

**ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICES OF  
TRAINED COMMUNITY RESOURCE PERSONS. THE CASE STUDY  
OF THE MBOONI COMMUNITY BASED NUTRITION PROGRAMME: /**

By

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**A thesis submitted in partial fulfilment of the requirements for the degree of Master of Science in Applied Human Nutrition, in the Applied Nutrition Program, Department of Food Technology and Nutrition, Faculty of Agriculture, University of Nairobi.**

**August, 2002**

# DECLARATION

I, Rose K. Nyankuru, hereby adjudge that this is my original work and has not been presented for a degree in any other university to the best of my knowledge.



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Date: Aug. 9, 2002

This thesis has been submitted with our approval as university supervisors.



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# DEDICATION

To

My dear husband Mr. Charles O. Mokaya, our lovely children Lavender Kemunto, Nyankuru Momanyi little Nyareso for their love, support, guidance, patience, endurance and encouragement throughout this period.

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## **ABSTRACT**

The purpose of this study was to assess the knowledge, attitude and practices of the Community - Based Nutrition Programme's trained community resource persons (CRPs) in Mbooni and Kisau Divisions of Makueni District. The study was to assess particularly, the Community Health and Nutrition Workers' (CHNWs) current level of knowledge and also determine their attitude and practices towards health and nutrition issues. In addition, it also assessed the community's attitude towards the community health and nutrition workers and the other groups of community resource persons and their work within the community. The study was carried out in two divisions of Makueni district namely; Mbooni and Kisau which were purposively selected and a total of 72 health and nutrition workers who were trained between 1996-1999, by the Community - Based Nutrition Programme (CBNP) comprised the study population.

A questionnaire divided into four main sections namely, demographic, knowledge, attitude and practices based on the curricula used for training were administered to all the CHNWs. Six Focus Group Discussions were conducted to provide information on the attitude and practices of the community health and nutrition workers and also verify the information collected by the use of a questionnaire. The Focus Group Discussions were conducted with three groups, mothers with children under five years old, Participatory Approach to Nutrition Security (PANS) teams from both divisions, and community members who hold public responsibilities. Direct observation was done to collect information on the conditions of some of the tools used for growth monitoring, record keeping and existing records were used to check on new growth monitoring centres that have come up through the community health and nutrition workers and community' Initiative. It was also to check on whether any nutrition

education was given at the growth monitoring centres and whether those who brought the children were involved in weighing the children.

A grading system was established and from the scores, percentages were derived and a cut off point set. All those who scored half and above the expected points were classified as having adequate knowledge, while those who scored below half of the expected score had inadequate knowledge. The findings indicate that half of the interviewed community health and nutrition workers do not have adequate knowledge, while the other half had adequate knowledge. This meant that half of them have forgotten what they were taught, even though it was noted that these were people with fairly good formal education.

In attitude and practices majority of them were positive and affirmed, that the training received from the programme was adequate and had helped them in their service delivery. It was good and had helped them as individuals as well their families and community, since a majority willingly shared it. They were happy with their work and acknowledged that the community held them in high esteem. However, data implied that Kisumu division performed better with a statistically significant difference in the total practice score than Mbooni ( $p < 0.001$ ). There was also a significant difference in the total knowledge score between those who had received refresher training compared to those who had not received any other part from that given by the Community - Based Nutrition Programme. Those who had refresher training scored better than their counterparts ( $p = 0.006$ ). Also those above 35 years of age scored higher as opposed to those less or equal to 35 years ( $p = < 0.03$ ).

The findings also indicate that, the community health and nutrition workers faced some challenges especially with respect to the work being tedious, irregular growth monitoring attendance and some people not taking advice and behaving like they 'know it all'.

The study therefore, recommends that the programme should conduct regular refresher training for those already trained, train more new community health resource persons to ease the workload. Special emphasis to be put on the importance of nutrition education, active involvement of mothers and guardians in weighing the children and proper record keeping. The programme should also carry out regular supervision to motivate the community resource persons as well as giving timely feed back to reports sent to the district staff. The programme should also work more closely with the two Participatory Approach to Nutrition Security (PANS) teams who are the technical resource teams at the ground. They supervise the implementation of community activities as well being the link between the community and service providers. This will improve the health and nutrition status of the community and enhance collaboration with the relevant ministries whom these teams represent.

There is need to motivate the Community Resource Persons (CRPS) by the community and the programme. The community should be continually sensitized on the work of these people and since they appreciate the work and services offered they need to look for ways of sustaining them. The programme should incorporate exchange tours to enable them to exchange ideas and learn from the other project areas. They could be also provided with information, education and communication materials (posters, brochures, books), this will make them feel that their work is not inferior, but important to them and the community.



# TABLE OF CONTENTS

<b>DECLARATION</b> .....	<b>i</b>
<b>DEDICATION</b> .....	<b>ii</b>
<b>ACKNOWLEDGEMENTS</b> .....	<b>iii</b>
<b>TABLE OF CONTENTS</b> .....	<b>viii</b>
<b>LIST OF TABLES</b> .....	<b>xi</b>
<b>LIST OF FIGURES</b> .....	<b>xii</b>
<b>LIST OF ACRONYMS</b> .....	<b>xiii</b>
<b>CHAPTER 1</b> .....	<b>1</b>
<b>INTRODUCTION</b> .....	<b>1</b>
1.1 BACKGROUND OF COMMUNITY BASED NUTRITION PROGRAMME (CBNP) .....	1
1.2 PROBLEM STATEMENT.....	4
1.3 RATIONALE FOR THE STUDY.....	5
1.4 THE PURPOSE OF THE STUDY AND OBJECTIVES.....	6
1.4.1 STUDY PURPOSE .....	6
1.4.2 SPECIFIC OBJECTIVES .....	6
1.5 RESEARCH QUESTIONS.....	6
1.6 EXPECTED BENEFITS FROM THE STUDY.....	7
<b>CHAPTER 2</b> .....	<b>8</b>
<b>REVIEW OF LITERATURE</b> .....	<b>8</b>
2.1 GENERAL NUTRITIONAL STATUS .....	8
2.2 BACKGROUND INFORMATION ON NUTRITIONAL REHABILITATION.....	8
2.2.1 Hospital Admissions.....	9
2.2.2 Day Nutritional Rehabilitation Centres .....	10
2.2.3 Residential Rehabilitation Centres .....	10
2.4 Participatory Approach To Nutrition Security (PANS) Process .....	13
2.5 GROUPS OF COMMUNITY RESOURCE PERSONS TRAINED BY THE .....	17
COMMUNITY-BASED NUTRITION PROGRAMME AND THEIR ROLES. ....	17
2.5.1 Community Health and Nutrition Workers (CHNWs).....	17
2.5.2 Traditional Birth Attendants (TBAs) .....	19
2.5.3 Water Committee Members .....	20

2.5.4	Organic Farmers .....	21
2.6.1	Ministry of Health (MOH) .....	23
2.6.2	Ministry of Agriculture .....	23
2.7	ASSESSING NUTRITIONAL KNOWLEDGE OF COMMUNITY HEALTH AND NUTRITION WORKERS .....	24
2.8	COMMUNITY - BASED NUTRITION PROGRAMES, CASE STUDIES.....	25
2.8.1	Case 1: Child Pastorate In Brazil .....	25
2.8.2	Case 2:Community - Based Nutrition And Health Programme in Oman .....	26
2.8.3	Case 3: Tamil Nadu Integrated Project (TINP) in India .....	27
2.8.4	Case 4: Child Survival and Development Project in Iringa, Tanzania .....	28

## **CHAPTER 3 ..... 31**

### **METHODOLOGY ..... 31**

3.1	STUDY AREA .....	31
3.1.1	Topography and Climate .....	31
3.1.2	Agriculture .....	32
3.1.3	Health and Nutrition .....	33
3.2	STUDY DESIGN.....	33
3.3	SAMPLING PROCEDURE AND SAMPLE SIZE .....	34
3.3	DATA COLLECTION TOOLS.....	34
3.3.1	Semi - Structured Questionnaire .....	34
3.4.2	Focus Group Discussions (FGDs).....	35
3.4.3	Direct Observation .....	36
3.5	PRE-TESTING OF DATA COLLECTION INSTRUMENTS .....	37
3.7	THE DEFINITIVE STUDY.....	38
3.7.1	Demographic Characteristics of the CHNW .....	38
3.7.2	Assessment of the current knowledge of the CHNW.....	38
3.7.3	Assessment of CHNWs' knowledge of their functions.....	39
3.7.4	CHNWs' knowledge about the advantages of breastfeeding .....	39
3.7.5	Assessing CHNW's knowledge about control/preventive measures against disease occurrences. ....	40
3.7.6	Assessing CHNW's knowledge about the present immunisation schedule for children under five years.....	41
3.7.7	Assessing CHNW's knowledge about reasons for weighing children .....	41
3.8	DETERMINATION OF CHNWs ATTITUDE AND PRACTICES.....	42
3.7	DATA MANAGEMENT .....	43

<b>CHAPTER 4 .....</b>	<b>44</b>
<b>RESULTS .....</b>	<b>44</b>
4.1	DEMOGRAPHIC CHARACTERISTICS OF THE CHNWs..... 44
4.2	THE CHNWS KNOWLEDGE IN HEALTH AND NUTRITION ..... 47
4.2.1	Functions of the CHNWs Advantages of breastfeeding and present immunisation schedule ..... 47
4.2.2	Frequency, duration, and best age to stop breastfeeding..... 48
4.2.3	Baby's first supplementary foods, weaning age and foods recommended for sick children. ..... 49
4.2.4	Common Childhood Disease and Control/ Preventive Measures Against DiseaseOccurrences ..... 50
4.2.5	Advice given to mothers on diarrhoea management ..... 51
4.2.6	Reasons For Weighing Children Under Five Years..... 51
4.3	TOTAL KNOWLEDGE PERFORMANCE BY DIVISION..... 52
4.4	THE ATTITUDE AND PRACTICES OF THE CHNW ..... 53
4.4.1	ATTITUDE..... 53
4.4.2	CHNW's OPINION ON HOW THE COMMUNITY PERCEIVED THEIR WORK..... 54
4.5	PRACTICES ..... 55
4.5.1	Number of children weighed by CHNW's ..... 55
4.5.2	Nutritional and Health advice given to pregnant women ..... 57
4.6	COMMUNITY'S ATTITUDE AND PERCEPTION TOWARDS CHNWs' AND THEIR WORK ..... 57
4.7	Community's Attitude and Perception Towards Other Community Resource Persons .. 58
<b>CHAPTER 5 .....</b>	<b>61</b>
<b>DISCUSSION .....</b>	<b>61</b>
5.1	KNOWLEDGE AND PRACTICES ..... 61
5.2	ATTITUDE ..... 66
<b>CHAPTER 6 .....</b>	<b>68</b>
<b>CONCLUSION AND RECOMMENDATIONS .....</b>	<b>68</b>
6.1	CONCLUSION..... 68
6.2	RECOMMENDATIONS ..... 71
6.3	Final Note..... 73
<b>REFERENCES .....</b>	<b>74</b>
<b>APPENDICES .....</b>	<b>81</b>

## LIST OF TABLES

Table 3.1:	Correct responses for assessing of CHNWs' knowledge about their .....	39
Table 3.2	Correct Responses for assessing CHNWs' knowledge on advantages of breastfeeding .....	40
Table 3.3:	Correct Responses for assessing CHNW's knowledge about control/preventive measures against disease occurrences .....	40
Table 3.4:	Present Immunisation Schedule for Children under Five Years .....	41
Table 3.5:	Correct Responses for weighing children for assessing CHNW's knowledge about reasons .....	42
Table 4.2:	Distribution of CHNWs knowledge about their functions, advantages of breastfeeding and present immunisation schedule for children under five years by scores attained (N=72).....	48
Table 4.3:	CHNWs knowledge about duration, frequency and age to stop breastfeeding ...	49
Table 4.4:	Distribution of CHNW's knowledge scores about control/preventive measures against Diseases by scores attained (N=72) .....	51
Table 4.5:	Distribution of CHNW's by scores on knowledge about reasons for weighing children. ....	52
Table 4.6:	Distribution of CHNW's score by knowledge performance by division.....	52
Table 4.6:	Distribution of CHNW's by the responses they gave on challenges they faced in their work (N=72) .....	54
Table 4.7:	Distribution of the CHNWs by the number of children weighed at each GM session. ....	55
Table 4.8:	Distribution of CHNWs' by responses on care for underweight children.....	58
Table 4.9:	Distribution of CHNWs by Nutritional and Health advice given to pregnant women .....	57

