-Preparation of training manuals	70% of vendors practiced marketing in field	Improved vegetable and fruits marketing skills	Vendors improved marketing skills
	ii) 3 training sessions conducted	- Conducting training sessions	25 vendors attended	Marketing skills gained	Marketing skills gained
3. Sensitising vendors and consumers on adopting the international quantity of 0.4 Kg of vegetables and fruits for individual consumption daily.	i) Purchasing volume increased from 2 to 4 bunches.	- Selling vegetables and fruits in the market	50% Increased vegetables and fruits sales	Increased income of vendor	Increased income of vendors
	ii) 3 consumption campaigns	Cooking vegetable recipes and fruits for tasting	Different recipes cooked	Consumers satisfaction	Consumers satisfaction
	ii) door to door vegetables and fruits supplying	supplying orders by customers to their sites	Increased established customers	Increased V&F consumption to 0.4 kg	Consumption increased from 0.1 kg to 0.2 kg

4. Constructing 10 shelves for proper arrangement of vegetables and fruits by variety in Chamazi market by the end of the project.	10 Shelves constructed	- Constructing Wooden and iron shelves	Customer satisfaction	Improved quality of vegetables and fruits	Quality of vegetables and fruits improved.
5. Introducing new varieties of vegetables and fruits in Chamazi market	7 new varieties vegetables and fruits introduced	- Networking with farmers / suppliers from Lushoto.	Broccoli, cauliflower, beetroots, pensions, zucchini, red cabbages, celery , lettuce are sold in Chamazi market	Increased income	Increased income
		- Purchasing vegetables from whole sellers			

5.4 Project Sustainability

The IFAD Strategic Framework 2007-2010 (IFAD 2007) gave the following definition of sustainability: *Ensuring that the institutions supported through projects and the benefits realized are maintained and continue after the end of the project.* IFAD identifies key elements of a sustainability strategy that should be introduced early in the project design phase such as; Political sustainability, social sustainability and ownership, institutional sustainability, economic and financial sustainability, technical sustainability, environmental sustainability– projects’ positive/negative contributions to soil and water preservation and management, resilience to external environmental shocks.

In the interests of sustainability of the Vegetable and Fruits Consumption and Sales Project (VFCS) the above elements were considered to make it sustainable as explained below.

5.4.1 Political and institutional sustainability

It is about government commitment, an enabling policy environment, stakeholder interests, strong lobby groups and political influence/pressure and institutional support and policy implementation. In the initial stage of the project the researcher consulted the LGA to help in identification of community based groups operating in the area. The LGA provided support to the researcher on the VFCS initiative and helped in identifying and introducing Mshikamano Women Group to the researcher. They also provide venue for meetings every week. Other stakeholders like WAEO, health officers and nutrition

officers commented the project positively as it works within their areas of specialization; this paves way to the project sustainability.

5.4.2 Social Sustainability and Ownership

This is about social support and acceptability, community commitment, social cohesion, sense of ownership whether or not communities, local government and households accept and own the outcomes of the project in ways that are sustainable. The VFCS project has prioritized involvement of Chamazi community and the target community to feel the sense of ownership of the project since it has mutual benefits between vendors and consumers, consumers in terms of improvement of nutrition and vendors in terms of income generation.

5.4.3 Technical, Economic and Financial Sustainability

This is about technical soundness, appropriate solutions, technical training for operations. The Equality for Growth CBO is working with Mshikamano Women Group as a founder whose main focus is on empowering women running micro, small and medium sized enterprises and addressing gender-based rights in market trading. Being the host CBO will continuously provide technical support in the areas of economic empowerment and capacity building to the target community such as;

- i. To conduct training on marketing skills, entrepreneurship skills and financial management.
- ii. To provide material or non-material support for project implementation and sustainability.
- iii. To perform Monitoring and Evaluation of the project activities.