## LIST OF FIGURES

Figure 1: Impact Evaluation results of 1999, compared to baseline survey of 1995 of Mbooni CBNP	
Figure 2: Supplementary feeds given as baby's first foods.....	50
Figure 3: Knowledge performance by the CHNWs.....	53
Figure 4: Location of the District .....	86
Figure 5: Location of the Study Area in Makueni District.....	87
Figure 6: Training of CHWs.....	88
Figure 7: Conceptual Framework on the Causes of Malnutrition (UNICEF 1992) .	89

## LIST OF ACRONYMS

<b>AMREF</b>	-	African Medical and Research Foundation
<b>ANP</b>	-	Applied Human Nutrition Programme
<b>CBHC</b>	-	Community Based Health Care
<b>CBNP</b>	-	Community Based Nutrition Programme
<b>CCF</b>	-	Christian Children Fund
<b>CHNWs</b>	-	Community Health and Nutrition Workers
<b>CHW</b>	-	Community Health Worker
<b>CRPs</b>	-	Community Resource Persons
<b>CTC</b>	-	Child To Child
<b>DANIDA</b>	-	Danish International Development Agency
<b>FGD</b>	-	Focus Group Discussions
<b>FLTC</b>	-	Family Life Training Centre
<b>FLTP</b>	-	Family Life Training Programme
<b>KIOF</b>	-	Kenya Institute of Organic Farming
<b>MCBNC</b>	-	Mbooni Community Based Nutrition Centre
<b>MCBNP</b>	-	Mbooni Community Based Nutrition Programme
<b>MOH</b>	-	Ministry of Health
<b>NGO</b>	-	Non-Governmental Organizations
<b>NRCs</b>	-	Nutritional Rehabilitation Centres
<b>PANS</b>	-	Participatory Approach to Nutrition Security
<b>PET</b>	-	Participatory Education Theatre
<b>PHC</b>	-	Primary Health Care
<b>TBA</b> s	-	Traditional Birth Attendants
<b>TOT</b>	-	Trainer of Trainees
<b>UNICEF</b>	-	United Nations Children's Fund
<b>WHO</b>	-	World Health Organization

# CHAPTER 1

## INTRODUCTION

### 1.1 BACKGROUND OF COMMUNITY BASED NUTRITION PROGRAMME (CBNP).

Since independence the Kenya government has been co-ordinating and implementing several nutrition intervention programmes with the view to reducing the levels of malnutrition in the country. These programmes address three major areas, namely; feeding, supplementation and education. The programmes may be either curative or preventive in approach (Oniang'o 1991). One such programme is the Community - Based Nutrition Programme (CBNP), formerly known as the Family Life Training Programme (FLTP) under the Department of Social Services in the Ministry of Home Affairs, Heritage and Sports.

The Family Life Training Programmes were started as feeding programmes initiated by the British, Swedish Red cross in 1952, and were handed over to the government in 1974. These centres, known as the Family Life Training Centres (FLTCs), were residential rehabilitation centres for severely malnourished children. At the same time, they provided nutrition education to the mothers with a view to preventing the recurrence of the situation. On average, the rehabilitation process took 21 days, however, this depended on the nutrition and health performance of the individual child. There are 14 FLTCs countrywide (Oniang'o 1991).

In the early 1990s, studies to evaluate the impact of these programmes revealed that only a small proportion of the eligible severely malnourished children were reached

by the Family Training Centres (Muita et. al; 1995; Omwega, 1994; Oniang'o, 1991). It was therefore, deemed necessary to design a nutrition intervention programme that catered for the prevention of malnutrition at the community level and incorporates home- based care of the malnourished children.

The Community-Based Nutrition (CBN) approach was to be introduced into all the existing 14 Family Life Training Centres in the country, with major emphasis being placed on the participation of communities and other stakeholders. This meant that the proportion of severely malnourished children catered for in the community increased with little emphasis on the centre-based rehabilitation. The CBN programme also seeks to initiate, the planning, implementation and monitoring of activities that promote the health and general development of children.

The CBNP has adapted the participatory approach to nutrition security (PANS) process. This is a methodology developed by the Applied Nutrition Programme (ANP) of the University of Nairobi in collaboration with the FLTP for nutrition intervention at the community level. A key element of the PANS process is the community's realisation that they need their people trained to facilitate the achievement of community action plans. Consequently, since 1996, the CBNP has trained various groups of community resource persons (CRPs) such as; community health and nutrition workers (CHNWs), traditional birth attendants (TBAs), organic farmers, and water committee members as community resource persons (CRPs). Each group of trained people leads the community in the implementation of their action plans as well as advice on the specific areas they have been trained in (see *content on various training chapter 2, 2.5*). In addition to CRPs and to help improve



its outreach activities, the programme has employed other approaches such as the Child to Child (CTC) and Participatory Education Theatre (PET). The CTC approach involves children in passing on health and nutrition messages through songs, poems and drama to the community. PET is a social mobilisation tool used to sensitise people in the project area about malnutrition through the use of drama, poems and songs, and then actively involves the community in seeking for solutions to identified problems. All this is aimed at empowering communities with knowledge and skills with which they can effectively tackle issues affecting their well being. Overall therefore, the main objective of these programme is to facilitate capacity building while giving practical experience to rural communities in various aspects of planning, monitoring and sustaining programmes for the improvement of their nutritional and health status.

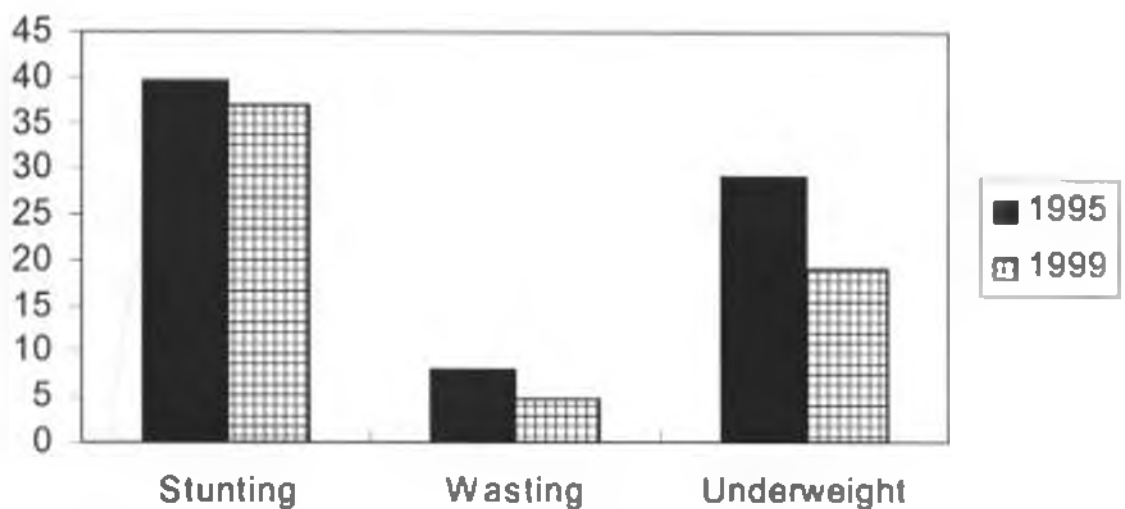
The FLTP in its life received financial and technical support initially from the British Red Cross as founders (1950s to 1974) and later from UNICEF (1974 to 1979). Since 1980, the Danish government, through DANIDA has been supporting the programme both financially and technically in collaboration with the Kenyan government.

In 1995, the Mbooni FLTC was chosen as the pilot centre for implementing the Community Based and Nutrition project. The implementing body was the Applied Nutrition Programme (ANP) of the University of Nairobi. Following the success of this pilot centre, thirteen more CBN centres have replicated the Community - Based Nutrition approach using the PANS process.

## 1.2 PROBLEM STATEMENT

The major aim of training community resource persons by the CBNP was to help in community capacity building towards the improvement of health and nutritional status of the children by working closely with the community. The community resource persons were expected to pass on the knowledge and skills acquired from the training on to the community. Although the CBNP has trained several CRPs to help in the fight against malnutrition in its project operation areas, malnutrition levels are still high even in these areas. According to the 1999-2001 Makueni District Development Plan, the prevalence of malnutrition is 50% compared to the national figure of 33%. For example, an impact evaluation carried out in 1999 (CBNP, 2000), at Mbooni CBN centre, showed only a modest improvement in the nutritional status of children in comparison with the baseline survey of 1995 as shown in *Figure 1*.

It is important to understand that in order for the programme and other stakeholders to have a clear understanding of what these trained groups know, their performance and how they relate with the community. There is need for continuous assessment to be done in order to provide concrete information which may be used in improving its training and related aspects. Therefore, this study is part of such an assessment.



**Figure 1:** Impact evaluation results of 1999 compared to baseline survey of 1995 of Mbooni CBNC

### 1.3 RATIONALE FOR THE STUDY

Community resource persons have been known to be a driving force within communities they work in, if only the enabling factors are present. Examples of this are motivation, proper supervision, transport, teaching aids like posters and other factors, only then, will they be willing to pass on and share the knowledge and skills with the rest of the community members (Lankester, et al; 1992).

It is over four years since the new CBNP approach was adopted and the CRPs trained. It is therefore, appropriate that an assessment of knowledge, attitude and practices of the CRPs is done. This will give an insight on whether the training and skills acquired in nutrition, health and other related areas were adequate, relevant and whether they are applied effectively or appropriately in the community. It will also provide a framework for improvement in order for the project to have a positive impact. As such, it is important for the programme to continue assessing the performances of CRPS to continuously give them the needed support that will enable them improve in service delivery.

## **1.4 THE PURPOSE OF THE STUDY AND OBJECTIVES**

### **1.4.1 STUDY PURPOSE**

The purpose of the study was to assess the knowledge, attitude and practices of the community based nutrition programme's trained community resource persons.

### **1.4.2 SPECIFIC OBJECTIVES**

- 1). To determine the current level of knowledge and skills of the trained community health and nutrition workers.
- 2). To determine the practices and attitude of the trained CHNWs in the community towards nutrition and health issues.
- 3). To determine the attitude of the community towards the community health and nutrition workers as well as other community resource persons.

## **1.5 RESEARCH QUESTIONS**

- 1). What are the practices and attitude of the CRPS in delivery (dissemination) of the acquired knowledge and skills to the community?
- 2). How does the community regard the CRPs and their work within the community?
- 3). What are the constraints to information utilization by the community?

## 1.6 EXPECTED BENEFITS FROM THE STUDY

- ◆ The findings from this survey can be used in formulating training programmes that are an integral part of any long-lasting measure to improve the health and nutritional status of a community. It can also aid the programme in decision making aimed at achieving its stated training objectives.
- ◆ The research findings can also be used to make the programme more effective and efficient, by providing information on how to identify weaknesses in its training and improve on them. It will also enable the concerned Ministry to incorporate relevant recommendations in their plans and objectives.
- ◆ It is also expected to provide baseline information to other interested organisations whose balanced interest is in capacity building geared towards the improvement of the nutritional and health status of the population as well as monitoring and evaluation of community programmes.

## **CHAPTER 2**

### **REVIEW OF LITERATURE**

#### **2.1 GENERAL NUTRITIONAL STATUS**

Malnutrition has been known to be a silent killer. One in every five children in the Developing World is chronically undernourished; 192 million suffer from protein energy malnutrition (PEM) and over 200 million experience micronutrient deficiencies (Latham, et. al; 1997). While these numbers are alarming, progress has been made in reducing the prevalence of nutritional problems and many countries have made remarkable success in addressing malnutrition and related issues. FAO data indicates improvement of nutritional situation in Asia and Latin America from 1980 to 1990, but a significant deterioration in Sub-Saharan Africa has occurred during the 1990s (Latham, et. al; 1997).

In Kenya, the nutritional status of children aged under five years is on the decline after an improvement in the 1970s and 1980s (FNPU, 1994). The current figures of malnutrition or stunting is 33%. These estimates of stunting closely parallel those from the 1993 KDHS data, suggesting no improvement in the nutritional status of young children over the last five years. However, since 1974, the Kenya Government has developed programmes and established institutions to address malnutrition. These nutrition intervention programmes fall into three categories: feeding, education and supplementation. They may be curative or preventive in approach, but the practice has been for a programme to combine at least two of the identified aspects of intervention approaches. The overall objective of these nutrition intervention

programmes is improving nutritional status of the vulnerable groups in society and to ensure that incidents of malnutrition are reduced (Oniang'o, 1991).

## **2.2 BACKGROUND INFORMATION ON NUTRITIONAL REHABILITATION CENTRES (NRCS).**

The NRCS were centres established with accommodation facilities that catered for the severely malnourished children from nearby communities who were either referred by the community health workers or hospital staff. While at the centre the children were provided with high protein - calorie diet and nutrition education provided to their mothers, who accompanied them to the centres in order to prevent recurrence of the same.

Bengoa originally developed the NRCs in 1955 and he defined nutritional rehabilitation centres as " a centre organised either with sleeping accommodation for children or similar to day nurseries, where malnourished children either spend six to eight hours daily or stay overnight". The purpose of NRCs was to treat malnourished children by supplying needed food and to empower the mothers with nutrition education (Bengoa, 1955). The main types of nutritional rehabilitation centres are:

### **2.2.1 Hospital Admissions**

Hospitals are the first places where children are assessed before being sent to any rehabilitation centre. At the hospital, infections are first treated and mineral imbalance corrected before recommending an appropriate diet (FAO, 1983). However, hospitals have been criticised in that, they do not offer a home environment nor use locally available foods nor involve mothers in the preparation of the foods given to the children (Koppert .J. 1977).

### **2.2.2 Day Nutritional Rehabilitation Centres**

These are the basic form of NRCs offering protection to children suffering from severe to moderate forms of malnutrition. The children are diagnosed at health centres or dispensaries as in need of dietary rather than medical therapy (Bengoa, 1967). At the centre, preference is given to foodstuffs that are locally available and sold at reasonable prices. The cooking utensils used are those that are familiar to the mothers who also help with preparation of the centre meals as part of nutrition education (Bengoa, 1967; Koppert, J, 1977).

### **2.2.3 Residential Rehabilitation Centres**

These are centres with fairly, large resources regarding staff and equipment, though on a smaller scale than hospitals (Bengoa, 1967). Children accompanied by their mothers live as in-patients in the rehabilitation institution. The mothers help with preparation of the meals and receive suitable instructions on child feeding (Bengoa, 1967; Jansen et .al; 1986; Bredow and Jackson, 1994). The centres operate in close association with nearby hospitals and the staff responsible for partial recovery of the child (Bengoa, 1967).

All these forms of nutritional rehabilitation are aimed at improving the nutritional status of the children and empowering mothers with nutrition education to influence nutritional behaviour and practices. Advocates of nutritional rehabilitation centres argue that death is prevented during the first few days after admission to the rehabilitation centres (Ibekwe Va and Asworth, 1994). Nutrition education is given to the mothers or caregivers, there is good weight gain by the child and there is a home based follow-up system from the centre (Eisler et. al; 1969; Lukmanji et .al; 1981). However, there are reasons given by sceptics who argue that, rehabilitation centres



are resource intensive coverage is insufficient to guarantee any positive impact in the community. However, the underlying causes of malnutrition are not tackled, mothers' negative attitude towards rehabilitation follow-up as a waste of time because children have improved (Hooweg and Niemejer, 1989; Oniang'o, 1991; Omwega, 1994).

### **2.3 HISTORY OF COMMUNITY - BASED NUTRITION PROGRAMME (CBNP) IN KENYA.**

This is one of the oldest centre- based forms of nutrition rehabilitation programmes in Kenya. Some of the centres started back in 1950 during the "state of emergency " and at independence in 1963 (Kirathimo in Kiambu, Kigumo in Maragua and Kanduyi in Bungoma District). The CBNP inherited 14 rehabilitation centres countrywide from now the defunct FLTP. The programme uses a multidisciplinary approach to solving problems of malnutrition within its centre operation areas.

The centres were started as feeding programs initiated by the British, Swedish Red Cross. After 1963, the centres were taken over by Kenya Red Cross who ran them for 10 years. In 1974, they were handed over to the Kenya government. As malnutrition was regarded as a social problem, they were placed under the Department of Social Services. The main objectives of the family life-training programme were:

- 1). To treat malnourished children by providing high protein - calorie diet from locally grown foods.
- 2). To prevent malnutrition by instructing mothers on health preventive measures.
- 3). To follow-up the centre's clients to their homes to monitor the situation after discharge from centre.

- 4). To provide an education programme at the community level for families that are unable to maintain a health productive life of all its members.

The centres admitted severely malnourished children for 21 days with their mothers or father, although the child's individual performance determined the duration of stay at the centre. While at the centre the children were provided with high protein - calorie diet and mothers received nutrition education to prevent recurrence of the situation (Oniang'o 1991). Although the programme had some changes since its inception, these changes were geared towards the perfection of the residential nutritional rehabilitation, especially those without medical complication. The centres were staffed with personnel who had no or little training in nutrition rehabilitation and were few (Oniang'o, 1991).

However, previous studies indicate that the programme had very little impact in terms of the reduction of malnutrition. This was mainly because the approach failed to tackle the underlying causes of malnutrition (Oniang'o et .al; 1991) and only a small percentage (50%) of the severely malnourished children in a district were reached by FLTP (Muita et. al; 1995). The knowledge impacted on the mothers while at the centre about proper health and nutrition was not shared with the rest of the community members (Omwega and Muita, 1991). The coverage during the outreach programme was insufficient for any impact to be felt (Hooweg and Niemejer, 1989; Omwega, 1994; Oniang'o, 1991). People from the centre vicinity had a negative attitude towards the centres as they associated them with the poor. They also interfered with the household chores for the woman who accompanied her child to the centre and this worsened the situation of the entire family (Oniang'o, 1991).

It was therefore necessary that a nutrition intervention approach that catered for the prevention of malnutrition at the community level be formulated. This was the basis of initiating the community based nutrition approach that was introduced in 1995 as a successful pilot project at the Mbooni community - based nutrition centre (FLTP, 1995).

In 1997, the Family Life Training Programme changed its name to CBNP after the pilot project proved successful and a gradual movement witnessed from centre rehabilitation to community based approach. The programme now emphasises community participation in initiation, planning, implementing and monitoring activities geared towards improved child health and nutrition within its project areas. The programme adapted the participatory approach to nutrition security (PANS). Thirteen more CBN centres have replicated this module.

#### **2.4 Participatory Approach To Nutrition Security (PANS) Process**

This is a process developed for nutrition intervention at the community level that utilises a combination of methodologies to achieve community participation in analysis, planning, implementing and evaluation that leads to improved nutrition status of their members (MCBNP and ANP, 1995). The PANS process has seven major stages namely:

1). *Collection of baseline information;* It is a very important stage undertaken in the community to establish the nutrition situation. Current data available is used and if not then a baseline survey is undertaken and the results used to choose a suitable

indicator relevant for use in that particular community. The baseline survey provides information such as:

- The prevalence of malnutrition in different age groups/risk groups
- The demographic information of the community
- Social - economic indicators of the community

2). *Social marketing of nutrition:* After the data collected is analysed, various community nutrition awareness workshop sessions are organised at different administration levels down to the village level. Presentation of the results is made and a phase of discussion with the community is allowed. The community thinks over what should be done to alleviate the problem. The PANS team clearly indicates that the problem is for the whole community and can only be tackled using whatever resource the community has or can stimulate from any other sources by themselves.

3). *Getting to know the village:* This stage is important for both the community and the team who get to know each other and get an idea of the boundaries of the village and existing resources. This is done through:

- Visiting the village and walking through (transecting)
- Noting the various activities carried out by members of the community
- Drafting the project map of the village

4). *Community data gathering:* This process is intended to encourage community members to think systematically about their problems and the possible solutions.

Various sources of information are used which include;

- The villagers themselves by focus group discussions and key informants interviews
- Visits through the village to map the problems and resources

5). *Problem Analysis and setting priorities for solution*: Using the information gathered in stage four, the PANS team sits with members of the nutrition committee in each village to compile a list of the problems and opportunities. This list forms a basis for community discussions with all members of the group. The community becomes aware of their existing resources and any mechanisms available for seeking funding. An option assessment chart is then used to rank the options so that the plan of action can be made

6). *Action plans for nutrition security*: In every village a plan of action for nutrition security is developed. This mainly covers:

- Priorities as discussed with the community
- Proposed actions and requirements
- Duties and responsibilities
- Work schedules and identification of areas where the community requires external support.

The community recommends specific actions to accomplish each activity. The appropriate technical officer advises on material inputs and estimated cost, the village identifies the local resources and labour that can be mobilised with the community. If training is required it has to be very specific by indicating who, how, what and where? The final stage of the PANS process is the implementation of plans of community's action plans.

It is at this stage of the action plans for nutrition security that the PANS team of Mbooni and Kisau divisions felt it was necessary to have their community people trained as community resource persons to facilitate the achievement of community's action plans. Therefore, training is a major component of the PANS process.

The PANS process also incorporated other approaches for nutrition education awareness creation such as, the Child to Child (CTC) and Participatory Education Theatre (PET). The child to child is an approach used to create health and nutrition awareness and disseminate nutrition information through children, between children themselves and between their families, friends and community. PET is a social mobilisation tool used to sensitise people about the extent of malnutrition and then actively involve the community in identifying solutions to some of the problems. The PET team uses drama, poems and songs as their media of communication (FLTP, 1996).

The main objective of the CBNP is to facilitate and increase capacity and practical experience of rural communities in various aspects in planning, monitoring and sustaining the programme. Its specific objectives are:

- 1). To work with communities to improve their nutrition knowledge and influence behaviour change in child care practices.
- 2). To facilitate intersectoral collaboration for the support of nutrition and other health - related activities in the community.

Since 1996, the programme in an attempt to achieve its main objective has carried out several training in order to increase capacity at community level. Several groups of personnel have been trained in health and nutrition activities, those trained

included community health and nutrition workers (CHNWs), traditional birth attendants (TBAs), organic farmers and water committee members. The CBNP utilises these trained community resource persons at the community level, who have been selected by the community itself, dependent on certain known qualities. Although selected by the community, the community resource persons have to meet the following minimum criteria:

- ◆ Be knowledgeable and skilful persons.
- ◆ Be good role models to the community
- ◆ Be problem solver, adviser and helper
- ◆ Be social and good communicators
- ◆ Be a hard working and responsible persons

In addition, the CRPs must have good nutrition practices.

## **2.5 GROUPS OF COMMUNITY RESOURCE PERSONS TRAINED BY THE COMMUNITY-BASED NUTRITION PROGRAMME AND THEIR ROLES**

### **2.5.1 Community Health and Nutrition Workers (CHNWs)**

As community based health care (CBHC) becomes a widespread movement in the developing world, community health and nutrition workers are emerging as key players in the community. The major activity of the CHNWs is to monitor the growth of children under five years and provide adequate nutrition advice (Lankester, et al; 1992; King and Burgess, 1992). The functions of the CHNWs are to mobilise community members for immunisation, to encourage personal health as well as environmental hygiene, to provide nutrition education and carry out growth monitoring of children aged under five years and ensure that they are growing well. This is done

through provision of adequate nutrition advice and visiting the malnourished children at their homes to closely monitor their progress.