In case of resilience to economic shocks, financial viability reduced household vulnerability and increased capacity to cope with risk/shocks, the EfG CBO has established VIKOBA to the target community to curb financial challenges. This has intrigued saving behaviour among members whereas they admit that they could not save such amount of money before. However, the initial capital of five point five million (Tsh.5, 500,000) is good enough to support the project activities whereby later the project will be self-sustained.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter gives a summary of the Vegetables and Fruits Consumption and Sales Project for sustainable economic development of vendors in Chamazi Market in Temeke District. The chapter summarizes what has been presented in the previous chapters including Community Needs Assessments, Problem identification, Literature review, Project implementation, Participatory Monitoring, Evaluation and sustainability of the project. However, the chapter will draw a conclusion from which researchers, decision makers, policy makers and other developments partners in nutrition and business sector will access necessary information about the project and a base for their suggestions and interventions for improvement. This is to say that this project has not exhaustively discussed issues related to vegetables and fruits consumption and sales.

6.2 Conclusion

In view of Tanzania nutrition Policy, vegetables and fruits project contribute considerably to improving the quality of diet for human nutrition while in view of this project vegetables and fruits vendors improve their business performance hence generate more income for their livelihood. The development of nutrition education has grown over the years, but has always been treated separately in different sectors. The main target of nutrition education has been women and the assumption has been that people are uninformed about what to eat and conservative in their dietary practices and people have assumed women as a major planner of meals at home.

Chamazi residents attempted the questionnaires supplied to them by the researcher during Community Need Assessment exercise and the results showed that many people have low intake of Vegetables and Fruits in (0.1kg per day per person while others had opinions that fruits are too expensive in the market) which affects the income of Vendors. CAN results fostered intervention in vegetables and fruits business since the researcher concluded that there is a vacuum that is to be covered in the areas of sensitization to the community about nutrition importance of vegetables and fruits and side effects to low intake of vegetables and fruits, simultaneously imparting marketing skills in vegetables and Fruits vendors to be able to see the wide range of business opportunity in selling vegetables and fruits hence sustainable income generation.

From the literature review, a recent WHO/FAO expert consultation joint report on diet, nutrition and prevention of chronic diseases, sets population nutrient goals and recommends intake of a minimum of 0.4 kg of fruits and vegetables per day for the prevention of chronic diseases such as heart diseases cancer, diabetes and obesity but the study shows that Chamazi residents like other Tanzanians consume only 0.1 kg of vegetables and fruits per day. The report states there is convincing evidence that adequate consumption of fruits and vegetables decreases the risk of obesity, stomach and colorectal cancer and diabetes. Further, there is convincing evidence that fruit and vegetables lower the risk of cardiovascular diseases. However theories show that other people say Vegetables are for those who are poor and cannot afford the price for meat and fish. Others have in their minds that vegetables and fruits are best for those who do not have enough blood and for the seek ones who will be advised by doctors to take more vegetables and fruits for treatment purposes.

The choice of the project was guided by the fact that the researcher wanted to influence the community on importance of vegetables and fruits to human nutrition since most of Chamazi residents are illiterate and low income people. The fear of the researcher was on the future worse situation due to environmental changes and technological changes where people run for processed foods and imported foods which are not natural and not healthy to human in a long or short life span. Either people cannot make a comparative advantage of vegetables and fruits to meat (especially red meat) and other processed foods like juices instead of taking a fresh fruit in which you can exploit full nutrients whereas juices are added with sugar colours and other ingredients which are not healthy.

In the project implementation the goal of the project was maintained and activities were implemented gearing to achieving expected outcomes. The project goal was; improved living standard through increased income of vegetables and fruits vendors in Chamazi market. The project had five objectives namely;

- a) Sensitising vendors and consumers on nutritional importance of vegetables and fruits through distribution of 2000 brochures within six months.
- b) Training 25 vegetables and fruits vendors (Mshikamano Women Group) on marketing skill by the end of the project.
- c) Sensitising vendors and consumers on adopting the international quantity of 0.4 Kg of vegetables and fruits for individual consumption daily.
- d) Constructing 10 shelves for proper arrangement of vegetables and fruits by variety in Chamazi market by the end of the project.
- e) Introducing new varieties of vegetables and fruits in Chamazi market

Implementation was planned in a logical framework to provide clear guidance in performing project activities. However, resources were scarce hence limiting performance to the required standards. The budget of Tsh. 5, 500,000/= was very much constrained that it hindered wide coverage during consumption campaigns and sensitization. Consumers had to be given a taste of different vegetables and fruits but only few could get it due to budget limit. 500 brochures that were distributed to educate readers on the values of vegetables and fruits were not enough since Chamazi has many residents and all of them are the target in this project as prospective consumers. (Refer to implementation Gantt chart).