The CHNWs training carried out by CBNP was in two phases, a residential five days workshop whereby a trainer of trainees (TOT) workshop was held to help harmonise training of community health workers in 1995/1996 and the second was the actual training of the CHNWs that started in 1996. The Ministry of health curriculum for training community health workers (CHWs) was adapted. Guidelines for training were adjusted to suit the health and nutrition situation of Mbooni and Kisau. The topics emphasised on during the training were:

- The concepts of primary health care (PHC).
- The roles and functions of the CHNWs.
- Communication, leadership, management and record keeping skills.
- Disease prevention and control.
- Nutrition education.
- Cookery demonstration and growth monitoring (FLTP, 1996).

The name community health and nutrition (CHNW) was adapted and their role was to advise on nutrition as well as health related matters (FLTP, 1996). Each trained CHNW is responsible for 75-100 children and performs weighing sessions monthly (FLTP, 1997). Well, this could indicate that the workload for CHNW is overwhelming and may result in poor performance.

In Mbooni CBNP, by the end of the pilot phase, it was noted that the CHNWs had intimate knowledge of each child and its family background that gave a unique opportunity for discussion about nutrition issues (FLTP, 1997). This contrasts with



growth monitoring at the clinics where the staff rarely had family background knowledge of their clients.

### **2.5.2 Traditional Birth Attendants (TBAs)**

TBAs are respected people in any community due to their status. They are well placed to play a role in the promotion of health, nutrition and general development of children in their areas. The TBA develops a special relationship with mothers and their children whom they assist during delivery (FLTP, 1997).

The TBA training is one of the commitments made by governments that endorsed the Alma Ata declaration on health for all by the year 2000 (WHO, 1990). In Mbooni TBAs are important resource persons in the community and conduct more than 80% of the deliveries. The community takes the advice that the TBA gives to the pregnant mother on nutrition and childcare seriously. It is through the TBA that mothers have adopted practices like pre-lacteal feeding and early weaning. The TBAs also try to use knowledge on problematic areas such as food taboos in educating the mothers, which is an area that has been known to affect the nutrition status of women and children due to cultural diversity (FLTP, 1996).

In Mbooni and Kisumu, majority of the TBAs had been trained by the Ministry of Health (MOH) and the training offered by Mbooni community - based nutrition programme (MCBNP) was to enrich and enhance the existing knowledge, skills and practices and fill in the gaps. The TBA training adopted the curriculum developed by the Ministry of Health and the World Health Organisation (WHO) in 1991. The topics emphasised on were:

- Family life education
- Female circumcision
- Gender issues
- Keeping delivery records
- Traditional, cultural practices and family planning and AIDS.

The TBA training programme therefore, was meant to empower the TBA with the appropriate knowledge and skills in order to enhance health and nutrition practices within their communities.

### **2.5.3 Water Committee Members**

Water is an essential commodity and its supply is crucial to human survival. More than 1.1 billion people lack this fundamental requirement for good nutrition (UNICEF, 1998). One of the biggest problems resulting from inadequate and safe water supply is water borne disease that leads to recurrent and persistent diarrhoea, weight loss and malnutrition ((FLTP, 1996; UNICEF, 1998). Many communities in developing world are known to collect water from sources that are difficult and far distances. Women and children have to walk for long distances to fetch water for drinking and domestic use. Improving water source can contribute to improvement of the nutritional status of a community by reducing the incidences of water borne diseases. Water security, adequate environmental sanitation and proper hygiene practices directly influence the immediate conditions of the children (UNICEF, 1998; Latham, 1997).

In Kenya, 75% of the population still disproportionately bear the burden of collecting water from far distances. The health costs of having inadequate and unsafe water

are enormous (UNICEF, 1998). In Makueni district, more than 84% of households do not have access to safe water (UNICEF, 1998; FLTP, 1996). In the project area, water was one of the problems cited in the community action plan (FLTP, 1997; Omwega et. al; 1996). And by the end of the project period, more than 60 water sources in Mbooni had been improved, however, some communities still have to collect water from unprotected sources (Omwega et. al; 1997). These could suggest that the communities are still lacking the necessary knowledge and skills to help them protect their water sources. Training for the water committee members was done in collaboration with the Ministry of water personnel and their curriculum was adopted. Some of the topics covered during the training were:

- ◆ Health
- ◆ Agriculture and Nutrition
- ◆ Gender Analysis and community mobilisation
- ◆ Water sources and methods of protection
- ◆ Roles of water committee members

#### **2.5.4 Organic Farmers**

Food security plays a key role in combating malnutrition and improving nutritional status (King and Burgess, 1992; Latham, 1997). Insufficient household food supply is one of the underlying causes of malnutrition (UNICEF, 1998). At the macro-level, some of the contributory factors to malnutrition includes, food availability, accessibility and prices, while at micro-level important factors include: food distribution patterns, food preferences and knowledge about proper nutrition (FLTP, 1997).

Organic farming provides an affordable alternative to other expensive forms of farming that require pesticides and application of fertilisers that are very expensive especially for small-scale farmers with little income. Organic farming requires no pesticides nor fertilisers and uses locally made manure resulting to increased yields. In Mbooni, the inclusion of organic farming in the project came about during the participatory problem analysis conducted with the community to help them identify their problems and the root causes. Training of organic farming was carried out in collaboration with the Kenya Institute of Organic Farming (KIOF). By 1997, 95 farmers had been trained in sustainable agriculture. The farms of those trained were to act as demonstration sites for those not trained but interested in improving their farms (FLTP, 1997). The topics covered during the training were:

- Understanding the soil and soil conservation method
- Composting and nursery establishment
- Agro-forestry and planting systems
- Indigenous crops, animal husbandry and health animal health
- Soil cultivation, crop protection and storage.
- Water harvesting

A review report of 1997 however, indicates that in the communities visited in the two divisions, only 25% and 60% farmers had started organic farming. It also reveals that for scaling up the activities, it will be necessary to target training of relevant agriculture officers in organic farming to enhance follow-up on farmers' activities. It was also recommended that contact groups be used instead of contact farmers (FLTP, 1997).

## **2.6 COLLABORATORS OF COMMUNITY - BASED NUTRITION PROGRAMME**

Collaboration is an essential element towards the achievement of project or programme objectives. One of the major objectives of CBNP is to facilitate intersectoral collaboration for the support of nutrition and other health - related activities in the community, since no single organisation can deal with nutrition issues alone. Some of the CBNP main collaborators involved in similar activities aimed at improving nutritional status of the community through community empowerment and active participation, and who also worked closely with the programme during the various training are discussed below:

### **2.6.1 Ministry of Health (MOH)**

The MOH plays a key role in health and nutrition. It conducts training for health and community health workers (CHWs), traditional birth attendants (TBA). The ministry also rehabilitates malnourished children at health institutions and homes. It also has an extension of baby friendly hospital initiative to the community through mothers support group that emphasises on exclusive breastfeeding that starts at birth (UNICEF, 1998)

### **2.6.2 Ministry of Agriculture**

This Ministry contributes greatly in the enhancement of food production, provision of education to farmers, demonstration on the preparation of nutritious foods using locally available foods through the agricultural extension workers (Home economists). The ministry's major role is to ensure that farmers use appropriate methods in growing foods and cash crops and, that there is sufficient food all year round to satisfy the needs of the population (UNICEF, 1998).

The Ministry deals with food security related issues such as promotion and utilisation of nutritious but under-utilised foods like soya beans and traditional vegetables and cereals. It also deals in promotion of home gardens to address the problem of micronutrient deficiencies, nutrition education, and food preservation methods.

## **2.7 ASSESSING NUTRITIONAL KNOWLEDGE OF COMMUNITY HEALTH AND NUTRITION WORKERS.**

Previous studies that have been conducted on nutrition indicate that nutritional knowledge has often been measured by the impact that it has caused. Beaudry-Darisme and Latham (1985) while assessing maternal nutritional knowledge in Guatemala and Haiti concluded that it was measured by the improved child nutritional status. Knowledge, attitude and behaviours of child caretakers are the major determinants of whether the child will be well nourished or not. A mother's belief about the nutritional content of foods and her understanding of the causal factors of diseases may have very powerful effect on a child's well-being. Starving of children during illnesses too has been found to be a common detrimental practice that often than not seriously reduces a child's chances of recovery (Mitzner, et. al; 1984).

For instance, nutrition education is an important tool for health and nutrition workers, working both in institutions and within the community, and can be used effectively towards improvement of health and nutrition status of the "at risk" groups. It is defined as that knowledge and skills acquired in health and nutrition aimed at changing people's behaviour and develops skills, attitude and confidence needed to improve on the amount and kind of foods consumed by individuals and families (King and Burgess, 1992; Latham, 1997; Lankester, 1992). For nutrition education to have

any impact on nutrition and health of the individuals and community, it must be linked to on-going programmes and services (King and Burgess, 1992).

Behaviour change, especially, that which concerns food habits and child-care practices, is one of the most difficult processes to effect because it tends to be deeply interwoven into the cultural patterns of communities. Nutrition education programs accompanying other interventions are on the assumption that information directed to the population will produce changes in the level of knowledge that will in turn influence daily practices and behaviour (Jelliffe and Jelliffe, 1973).

It's been found that nutrition education focuses mainly on housewives or mothers who in most cases have little or no resources to change the prevailing conditions (Zeithi et. al; 1981). Insufficient information on nutrition has been found to be given to the community by nutrition educators in an arbitrary manner (Onian'go, 1987; Lankester et. al; 1992; King and Burgess, 1992). Therefore, there is need to use community people who are trained both as workers and volunteers in the field of nutrition to bridge the communication gap between professional workers and local people (Jelliffe and Jelliffe, 1973).

## **2.8 COMMUNITY - BASED NUTRITION PROGRAMES, CASE STUDIES**

### **2.8.1 Case 1: Child Pastorate In Brazil**

With proper training, adequate supervision and motivation, some success has been documented from the CHNWs. For example, in Brazil a national conference of Brazilian Bishops founded a non-governmental organisation (NGO) called Child Pastorate in 1983 in one community in Para'na State. This programme has become

one of the largest NGOs in the world devoted to child health, nutrition and development. Its aim is to empower the poor both to improve their children's lives and to participate in transforming their communities and their country. The programme has spread to 22,000 communities in large and small cities, as well as rural areas, and serves about 2.1 million families, including 3.1 million children under six years old and about 144,000 pregnant women. Additionally, the programme estimates that the incidence of low birth weight babies is 6 per cent in the communities it assists compared to 9.2 per cent nationally in Brazil. Its success has been attributed to the community members who are trained in basic child and maternal nutrition and health skills, including GMs, immunisation, supporting breastfeeding, treating diarrhoea and detecting minor illness. The pastorate has made nutrition a community issue where by families get support from neighbours. The trained members visit the homes of malnourished children, monitor their weight frequently and refer where necessary. Families also have learnt how to prepare nutritious meals using low-cost and locally available foods. The programme has nearly 83,000 trained health and nutrition volunteers who are mainly women, as the backbone of the programme. It also uses its partnership with the government at all levels, with other NGOs and with the media to maximum effect, planning budget and activities to complement those of the Ministry of Health (UNICEF, 1998).

### **2.8.2 Case 2: Community - Based Nutrition And Health Programme In Oman**

In Oman, progress in child nutrition had been slow. To improve the children's nutritional status, a community-based programme of growth monitoring, the Ministry of Health with UNICEF support devised counselling and nutrition education. A survey carried out in 105 villages Al Dakhiliya found one third of the children underweight, before the



project. An appraisal in 1996 after the project implementation indicated a significant drop in the number of children who were underweight. This was attributed to high motivation, commitment and participation among mothers and community volunteers. The community members of AL Dakhiliya were involved from the very start, attending meetings to identify the problems, discussed solutions and selected among themselves the volunteers who were central to the effort. The volunteers weigh children every month and chart their growth, refer severe cases of underweight to nearby health centres. They advise families on how to feed their children and how to improve caring practices, encourage pregnant women to register early for ante-natal care, how to space births and help in community immunisation campaigns. A programme co-ordinator at the regional level links the communities with programme support structure at the national level that supervises, monitors and trains' trainers. Due to the tangible changes the programme has expanded to other regions countrywide (UNICEF, 1998).

### **2.8.3 Case 3: Tamil Nadu Integrated Project (TINP) in India**

Another project that has shown considerable success is the Tamil Nadu Integrated Nutrition Project (TINP) that provides integrated health and nutritional services to nearly a million children in rural South India through village-based community nutrition centres. This growth monitoring project has used integrating strategy for providing a range of services including short-term selective supplementary feeding, oral rehydration therapy, immunisation, nutrition counselling, and deworming. The community health and nutrition workers weigh children and make home visits to those who cannot make it to the centres while referring severely malnourished children to nearby health centres. Families have learnt how to prepare nutritious meals for their families. TINP has been seen useful in influencing community participation, serving

as integrating strategy, a tool for nutritional surveillance and screening the at "risk group" as well as a source of information for programme management (Shekar, et. al; 1992).

#### **2.8.4 Case 4: Child Survival and Development Project in Iringa, Tanzania**

This programme began as a result of the community's realisation that it was important to monitor their children's growth. It received its technical support from UNICEF and financial support from the Italian government. A major feature of the programme was community - based growth monitoring, which allowed the parents and other community members to assess the nutritional well being of their children and other children in the village. The results were then compared with those of other neighbours and this sparked the participation of both fathers and mothers who were involved in analysing why other children thrived well, while others did not. The villagers took steps aimed at increasing feeding frequency; encouraging better use of basic health services; training health workers; improvement of home hygiene and preparation of nutritious foods for their children. The end result was virtual disappearance of severe malnutrition and striking reduction in mild and moderate malnutrition. However, the programme faced some problems especially in food production or availability that had not been considered essential for good nutrition. Nevertheless, its success has been significant, women emerged as central players, making decisions at both the community and household levels, with local support in the form of start - up financing for their income - generating activities. Due to its great success, the community - based approach was introduced to other areas of Tanzania (UNICEF, 1998).

As much as some success has been noted, there are also problems that may arise if there is inadequate training, lack of motivation and inadequate supervision of the workers as well as volunteers. In Mbooni for example, previous evaluations done indicated that weighing was technically not done satisfactorily (FLTP, 1997), and that a CHNW weighed between 70-100 children per a growth monitoring session and the community still collects water from unprotected sources. These gaps need further investigation in order for the programme to have a positive impact as it indicates that people are lacking the necessary knowledge. Other studies done in Kenya also indicate that inadequate training and inadequate supervision of CHWs result in incorrect information being obtained from the growth charts (Gacoki, 1992), nutrition instruction given by nutrition field workers have little or no impact on nutritional attitudes or behaviour of mothers nor on nutritional status of children (Hoorweg and Niemerjer, 1989).

It is important for any community - based programme to realise that for any positive impact to be felt in the various communities they work in, collaboration is essential for the achievement of programme or projects' stated objectives. From the successful case studies there was partnership with the relevant government ministries, NGOs involved in similar activities and most of all the community members for sustainability of such programmes. In nutrition education, generally, a few well-defined consistency messages should be used. If contradictory nutrition information is given to the community the community gets confused and loose confidence on those charged with the responsibility of passing on health and nutrition information especially CHWs. The success or failure of the CRPs' performance will depend

largely on the adequacy of the training, adequate supervision and sufficient motivation.

The reviewed literature evidently shows, the importance of having well trained and motivated community resource people in tackling malnutrition. However, there is very scanty information on what the community thinks about the resource people among them and how they view their work. Therefore, there is need to provide data on the KAP of this important group of people that is emerging strongly, as main players in the improvement of the welfare the community.

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 STUDY AREA**

The study was carried out in Makueni district, one of the ten districts that form Eastern Province. It borders Kajiado district to the west, Taita Taveta to the south, Kitui to the east and Machakos to the north (Appendix 4). The district has 14 administrative divisions and 52 locations. The pilot Community - Based Nutrition Project was undertaken in Mbooni and Kisau division and these are the areas of interest for this study. The two divisions have a total area of 535 km<sup>2</sup>, with a total population of 106,493 and a population density of between 395 to 168 persons per km.<sup>2</sup>.

The Kamba tribe mainly occupies Mbooni and Kisau divisions. According to the 1999 population and housing census report this area had a population of 771,545 with an inter censual growth rate of 2.1%. The rapid increase of the district's population is partly attributed to immigration of people from neighbouring districts into the settlement schemes in the district. About 18.4% of the population comprise of children aged five years of age and below (Appendix 5).

##### **3.1.1 Topography and Climate**

The district is generally low lying and rises from 600m above sea level at Tsavo and reaches 1900m above sea level on the Kilungu hills. The major land features comprise the volcanic Chyulu Hills that are situated along the south - western border

in Kibwezi Division. Mbooni and Kilungu hills comprises of granite rocks that rise to about 1100m to the west of the district. These hills receive good rain. The rainfall pattern in Mbooni and Kisau divisions is bimodal: long rainy season is from March to May and short rains from November to December. Unlike other divisions in Makueni district, Mbooni receives a lot of rainfall that ranges between 800-1200 mm per year and has low temperatures. Kisau has low-lying plains covered largely by the Savannah grasslands. It is hot and dry and receives 200m - 900mm rainfall per year low rainfall hence little agricultural activities are carried out, but it has a high potential for ranching. Most of the district experiences high temperature during the day and low temperatures at night.

Perennial streams separate the two divisions from the Mbooni Hills. Majority of the people draw water directly from the rivers, though about 30% travel as far as 7 kilometres in search of water. Mbooni division is made of hill masses with an attitude of between 1,100m to 1,900m, while Kisau division is made up of granite rocks and red clay soils on the hilly masses and along the riverbanks and lowland.

### **3.1.2 Agriculture**

Mbooni hills are suitable for coffee, horticulture and livestock production due to the cool and wet conditions. Horticultural crops' production is mainly for domestic consumption though surplus is exported. Kisau is suitable for cattle rearing because it is much drier compared to Mbooni where about 28% of the total population rely on cash crop production. In addition, vegetables and fruits are grown, and daily cattle are kept. The main food crops grown include production of "Katumani" maize, pigeon peas, millet and sorghum.

### **3.1.3 Health and Nutrition**

According to the 1999 - 2001 Makueni District Development Plan, the average prevalence of malnutrition is 50% compared to the national figure of 33%, which is worrying. Malnutrition cases in the district are commonly found among the residents of the low potential divisions where rainfall is insufficient, low incomes, food unavailability contributes to retarded growth and stunting. Both Mbooni and Kisau have 2 health centres, 4 sub-health centres and four dispensaries. The most prevalent diseases among the population in the district are malaria, respiratory disease, skin disease and diarrhoea. Poor refuse disposal and unhygienic environment have contributed to the high incidences of malaria cases and intestinal worms. Inaccessibility to clean, drinking water is the main cause of water borne diseases but malaria is the major killer disease among children under five years (Makueni District Devt' Plan 2001).

### **3.2 STUDY DESIGN**

This was a cross-sectional descriptive study that sought to assess the knowledge, attitude and practices of the Community - Based Nutrition Programme's trained CRPs. The study focused mainly on the CHNWs, the group that directly deals with nutrition and health issues in the community. In addition, information about the community's attitude towards the CHNWs as well as other community resource persons was also gathered through FGDs. These were held with different groups in the community, namely; mothers with children under five years, community members with some responsibilities and Participatory Approach to Nutrition Security (PANS) teams.

### **3.3 SAMPLING PROCEDURE AND SAMPLE SIZE**

After a research permit was obtained from the Ministry of Education in September 2000. Mbooni and Kisau divisions were purposively selected for the study. Mbooni CBNP was the first centre to start community - based nutrition activities and also to train CRPs. The list of all the 86 trained CHNWs was obtained from the centre records, but a total of 72 CHNWs participated in the actual study hence constituted the study population. This was due to 10 CHNWs who had been interviewed during the pilot phase there was 1 deceased case and 3 attrition cases.

### **3.3 DATA COLLECTION TOOLS**

Both quantitative and qualitative methods of data collection were used for gathering data on the current knowledge, attitudes and practices of the trained community health and nutrition workers. Although the study was mainly qualitative, quantitative methods were used to enrich qualitative data using semi - structured questionnaire, while secondary data was obtained from existing records. Qualitative data was collected through FGDs, direct observation of GM centres operation, and written reports. The data was collected in October and November 2000 during which the main questionnaire was administered to all the 72 trained CHNWs.

#### **3.3.1 Semi - Structured Questionnaire**

This was used to collect both quantitative and qualitative data on the knowledge, attitude and practices of the trained community health and nutrition workers (CHNWs). The questions asked were based on curricula used for the training of the community health and nutrition workers. The questionnaire was sub-divided into four main sections namely, demographic profile (age, gender, religion, year trained,



received additional training, education level, occupation, and marital status). The knowledge section comprised of roles of Chows, their knowledge on breastfeeding (advantages, duration frequency and best age to stop breastfeeding), common childhood diseases, prevention and immunisation schedule for children under five years. Reasons for weighing children and what they understood by growth monitoring. The attitude section comprised of aspects like, how they felt about their work the training that they had received from CBNP its adequacy, its usefulness and challenges faced. Practice section covered areas like, how many children they weighed by a GM session, advice given to well nourished as well as undernourished children. They were also asked about the kind of advice they would give pregnant women and how they would manage children with diarrhoea diseases (Appendix 1).

#### **3.4.2 Focus Group Discussions (FGDs)**

Focus Group Discussions were used to verify information collected in the questionnaires. FGDs produce a lot of information far more quickly and at cheaper cost. Due to their flexibility, one can discover attitudes and opinions that might not be revealed in a structured questionnaire. They are also used to answer the "whys" of the unexplained social phenomena (Scrimshaw and Hurtado, 1987). A total of six FGDs were conducted, three in Mbooni and three in Kisau respectively. These FGDs were conducted with:

- 1) A group of mothers with children under five years
- 2) PANS team members
- 3) Community members who hold public responsibilities (village leaders, group leader, church leaders, farmers).

Invitation of these groups of people was done one week before the actual day, the venue was selected and time set that was convenient to all the participants. Each

FGD comprised of between 8-13 people who were encouraged to talk freely by the moderator (researcher) about the work done by the community health and nutrition workers and also the other groups of CRPs. The moderator took special attention to recording exactly what was said. Discussions were held on their roles/functions benefits and the community's attitude and perceptions towards them (Appendix 2). The group sessions were tape recorded as well as the observer taking notes and basically lasted between one hour to one hour and half. The FGDs were conducted as recommended in Rapid Assessment procedures (RAP) by Scrimshaw and Hurtado, 1987.

### **3.4.3 Direct Observation**

Observation method is very important in assessing behaviour and practices and provides valuable non-verbal clues to the situation and happenings. In this study direct observations were made on the conditions of some tools used at the growth monitoring centres such as pants, scales, record keeping books and the state of the surrounding where the GM was being carried out. It was also done to find out how many centres were opened and are operating and also how many more have come up, since the training of the CHNWs as part of their practices and if any nutrition education was given, as well the involvement of the mother in growth monitoring (Appendix 3).

### **3.5 RESEARCH ASSISTANTS**

Two research assistants who had at least completed secondary education were trained for four days. The training included briefings on the study objectives, methods of selecting the study sample and Researcher's expectations of their work. The Assistants were also trained on interpersonal skills, how to introduce themselves to the respondents and develop a rapport and how to ask questions consistently ensuring that they were correctly understood. They were explained on the basic principles of field ethics, such as assuring the respondent of confidentiality, right to privacy, clarity on why the information is being collected and to accept the right to refuse to answer certain questions or to be interviewed at all. They were supervised daily to ensure that they followed the proper data collection methods. Questionnaires were checked for completeness during the field study including the completion of the field notes from the various FGD sessions and transcription of taped discussions to fill in any gaps.

### **3.5 PRE-TESTING OF DATA COLLECTION INSTRUMENTS**

After the Research Assistants were trained, they worked together with the Principal Researcher during pre-testing of the study instruments. A total of 10 CHNWs were randomly selected from among those trained by the CBNP since 1996 and were interviewed using the questionnaire. After the pre-test, necessary corrections were made on the questionnaires while other questions were rephrased to give a clearer meaning.