Findings from the participatory monitoring and evaluation are such as weakness in the leadership and poor attendance of members during the meetings. It took time for the community to accept the project and to feel sense of ownership of the project. Some members withdrew membership while others thought that the researcher aimed at conning them with a hidden agenda. General acceptance of the community was slowly which caused a delay in project implementation schedule. Delayed and limited funds were other aspects that caused a delay of goal achievements.

Regardless of the above drawbacks the project is assessed to be sustainable due to sustainability strategies that were discussed in chapter 5.3. Other expected outcomes that would be achieved if the project was successfully completed are mainly up-scaling the project to other markets all around Temeke District and Tanzania as a whole. This can be made possible with availability of funds, commitment and willingness of the

Mshikamano Women Group ('MSHIKAMANO' in connotation 'COOPERATION') in collaboration with the host CBO.

To sum up, special attention was devoted to improved monitoring and evaluation systems that facilitate and document progress towards sustainability as effective M&E of field operations supports sustainability in multiple ways. First and foremost, it identifies strengths and weaknesses in project implementation, which makes possible needed adjustments in response to changes in the operating environment. Second, it can highlight potential linkages among individual project components that enhance the overall impact of program interventions. Finally, it can establish reliable indicators of project sustainability, which is a critical step in gauging progress towards project goals.

6.3 Recommendations

Having learned from Participatory Needs Assessment, Chamazi community is unprivileged with the majority poor and illiterate. Therefore they need to have strong Local Government Authority who can encourage people to regard education as a changing agent in people's livelihood. The Needs Assessment revealed poor knowledge of available varieties of vegetables and fruits as well as nutrients found in each variety. For others who will attempt an intervention similar to VFCS, I recommend them to stress on producers of vegetables and fruits to increase production of unfamiliar varieties so as to expose the community to these varieties which seemed to be unknown to the community given its high nutrition value.

Design and implementation of a community based project like this of vegetables and fruits consumption and sales would always be successful with involvement of the government through relevant ministries or ministry department since they are important organs who know much about the specific field under which the project falls and underlying policy. In view of the VFCS project, the Ministry of Agriculture Food security and Cooperatives, nutrition department has a great role of ensuring nutrition education is supplied to all Tanzanians and to ensure high productivity in rural home gardens, school feeding and gardens. I recommend that any local government in which the project is initiated should play in the front line to support the project since it is part of their performance report rather than staying as watchers while the project becomes a movie. Where they cannot support financially they can provide nonfinancial assistance like registration and other legal matters. For instance the VFCS project registration process is delayed by poor cooperation from the LGA.

Based on what is learned from the literature review, that there is a need for policies to promote/support fruit and vegetable consumption, there is a need to look at the total diet, and different dietary components, not just consider fruit and vegetables on their own. The amount of fruit and vegetables required by an individual per day is at least 400g; this is a minimum, not the target. It was suggested that some countries have such a low intake at present that 400g may not be an appropriate minimum target but Tanzanians may never reach this goal. However, there could be set intermediate objectives to reach the 400g goal minimum. Along with the 400g minimum goal the ideas that “variety is important” and “fresh vegetables are better” should be incorporated into promotional messages.

To make the vegetable and fruits subsector sustainable I recommend Policy and other implications related to increasing fruit and vegetable production and consumption should be considered, i.e. provision of inputs, production incentives, capacity building, marketing, exhibitions, processing, and financial services.

Nation-wide educational and promotional campaigns are needed to provide awareness of the importance of fruits and vegetables in improving the nutritional quality of food in the country. The entire national agricultural extension service staff and social welfare workers have to be mobilized to carry out this campaign task on a regular basis. Additionally, a subject on basic nutrition should be introduced in class six and seven to ensure that future Tanzanian citizens are aware of the importance of fruits and vegetables in their regular diet.