## **3.7 THE DEFINITIVE STUDY**

### **3.7.1 Demographic Characteristics of the CHNW**

All the 72, community health and nutrition workers who participated in the actual study were interviewed on their demographic characteristics such as age, gender, marital status, religion, occupation, education level and year trained as a CHNW. They were also asked if they had received additional training related to their work since they were trained in 1996.

### **3.7.2 Assessment of the current knowledge of the CHNW**

The knowledge section comprised of both closed and open-ended questions. The questions that sought to find out knowledge of the CHNW on their essential duties (the must know) were awarded 2 points for each correct point mentioned hence highest score expected was 66 points. The rest of the questions were awarded one point for each question answered correctly, the total score expected was 9 points. Therefore, the maximum score required in the knowledge section was 75 points and 2/3 of the total score was taken as the cut off point. From these scores, percentages were derived and a grading system established to classify them (Tables 3.1-3.5). The grading system was as follows:

All scores 50 points and above the expected score of 75 points = Adequate knowledge

All scores below 50 points of the expected score of 75 points = Inadequate knowledge.

This grading system has been applied in other studies like the ones by Mirie (1989), Waihenya (1994) and Mackenzie on health workers' knowledge on GM (1999), in grading mothers after assessing their knowledge in nutrition.

### 3.7.3 Assessment of CHNWs' knowledge of their functions

All the CHNWs' interviewed were expected to correctly name at least six of their functions. The maximum score for this question was twelve points, 2 points were awarded for each function correctly named. The indicators used for assessing these are found in Table 3.1.

**Table 3.1: Correct responses for assessing of CHNWs' knowledge about their functions.**

Correct functions	
1.	Mobilise people for immunisation against preventable diseases
2.	Carry out home visiting to check on nutrition and health practices and advise
3.	Interact closely with other extension workers on health and nutrition related issues
4.	Treat simple diseases
5.	Refer patients to the health facility
6.	Keep essential records
7.	Make reports whenever necessary
8.	Participate in activities of controlling diarrhoea diseases
9.	Mobilise community groups to initiate income generating activities
10.	Promote and encourage activities to bring about self-reliance
11.	Encourage child spacing
12.	Promoting breastfeeding and proper weaning foods
13.	Advising pregnant mothers to seek ante natal care
14.	Spread information about prevention of AIDS
15.	Promoting use of adequate and balanced diet for the family, especially "at risk groups"
16.	Monitoring growth of children under five years and to ensure they are growing well
17.	Encourage personal, environmental hygiene and making compost pit
1 score =	Mentioned
0 score =	Not mentioned

### 3.7.4 CHNWs' knowledge about the advantages of breastfeeding

All the CHNWs' were required to name at least four advantages of breastfeeding. Those who correctly named the advantages scored two points for each correct advantage and zero score for incorrect responses. The indicators used for assessing their knowledge about breastfeeding are found in Table 3.2.

**Table 3.2 Correct Responses for assessing CHNWs' knowledge on advantages of breastfeeding**

Correctly mentioned	
1	It is clean
2	It is warm
3	It is readily available
4	It is nutritious, for example it is balanced
5	Contains antibodies which give child immunity
6	Builds bond between mother and child
7	Child spacing

1 score = Mentioned

0 score = Not mentioned

**3.7.5 Assessing CHNW's knowledge about control/preventive measures against disease occurrences.**

All the respondents were expected to correctly name at least six control/preventive measures against disease occurrences. For every correct response given, two points were awarded and zero for incorrect responses. The maximum score attainable was twelve points. The indicators used for scoring their knowledge about control/preventive measures against disease occurrences are found in Table 3.3.

**Table 3.3: Correct Responses for assessing CHNW's knowledge about control/preventive measures against disease occurrences**

Correctly mentioned	
1.	Proper waste disposal
2.	Boil drinking water
2	Protect water points
4.	Immunisation for children
5.	Treatment for sick people
6.	Presence and use of leaky tins
7.	Body and environmental hygiene
8.	Wash hands before eating and after visiting toilet
9.	Proper storage of utensils in dish racks
10.	Eat clean, balanced diet

1 score = Mentioned

0 score = Not mentioned

### 3.7.6 Assessing CHNW's knowledge about the present immunisation schedule for children under five years.

All the respondents were expected to name correctly the present immunisation schedule for children under five years. Two points were awarded for each correctly mentioned schedule and zero score for incorrect responses. The maximum score attainable was eight points. The indicators used for scoring their knowledge about the immunisation schedule for under five are found in Table 3.4.

**Table 3.4: Present Immunisation Schedule for Children under Five Years**

Correctly mentioned	
Administration Time	Immunisation
1. At birth	BCG, Tetanus 1 <sup>st</sup> dose
2. After 4 weeks	Polio
3. At 6 weeks	Diphtheria (DPT)
4. At 9 months	Measles

1 score = Mentioned

0 score = Not mentioned

### 3.7.7 Assessing CHNW's knowledge about reasons for weighing children

All the respondents were asked to correctly name at least four reasons for weighing children. Two points were awarded for each correctly mentioned reason, while a zero score was given for incorrect responses. Table 3.5, shows the correct responses used for scoring knowledge on reasons for weighing children.





as the well nourished children, how many children they weighed on each GM session, how they would take care of a child with diarrhoea disease and the importance of carrying out cookery demonstrations.

### **3.7 DATA MANAGEMENT**

Proper and close supervision of the interviewers in the field was done. Questions were repeated to ensure consistency, while open-ended questions were probed as well as the question guides for FGDs, for clarity and in-depth information. All the questionnaires used for the study were checked for completeness at the end of each day and stored safely until the time for data entry. The materials from the Focus Group Discussions (notes and cassettes) were also kept safely awaiting the time for analysis.

The data were entered and analysed using the computer package, EPI INFO 2000, a word processing database and statistical program for public health used for analysis of epidemiological and nutritional data. Descriptive Analysis involved statistics like means, frequencies, cross tabulations, and tables. Chi-square tests were performed to check the level of independence between various health and nutritional variables. Tapes and notes from Focus Group Discussions have been transcribed and analysed manually highlighting major themes, similarities and differences that came about after the discussions and descriptive analysis made. Conclusions were made by cross checking against set objectives to determine whether they have been achieved or not and recommendations given.

## CHAPTER 4

### RESULTS

The study population comprised of 72 community health and nutrition workers who responded to a semi-structured questionnaire administered by the interviewer. They were from Mbooni and Kisau divisions and had been trained by the CBNP since 1996. Different scores were awarded to various questions and final grading done in accordance to the system outlined in section 3.7.2

#### 4.1 DEMOGRAPHIC CHARACTERISTICS OF THE CHNWs

Table 4.1 shows the demographic characteristics of the respondents: namely, their marital status, education level, occupation and year trained.

Table 4.1: Demographic characteristics of the study population (N=72)

Characteristics	N	%
<b>Gender</b>		
Male	12	16.7
Female	60	83.3
<b>Marital status</b>		
Married	70	97.2
Single	1	1.4
Separated	1	1.4
<b>Education Background</b>		
Secondary level	48	66.7
Primary level	22	30.6
Adult literacy level	2	2.8
<b>Occupation</b>		
Self – employed	22	30.6
Farmer	45	62.5
Volunteer worker	2	2.8
Others	3	4.2
<b>Year trained</b>		
1996	36	52.8
1997 – 1999	28	38.9
Don't know	6	8.4
<b>Received refresher training</b>		
(yes)	35	48.6
No	37	51.4

A large majority of the CHNWs were females (83.3%) and almost all were married (97.2%). About two thirds, (66.7%) had attained secondary education with a further 30.6% having attained primary education and only 2.8% had adult literacy. More than half (62.5%) were farmers and 30.6% were self-employed, while 2.8% were volunteer workers. Most of them (91.7%) had been trained between, 1996 - 1997, while 8.4% could not recall the year trained. Slightly less than half (48.6%) had received additional training related to their work from elsewhere, while 51.4% had not, apart from the CBNP one. Using the chi-square test there was a statistical significant difference in knowledge performance between those who had received refresher training compared to those who had not. Those who received refresher training performed better than those who had not (Chi-square = 16.1, p-value .006).

**The knowledge of the respondents was correlated with age and level of educational of the respondents.**

	N	Means	Sd	t-test	p
<b>Sex</b>					
Male	12	1.75	0.45		
Female	60	1.45	0.50		
Total	72	1.50	0.50	2.058	0.055
<b>Refresher courses</b>					
Yes	35	1.63	0.49		
No	37	1.38	0.49		
Total	72	1.50	0.50	2.16	0.034

Knowledge score was also affected by the year different groups was trained. Those trained earlier in 1996, scored low, 22.2%, as opposed to those trained later (1997-1999), with a score of 60.4% (Chi-square = 7.14, p-value .008). Of the 12 males interviewed, 75% scored high (>50 points), while 45% of the 60 females scored high points > 50% but this difference was not statistically significant.

**Relationship between knowledge and level of education and age of the respondents.**

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.788	2	1.393	8.317	.003 <sup>a</sup>
Residual	15.214	69	.220		
Total	18.000	71			

a. Predictors: (Constant), level of education, age in years

b. Dependent Variable: Knowledge

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.206	.369		.558	.579
	age in years	1.688E-02	.007	.264	2.378	.020
	level of education	.258	.106	.269	2.425	.018

a. Dependent Variable: Knowledge

The mean age for the CHNWs was 36 (<sup>a</sup>SD=7.9) years, with a median of 35 and a range of 25 to 58 years. There was a statistical significant difference between the age groups and knowledge performance. Those above 35 years of age, 64.5% scored higher as opposed to those less or equal to 35 years who scored 39.0%, (Chi-square = 4.53, p-value < 0.03).

<sup>a</sup>(<sup>a</sup> SD is standard deviation)

## **4.2 THE CHNWS KNOWLEDGE IN HEALTH AND NUTRITION**

### **4.2.1 Functions of the CHNWS Advantages of breastfeeding and present immunisation schedule**

All the 72 CHNWS were expected to correctly name at least six of their functions. Only 8.3% of the respondents scored the twelve maximum points. Slightly over half (58.3%) scored between 8 - 10 points by naming 4 - 5 functions and the rest (33.3%) scored between 4 - 6 points. The mean score was 8 (SD = 2.2).

Encouragement and promotion of preventive measure were the function that was mentioned by 100% of the respondents. Other functions that were frequently mentioned were, home visiting (29.2%), community mobilisation (13.9%), encouraging the formation of income generating groups (12.5%) keeping of essential records (6.9%), making reports when necessary (2.8%), and acting as a link between the community and the government (1.4%). The Focus Group Discussions also came up with similar functions to those mentioned by the CHNWS, as well as additional ones.

The additional functions of the CHNW that were commonly mentioned by all discussants of the FGD groups were, "they advice on balanced diet, conduct cookery demonstrations, use of clean boiled water. They also said that CHNW " carry out growth monitoring of children, immunisation of children, encourage mothers to breastfeed, child spacing, emphasis on personal and environmental hygiene, encourages the community on construction and use of latrines, use of dish racks, leaky tins and to practice organic farming to enhance food security.

The CHNWs were expected to correctly name at least four advantages of breastfeeding. Only 29.2% scored the eight maximum points, over half (63.8%) scored between 4 - 6 points, while 6.9% were able to name only one advantage, hence scoring two points. The mean score was 5.6 (SD = 1.8).

The CHNWs were also required to correctly name the four immunization schedules. At least 47.2 % scored the maximum eight points, while 27.8% scored between 4 - 6 points and 25% scored between 0 - 2. The mean was 5.5 (SD = 2.6) as shown in Table 4.2 respectively.