The establishment of more specific guiding principles for a national fruit and vegetable promotion program may be helpful with the following strategies.

- i. A coordinated fruit and vegetable promotion program should include initiatives which target both demand and supply-side issues and should be based on a needs assessment.
- ii. A fruit and vegetable promotion program should be coherent with, and complementary to, national policies and action plans such as food and nutrition, health, agriculture, and environmental policies, if existing.
- iii. A program should attempt to mobilize existing resources (people, information, initiatives, and policies).

- iv. A fruit and vegetable promotion program should be socially inclusive and participatory. From the beginning it should target all social classes through specific actions, and particularly the poor.
- v. Messages should be consistent across policies and programs.

Every policy or intervention should promote a healthy diet including increased fruit and vegetable intake (e.g. school meal programs or welfare food programs should promote increasing fruit and vegetable consumption as part of their provision).

Generally the research was made successful by use of mixed methods including structured questionnaires, focus group discussion and face to face interviews. I recommend these methods due to effectiveness that they have proved in providing important information to accomplish the project. To advance this project or the similar project, interventions should be evaluated and best practices should prevail. The project coordinating team should involve representatives from the following areas; agriculture/horticulture sector, nutrition sector, public health sector, education sector, financial sector, private sector in general, farmers' unions, smallholders' associations (representing, producers) consumers' associations, academic sector (especially for program design and monitoring), local community leaders and women's groups where each player has potential contribution to the project success.

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APPENDICES

Appendix 1 : Questionnaire for Vendors

QUESTIONNAIRE

FRUIT AND VEGETABLE VENDORS

Dear Sir/Madam

My name is Yalengeko Melack a student pursuing a Master's degree at the Open University of Tanzania, research field work and dissertation is part of my course for the fulfilment of the award of Masters in Community Economic Development. You are kindly requested to respond to this questionnaire to accomplishing the study topic of Vegetables and Fruits Consumption and Sales. The required information would be treated confidentially and only for academic purpose and not otherwise. I thank you in advance for your good cooperation, assistance, time and effort that you spent in the completion the questionnaire.

Personal information

1. age of a respondent _____,
2. Sex
3. Marital status: married/single/widow/separated.....
4. Education level: primary.....secondary.....tertiary/college.....
5. Occupations:
 - a. Vegetables vender
 - b. Fruits vender
 - c. Farmer of vegetables and fruits
6. Number of dependents.....

Business information

7. How long have you been in this business.....
8. Ownership:
 - a. Sole proprietor
 - b. Partnership
 - c. Other
9. Where do you get materials for your business?.....
10. How do you bring materials to your market place?.....
11. How much do you spend for transportation?.....Tsh.
12. Source of capital
 - a. Personal equity
 - b. Loan
 - c. Inheritance
13. Do you have business skills e.g. marketing, value chain, financial management?
 - a. Yes
 - b. No
14. Do you have knowledge of nutritional importance of fruits and vegetable?
 - a. Yes
 - b. No
15. What variety of fruits and vegetables do you sell?
 - a. Single variety
 - b. Assorted varieties
16. Who are your customers?

- a. Individuals/households
- b. Hotels/restaurants/food vendors
- c. Vendors

17. On average what is your gross sales per dayTSH

18. Are your sales enough?

- a. Yes
- b. No

19. Do you know how much vegetables and fruits one should consume daily?

- a. Yes
- b. No

20. Do you think customers need more education on importance of fruits and vegetables

- a. Yes
- b. No

21. Do you agree that knowledge of nutrition will increase sales volume?

- a. I agree
- b. I disagree
- c. Not sure

22. Are you ready to participate in campaigns and awareness on nutritional importance to your customers

- a. Yes
- b. No

23. What are main challenges facing your business

- a.
- b.
- c.

24. What are your comments or recommendations

- a.
- b.
- c.

Thank you for your cooperation.