**Table 4.2: Distribution of CHNWs knowledge about their functions, advantages of breastfeeding and present immunisation schedule for children under five years by scores attained (N=72)**

Scores	Functions (Total score = 12)	Advantages of Breastfeeding (Total score = 8)	Immunisation Schedule (Total score = 8)
< 4	0	5	18
4 - 6	24	46	20
8 - 10	42	21	34
12	6	-	-
Mean	8	5.6	5.5
Standard Deviation	2.2	1.8	2.6

#### 4.2.2 Frequency, duration, and best age to stop breastfeeding

Most of the respondents (84.7%), reported that the duration of breastfeeding should be two years and above, while 9.7% reported that it should be 3-6 months. On the frequency of breastfeeding, virtually all (94.4%) said infants should be breastfed on

demand, while 4.2% said that they should be breastfed after every three hours and 1.4% did not know. Majority of the respondents (79%) reported the ideal age to stop breastfeeding as 36 months and above. Table 4.3 shows the CHNWs distribution of knowledge about frequency, duration and age to stop breastfeeding by scores attained.

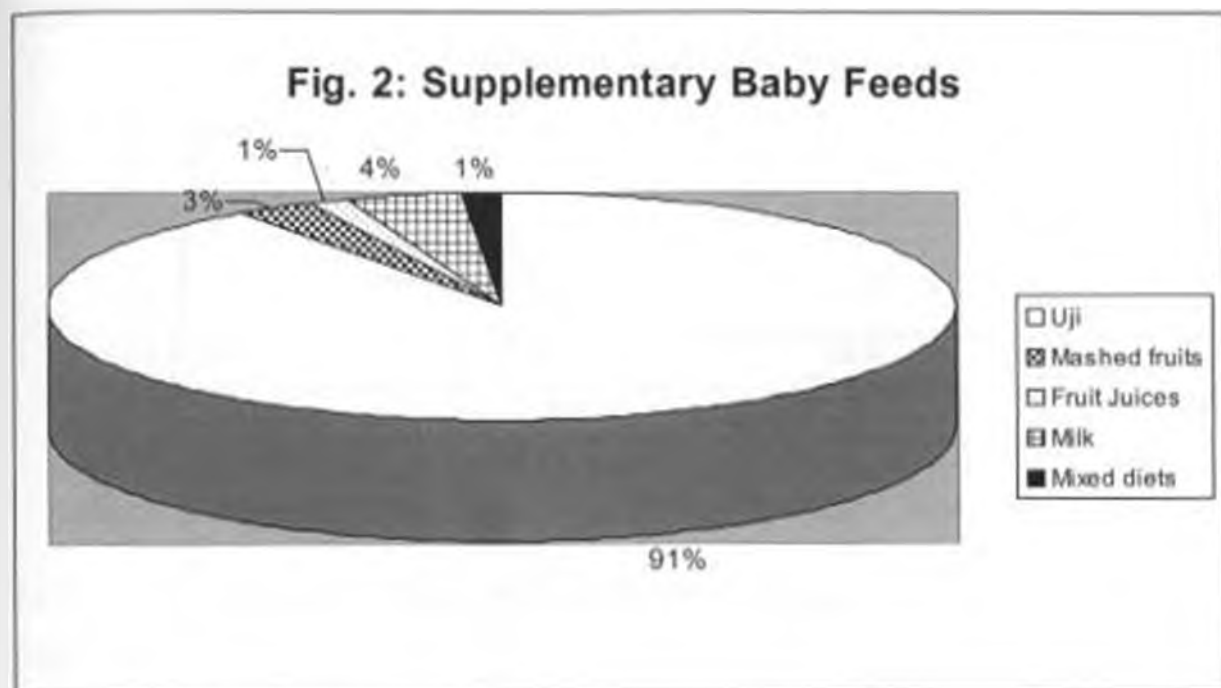
**Table 4.3: CHNWs knowledge about duration, frequency and age to stop breastfeeding**

Breastfeeding practices	Frequency	%
<b>Duration of breastfeeding</b>		
1 - 3 months	1	1.4
4 - 6 months	7	9.7
7 - 11 months	2	2.8
1 - 2 years	1	1.4
> 2 Years	61	84.7
<b>Frequency of breastfeeding</b>		
Every 3 hours	3	4.2
On demand	68	94.4
Don't know	1	1.4
<b>Age to stop breastfeeding in months</b>		
24	13	18.1
30	2	2.8
36	32	44.4
48	13	18.1
60	12	16.6

#### **4.2.3 Baby's first supplementary foods, weaning age and foods recommended for sick children.**

Almost all the respondents (91%) mentioned uji (porridge) as the first supplementary food that should be given to babies. More than half (58.3%) reported 1-3 months as the best age for introduction of complementary feeding, while 37.5% reported 6-12 months. Fluids featured prominently having 100% response as the most recommended food for sick children, followed by soft foods (9.7%). *Figure 2* shows

the distribution of CHNWs responses on the first supplementary feeds that should be given to children.



#### 4.2.4 Common Childhood Disease and Control/ Preventive Measures Against Disease Occurrences

Diarrhoea was the most common disease mentioned by 77.8% of the respondents, followed by malaria (75.0%), fever by 52.8%, vomiting (44.4%), coughs (26.4%) and kwashiorkor by 23.9% respectively. Additionally, all the respondents were expected to correctly name at least six control/ preventive measures against disease occurrences. Only 2.8% scored the maximum twelve points while a majority (95.9%) scored between 4-10 points. Preventive measures that were mentioned frequently by the CHNWs were, boiling drinking water (80.6%), keeping house/compound clean (66.7%), proper waste disposal (61.1%) and proper storage of utensils (52.8%). From the discussants, majority of the groups mentioned some of the control/preventive measures as "practising proper hygiene and sanitation, consuming clean boiled water and use of a



well-balanced diet". Table 4.4 shows the distribution of CHNWs knowledge scores about control and preventive measures against disease occurrences.

**Table 4.4: Distribution of CHNW's knowledge scores about control/preventive measures against Diseases by scores attained (N=72)**

<b>SCORE (out of 12)</b>	<b>n</b>	<b>%</b>
0 - 2	1	1.4
4 - 6	30	41.7
8 - 10	39	54.2
12	2	2.8

#### **4.2.5 Advice given to mothers on diarrhoea management**

Majority of the CHNWs (72.2%) mentioned that mothers whose children suffer from diarrhoea should give the child a lot of boiled water. Over half (69.4%) mentioned that they would give ORS, rice water and soups while 62.5% mentioned improvement of home hygiene and 58.3 % said they will take the child to hospital.

#### **4.2.6 Reasons For Weighing Children Under Five Years.**

No respondent scored the maximum score of eight points, but a majority (84.7%) scored between 4 - 6 points, while 15.3% scored two points. Monitoring the growth of children was the major reason cited for weighing children mentioned by 100%, detecting if there is any shortcoming and advice accordingly by 43.1% and to check if the child is fully immunised was mentioned by 6.9%. Table 4.5 shows CHNWs knowledge distribution about reasons for weighing children by scores attained

**Table 4.5: Distribution of CHNW's by scores on knowledge about reasons for weighing children.**

Score (out of 8)	N ( = 72)	%
0 – 2	11	15.3
4 – 6	61	<b>84.7</b>
8	-	-

### 4.3 TOTAL KNOWLEDGE PERFORMANCE BY DIVISION

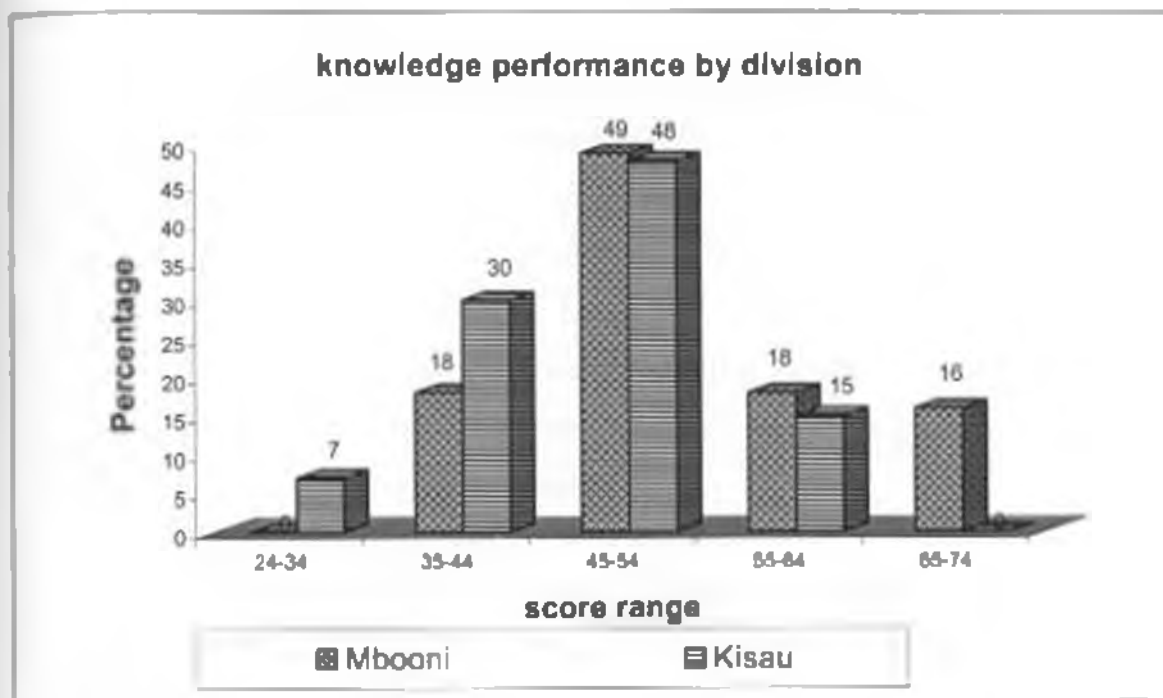
CHNW from Mbooni had better knowledge performance with a mean of 1.528, compared to their counterparts from Kisau division who had a mean of 1.222 ( $p=0.007$ ;  $t$ -value 2.78). Table 4.6, shows the distribution of CHNW score by knowledge performance.

**Table 4.6: Distribution of CHNW's score by knowledge performance by division**

Divisions	Knowledge (N = 72)		Total
	Adequate	Inadequate	
Mbooni	17	28	45
Kisau	19	8	27
<b>Total</b>	36	36	72

The knowledge scores for the CHNW ranged between 34 - 71 points with half scoring above 50 of the expected score of 75 points while the other half scored below 50 out of the expected score. The mean score for all the CHNW was 50. The bar graph below shows (*figure 3*) categoric presentation of the total score on knowledge of the CHNW.

**Figure 3: Knowledge performance of the CHNW by division**



#### **4.4 THE ATTITUDE AND PRACTICES OF THE CHNW**

##### **4.4.1 ATTITUDE**

The respondents were asked about the training that they had received, a majority (75.0%) felt it was good and of help for their work. About its adequacy 2.8%, felt that the training was not adequate, while 75.0% felt it was adequate, they were able to train other people and that they and the community had benefited from it. Some respondents 22.2% felt that more training was needed. Asked about the challenges that they faced in community work, different views were given. Table 4.6 shows the distribution of the CHNW by the various responses they gave.

**Table 4.6: Distribution of CHNW's by the responses they gave on challenges they faced in their work (N=72)**

<b>RESPONSES ON CHALLENGES FACED</b>	<b>%</b>
1. Work is tedious when one meets ignorant people	16.7
2. Irregular GM attendance/ some people do not see need for G.M	13.9
3. Some members do not take advice/ belief they "know it all"	13.9
4. We spend a lot of time moving around the community and no payment	11.1
5. Community does not keep time / Feed back from CBNP very slow	5.6
6. Members take a long time to understand	2.8
7. Some members support us, while others are against us	2.8
8. At times there is no food and yet we advice on balanced diet	1.4
9. They expect free services and food for demonstration since they belief We are paid by CBNP	1.4
10. During home visits, some members pretend to be so busy	1.4
11. There is no enclosed place for GM, especially during cold weather	1.4

The rest of the respondents mentioned more than one response found in the above table hence the percentage is less 100%. However, there was no significant difference between those challenges reflecting on the CHNWs and those on the community ( $p > 0.05$ ).