Appendix 2 : Questionnaire for Consumers**QUESTIONNAIRE****FRUIT AND VEGETABLE CONSUMERS**

Dear Sir/Madam

My name is Yalengeko Melack a student pursuing a Master's degree at the Open University of Tanzania, research field work and dissertation is part of my course for the fulfilment of the award of Masters in Community Economic Development. You are kindly requested to respond to this questionnaire to accomplishing the study topic of **VEGETABLES AND FRUITS CONSUMPTION CAMPAIGN AND SALES FOR SUSTAINABLE ECONOMIC DEVELOPMENT OF VENDORS IN CHAMAZI MARKET TEMEKE DISTRICT**. The required information would be treated confidentially and only for academic purpose and not otherwise. I thank you in advance for your good cooperation, assistance, time and effort that you spent in the completion the questionnaire.

Personal information

25. Age of a respondent _____,
26. Sex
27. Marital status: married/single/widow/separated.....
28. Education level: primary.....secondary.....tertiary/college.....
29. Occupations:
- a. Employee
 - b. Business (SME)
 - c. No job
30. Number of dependents.....

Knowledge of nutritional importance of Vegetables and fruits













31. Do you have knowledge of nutritional importance of fruits and vegetable?
- a. Yes
 - b. No










- 32. Do you eat vegetables and fruits every day?
 - a. Yes
 - b. No
- 33. What variety of fruits and vegetables do you buy?
 - a. Single variety
 - b. Assorted varieties
- 34. Where do you buy vegetables and fruits for your family?
 - a. At Chamazi Magengeni
 - b. Home suppliers
 - c. Other places
- 35. Do you think you buy enough fruits and vegetables required for your households?
 - a. Yes
 - b. No
- 36. Do you know how much vegetables and fruits one should consume daily?
 - a. Yes
 - b. No
- 37. How much do you spend for vegetables and fruits daily?.....Tsh.
- 38. Are you ready to participate in campaigns and awareness on nutritional importance of vegetables and fruits?
 - a. Yes
 - b. No
- 39. What are your comments regarding vegetable and fruit consumption
 - a.
 - b.
 - c.

Thanks for your cooperation.

Appendix 4 : Aina ya Mbooga Mbalimbali na Faida zake Mwilini

AINA YA MBOGA MBALIMBALI NA FAIDA ZAKE MWILINI

MBOGA/TUNDA	FAIDA YA KULA AINA HII YA MBOGA /TUNDA
 <p>Broccoli</p>	Ina Vitamin C na Vitamin K nyingi Inapambana na sumu, Inalinda na kujenga mifupa, Msukumo was damu, Mfumo wa neva.
 <p>Pepper</p>	Ina vitamin A na Vitamin C nyingi Kupambana na maradhi ya saratani na moyo, uwezo wa macho kuona, kuongeza kinga ya mwili
 <p>Cauli flower</p>	Ina vitamin C na Vitamin B nyingi, Hupunguza Sukari katika damu Ni chanzo kizuri cha madini ya chuma, Huleta haueni ya gesi ya tumbo.
 <p>Lettuce soft</p>	Ina Vitamin C, Kalsiamu ,Chuma na nyuzinyuzi Huzuia watoto wachanga kuvimbiwa Kujenga mifupa na meno imara
 <p>Beetroot</p>	Ina Vitamin A, C, Potasiamu, Chuma, Protini , wanga na madini ya nitrate. Husaidia kupunguza shinikizo la damu Kuboresha mzunguko wa damu kwenye ubongo hasa kwa wazee Kupunguza hatari ya magonjwa ya moyo.
 <p>Celery</p>	Ina Vitamin E, B na A na Kalsiamu. Matibabu ya kuongeza damu Husaidia kuongeza hamu na myeyuko wa chakula tumboni Celery juice husaidia matibabu ya figo na Kibofu cha Mkojo Husaidia kuondoa sumu mwilini
 <p>Butternut</p>	Ina vitamin B nyingi, Huboresha mfumo wa fahamu, Ina kiwango kikubwa cha nyuzinyuzi, Hurekebisha kiwango cha sukari kwenye damu, Huboresha macho Huimarisha moyo
 <p>Spring onions</p>	Ina vitamin C, K na A, Hupunguza hatari ya magonjwa ya moyo. Inaboresha mifupa, Hupunguza kiwango cha sukari katika damu
 <p>Parsley</p>	Ina vitamin A, K, C na Madini ya chuma, Hupunguza hatari ya kupata magonjwa kama kansa, Husaidia kuondoa sumu mwilini, Husaidia myeyuko wa chakulatumboni.
 <p>Cucumber</p>	Ina Vitamini B nyingi, Husaidia wagonjwa wa Kisukari, Husaidia kupunguza uzito na mmeng'enyu uende vizuri
 <p>Carrots</p>	Ina vitamin B, C, E na A pia ina wanga na nyuzinyuzi; Ni nzuri kwa ajili ya ,macho na ngozi, Hupunguza tindikali inayodhuru tumboni na kuinga magonjwa yenye asili ya kansa, Husaidia kutunza ngozi/urembo, Hungeza maji na husaidia kuondoa sumu mwilini
 <p>Lettuce cos</p>	Ina vitamin C, K na A nyingi, Madini kama chuma, Zinc na Magnesium. Huimarisha Mifupa, Husaidia kutunza ngozi na nzuri kwa macho. Hulinda mwili kupata uvimbe na huzuia saratani Ni nzuri kwa malezi ya chembechembe za damu nyekundu

 <p>Red Cabbage</p>	<p>Ina vitamin C, A, B, E. Huzuia msongo wa mawazo na huongeza uwezo wa kutafakari, Huimarisha mifupa na Ugandaji wa damu pale unapoumia Huongeza damu mwilini, Husaidia kuondoa lehemu katika damu</p>
 <p>Tomato</p>	<p>Ina vitamin C, A, K nyingi na nyuzinyuzi, Kujenga afya ya meno, Mifupa, ngozi na nywele, Hupunguza hatari ya ugonjwa wa moyo na saratani, Hupunguza shinikizo la damu.</p>
 <p>Cabbage</p>	<p>Ina vitamin C, A, B na E. Husaidia kusafisha damu na kuondoa sumu mwilini. Huimarisha ngozi na uwezo wa kuona, Hufanya ngozi kuwa nyororo na kuonekana kijana</p>
 <p>Zucchini</p>	<p>Ina Vitamin A, C, Madini ya Chuma, Potassium, Magnesium na Calcium. Husaidia kuboresha ngozi na nywele, Huondoa sumu mwilini, Huboresha utendaji kazi wa utumbo kwa hiyo inasaidia mmeng'enywa wa chakula tumboni.</p>
 <p>peas</p>	<p>Ina vitamin A, C, chuma na fats; Ina uwezo wa kukabiliana na kuzuia kuvimba, saratani na magonjwa ya macho.</p>
 <p>Eggplant</p>	<p>Ina vitamin, B, C, nyuzinyuzi, Potassium na magnesium, Faida kubwa upatikana kwenye ganda la nje la Bilinganya.</p>
 <p>Kale/Loshuu</p>	<p>Ina vitamin A, K, C, B, Potassium, Magnesium na Chuma pia inasaidia sana kupunguza mafuta mwilini</p>
 <p>Avocado</p>	<p>Ina Vitamin A, B, C. Husaidia Kuimarisha nguvu ya mwili na ubongo, Husaidia kujenga neva na fahamu, husaidia kujenga mifupa na kuipa nguvu, Husaidia kukuza nywele.</p>
 <p>Pension</p>	<p>Ina vitamin A, C na madini ya chuma mengi; Husaidia afya ya macho, kinga ya mwili na mifupa, meno na viungo vya mwili; Husaidia kutunza ngozi, uponaji wa vidonda, Husaidia kutengeza chembe yekundu za damu.</p>
<p>Bamia</p>	<p>Kupunguza sukari mwilini, huzuia magonjwa ya figo, usagaji wa chakula kwa sababu zina fiber kwa wingi, kutunza ngozi ibaki laini na yenye afya.</p>

Appendix 5 : Aina ya Mboga Mboga, Virutubisho na Kazi zake

AINA YA MBOGA MBOGA, VIRUTUBISHO NA KAZI ZAKE

Aina ya Mboga	Prot	Fiber	Eneg	Vit A	Vit C	Vit B	Cal	Vit K	Iron	Zin	Uthibiti wa Magonjwa ya:-
Broccoli	√	√√			√	√	√		√	√	Kuimarisha kumbumbu, Msukumo wa damu
Zucchini	√	√√		√√	√√						Kuimarisha ngozi na nywele
Cabbage white		√		√√	√√	√					Sumu mwilini, Ngozi uwezo kuona
Cabbage red		√		√√	√√	√					Kinga dhidi ya saratani
Beetroot		√√		√√	√√	√	√		√√		Inaboresha msukumo wa damu
Lettuce soft				√	√		√		√		Kuimarisha mifupa, ngozi, macho
Lettuce cos				√	√		√		√		Kuimarisha mifupa, ngozi, macho
Celery				√	√√			√√	√		Kuboresha vigo
Parsley				√	√√			√√	√		Kuondoa sumu kuzuia saratani
Coriander						√	√	√	√		Kuthibiti gas, fungus bacteria
Spr. Onion					√√	√		√	√		Kuondoa sumu mwilini
Onions					√√	√		√√			Huondoa sumu mwilini
Garlic					√√						Kujenga misuli na kutia nguvu
Ginger					√√						Kuzuia mafua kikohozi
Tomatoes				√√	√√	√					Kansa yangozi, mifupa, Macho
Capsicum		√		√√	√√			√			Kuzuia saratani, moyo, kinga
Egg plant		√√			√√	√√					Kupunguza unene, ngozi, kisukari
Kale/Loshuu		√√		√√	√√		√√		√√		Kansa, sumu mwilini na macho
Butternut	√			√				√√			Mfumo wa damu, sukari
Cucumber						√√					Kuboresha ngozi, kulinda mwili
Snow peas	√√			√√	√√				√√		Kuzuia saratani magonjwa macho
Avocado	√√			√√	√√	√√					Kuboresha neva ubongo mifupa
Passion fruits	√			√√	√√			√√	√√		Macho kinga mwili viungo meno

Key: -√√ = Kwa wingi

√ = Kwa wastani

Muhimu:-

- ✓ Mboga zote hizo zinaweza kuliwa sambamba na chakula chochote/mlo wowote ule.
- ✓ Mapishi yake ni kupasha moto tu hazitakiwi zipikwe kwa muda mrefu bali ni kukaanga kwa dakika 5 hadi 10 tu
- ✓ Huliwa mbichi baada ya kuosha kwa maji safi na salama au maji moto.

Appendix 6 : Vegetables and fruits Price list

VEGETABLES AND FRUITS PRICE LIST

Vegetable variety	Price per Kilogram (Tsh.)
Carrots	3,000 /Kg
Bamia,	2,000 /pack
Bilinganya	2,000 /Pack
Nyanyachungu	2,000 Pack
Broccoli	5,000 /Kg
Cauli flower	5000 kg
Zucchini	4,000 /Kg
Tomato (nyanya)	2,000 /Kg
Cucumber(Tango)	2,000 /Kg
Spinach (Swiss chard)	2,000 /kg
Mchicha (amaranth)	500 /bunch
Potatoes (viazi)	2,000 /Kg
Coriander/ Parsley/celery/rosemary	2,000 /bunch
Fresh/French beans	4,000 /Kg
Banana (ndizi mbivu)	250 /pc
Avocado (parachichi)	1,000 /pc
Papaya	2,000 /pc
Melon (tikiti)	5,000 /pc
Pumpkin (boga)	4,000 /pc
Colored pepper	12,000 /Kg
Green pepper (hoho)	3,000 /Kg
cabbage Red(nyekundu)	3,000 /Kg
cabbage white(nyeupe)	2,000 /Kg
Beetroots	4,000 /Kg
Spring onions (vitunguu majani)	5,000 /Kg
Onion red (vitunguu maji)	2,000 /Kg
Kisamvu (kilichotwangwa)	2,500 /Pack