#### **4.4.2 CHNW's OPINION ON HOW THE COMMUNITY PERCEIVED THEIR WORK**

All the respondents were expected to freely give their opinions on how the community perceived them and their work. Majority (80.0%) of them responded positively indicating that the community saw them as important people with a lot of knowledge, while 20.0% said that some community members demanded that their children should be weighed at their homes since they thought that the CHNW are paid by the CBN

programme. Discussants in the FGDs also strongly supported them saying that CHNWs' are "respected people in the community who work closely with 'village securicor' (elders), they are helpful and friendly people who talk freely to them. They weigh our children even for those mothers who do not pay the required fee of Ksh. 5".

## 4.5 PRACTICES

### 4.5.1 Number of children weighed by CHNW's

The CHNWs' were asked about the number of children they weighed per a GM session, 43.1% of them weighed slightly over thirty children per GM session while 30.6% weighed between 21 -30 children and 25% less than twenty. These figures were collaborated with directly observing the available records. Table 4.7 shows the distribution of the CHNWs by the number of children they weighed.

**Table 4.7: Distribution of the CHNWs by the number of children weighed at each GM session.**

No. Of children weighed	% (N=72)
> 30	43.1
21-30	30.6
10-20	25.0
0	1.4

From the records, it was observed that Mbooni had 37 growth monitoring centres and out of these 11 are new centres that the CHNWs' have opened in consultation with the community. Kisumu has a total of 16 GM centres, out of these 6 are new centres opened since the training. All these centres in both divisions are operational. However, 11 centres conduct their GM sessions outside where there is no enclosure. Most of the tools used (scales and pants) were in good condition, although a majority of the centre's record keeping was not satisfactory. In all the GM centres visited,

nutrition education was not given and the mothers were not actively involved in weighing their children nor reading the weight, for those who could read.

The 72 CHNWs' were asked what advice they could give to a mother with a well-nourished child, as well as an undernourished one while carrying out the GM sessions. Almost all (98.6%) indicated that they could first find out from the mother what the child is fed on and then encourage her to continue the same way. The rest reported that they would urge the mother to continue bringing the child for GM and to spend more time with child. About the undernourished one virtually all (94.4%) of the CHNWs' indicated that they would ask the mother to give a balanced diet, while 56.9% said that they will find out if the child has been sick and refer to hospital if still unwell, 34.7% Will advise the mother to increase the feeding frequency of the child and 12.5% encourage breastfeeding and spending more time with the child respectively. Table 4.8 shows the various responses given by the CHNWs on the care they would give for underweight children.

**Table 4.8: Distribution of CHNWs' by responses on care for underweight children**

	Advice	% (N=72)
1.	Mother to give a balanced diet	94.4
2.	Find out if child has been sick and so refer to health centre	56.9
3.	Increase feeding frequency	34.7
4.	Encourage Breastfeeding	12.5
5.	Mother to spend more time with child	12.5

#### 4.5.2 Nutritional and Health advice given to pregnant women

The CHNWs were asked on the type of nutritional and health advice they would give Pregnant women. Almost all (97.2%) said that they would advise them to eat a balanced diet, while 86.1% indicated that they would encourage them to attend ante-natal clinic and 36.1% would advise them to take rest/perform light duties and 5.0% advice on good personal hygiene. Table 4.9 shows the various responses given by the CHNWs.

**Table 4.9: Distribution of CHNWs by Nutritional and Health advice given to pregnant women**

Advice	% (N=72)
1. Eat a balanced diet	97.2
2. Attend ante-natal clinic	86.1
3. Take rest/do light duties	36.1
4. Prepare for the new born	26.4
5. Wear loose dresses	6.9
6. Good personal hygiene practices	5.0
7. Wear flat shoes	1.4

#### 4.6 COMMUNITY'S ATTITUDE AND PERCEPTION TOWARDS CHNWs' AND THEIR WORK.

The FGDs revealed that CHNWs are good role models because "they practice what they teach and carry out home visits to check whether the community is practising what they are taught". They are respected people who supplement government efforts to reach people at the grassroots level. "They have changed our community and now our people know the importance of consuming clean boiled water," "if you go to our hotels these days you will be asked which water you prefer to drink boiled or

not". "Diseases have reduced, mostly diarrhoea that used to kill many of our children and their health has improved," " If you walk in our villages now, you will find our children happy and jumping around" meaning they are healthy. The "swelling of our children's tummies is gone" meaning kwashiorkor has reduced. In our villages everybody shine, shines" referring to good personal hygiene. The discussants also said that the "long distance saved from walking to the various health centres for growth monitoring is now utilised by the mothers to give more care to the children, improve the food situation and improve the standards of living for their families". This meant that the community appreciated the GM services being brought close to them.

#### **4.7 Community's Attitude and Perception Towards Other Community Resource Persons.**

When the community was asked about TBA during the FGDs, they indicated that traditional birth attendants (TBAs) are the number" two" after the CHNWs and are respected people in the community. They maintain high hygiene practices, advice mothers on balanced diet. However, it was also revealed that the TBA are responsible for new-borns being given pre-lacteal feeds. They advise the mothers to give the new-borns salt-sugar solution before the mother starts to produce milk, and to continue giving little quantities thereafter. The TBA are considered cheaper than hospitals and they accept anything they are given as a token, especially from those who cannot afford to pay cash. Three members in one of the FGD revealed that the TBA have "educated our women, they advise the pregnant mothers on how to prepare for the coming baby, for example, have items like razor blade, threads and clothes ready". They also advise them to wear loose clothes, flat shoes and attend antenatal clinics. The TBAs were also regarded as very important people who keep records for their clients both the mother and child (name, date and sex). They refer difficult cases



to nearby health centres and in most cases accompany the mothers to the hospitals. The TBA maintains high standards of hygiene. "In fact a majority of them have built delivery huts in their homesteads," said members of the FGDs, which are cleaner than most health centres. "They are mindful of their clients because, they follow them up to their homes after delivery for at least three months monitoring the progress of the child and mother and advising her accordingly".

Many of the community members seemed not to be conversant with organic farmers and the services they expected. Some of those trained had left for other places in search of employment, while many of those around were not very active. However, for the few who were active in some of the villages, the community indicated that organic farming was more productive than the other forms of farming. They revealed that now vegetables are in plenty unlike before, because they have been educated on how to use recycled water on their kitchen gardens especially in Mbooni division. The community confessed that although organic farming did not require fertilisers and used no pesticides that were expensive, it demanded hard work and time. The discussants in the FGD argued that products from organic farming fetched very little money compared to other products "grafted mangoes for example fetched better prices than ordinary mangoes, why can't organic products do likewise". It was revealed also that before the introduction of organic farming into the area, the diverse weather conditions should have been considered. This may have meant that the community is not familiar with crops that can be grown using the organic method.

The water committee members were not very active in many villages, but the few (three villages) that they were active, they were seen as knowledgeable people who mobilised the community members to protect their water points. They also advise on

boiling drinking water and remind the community to recheck their water points to ensure they are free from contamination.

#### 4.8 Additional comments from the CHNWs'

The CHNWs when asked if there was any additional comment that they would like to make, the following came up as shown in Table 4.10. However when some variables were tested (year trained, gender occupation or level of education) to find out if they influenced the suggestions given. There was no statistical significant difference ( $p > 0.05$ ).

**Table 4.10 Distribution of CHNWs responses to additional comments**

<b>Comments</b>	<b>% (N=72)</b>
1. There is need for more training	25
2. Financial support	16.7
3. Extend services to other new areas	13.9
4. Provision of drugs (to the community pharmacies)	11.1
5. Need for exchange tours to other CBNP areas	11.1
6. Need for supply of any type of food available( especially during the dry seasons)	9.7
7. Adequate supervision and timely feedback from CBNP	6.9
8. Provision of uniforms for identification	5.6

# CHAPTER 5

## DISCUSSION

### 5.1 KNOWLEDGE AND PRACTICES

From the assessment of the overall CHNWs' current level of knowledge, the study established that half (50%) of them had adequate knowledge, while the other half had inadequate knowledge. Comparing the two divisions, Mbooni had better knowledge performance than Kisau, with a statistical significant difference ( $P < 0.05$ ). However, the following confounding factors affected the knowledge performance, although they were not different in the two divisions.

- ◆ Lapsed period since training
- ◆ Age
- ◆ Refresher training related to their work.

The findings from the total knowledge performance of the community health and nutrition workers have shown that, there is a positive association between those who had received additional training related to their work from elsewhere compared to those who had not. The CHNW with additional training performed better than their counterparts. In addition, those trained earlier scored higher in comparison to those trained later, it also found out that, older CHNW performed better in knowledge than the younger ones. It is vital to note that, a child's health and nutritional status depend on the well being of the mother, her knowledge and level of awareness, personal hygiene, the feeding practices she adopts and above all, the care that she gives to the dependent child. The relatives and other community members also influence the child's well being through their knowledge attitude and practices. Therefore, if the

community is expected to benefit from the CHNW's knowledge which is diminishing very fast, since half of the trainees already have inadequate knowledge, refresher courses and more training, and close supervision are essential. Also knowing very well that this is a very important group of people upon whom the health and nutrition status of the community has been entrusted on then, a quick action is called for. If wrong information is given out to the community, it will further jeopardise the whole effort towards improvement of the health and nutrition status of the community whose level of malnutrition is on the upward trend. In order to avert this trend, well-defined messages should be given to CHNWs who in turn should do likewise to the community, which can only be effective through regular follows-ups coupled with appropriate advice.

However, inadequate knowledge may be attributed to either because, some of the CHNW are not sharing it out and are keeping it to themselves or the training was not adequate, while better performance of the group trained later may mean better training. However, the study failed to establish any statistical significant relationship between level of education and knowledge performance. These findings are in agreement with Gachoki's (1993) research findings on growth monitoring, whereby he established inadequate training and inadequate supervision of community health workers as one of the major reasons for poor performance of growth monitoring centres.

The CHNWs were required to correctly mention their functions, this was one of the questions that was essential to know, but it was surprising to find that only 8.3% correctly outlined them. This can only be attributed to minimal practices because one

can only remember well what they do and strive to improve on. Other studies have recommended that the work of community workers must be clearly defined to meet the priority needs of their communities (Denise, 1997). It is supported by findings from Haiti, the Caribbean and Indonesia (Denise, 1997), whereby preventive programmes, with clearly defined tasks for CHWs, have contributed to dramatic reductions in infant mortality rates. Similar results have been achieved from Vaalwater and Ciskei in South Africa (Denise, 1997).

When comparing the functions reported by the CHNWs and those that came up during FGDs, there appears to be some similarities such as home visiting, community mobilisation and formation of income generating groups. There were some differences too, as the discussants in the FGDs came up with more functions of the CHNWs than the respondents themselves could mention. These can be seen as encouraging from the community members since they are the recipients of the services, hence a positive indicator towards sustainability of the programme. Further still, it was noted from the successful community - based health and nutrition programmes in Brazil, Oman, India and Tanzania that active community involvement is paramount to successful community - based programmes. Therefore, active community involvement from the start, as well as continuous follows - ups of community activities is necessary (UNICEF, 1998, Shekar, et. al; 1992).

When the CHNWs were asked to state some of the advantages of breastfeeding, only 29.2% of the workers scored the required points, while 42% could not mention even one advantage, that is quite perilous. Although knowledge does not automatically bring about behaviour change, it is vital for an individual to know what to change and

the benefits of doing so. Studies done on breastfeeding have shown that mothers must know well the importance of breastfeeding and their benefits, for any change to take place. They also indicate that the proportion of mothers initiating breastfeeding increases as they are exposed to the correct knowledge about its benefits by programmes and groups who promote it (Mine, 1989). Knowledge of breastfeeding is not inherited but acquired. Therefore, with correct information dissemination, health workers can be a mother's main source of support (Helsing et. al, 1985).

With regard to how often infants should be breastfed it was quite encouraging as a majority indicated that they should be breastfed on demand. This was supported by findings that show what health workers ought to do, while counselling mothers not to introduce supplements prematurely and to maintain a 24-hour frequency of breastfeeding to ensure milk supply and fertility suppression (UNICEF, 1999).

One of the major roles of the CHNW is to carry out growth monitoring for children under five years old. However, when they were asked about the reasons for weighing these children, only 16.6% were able to name three reasons correctly. It was also noted that no nutrition education was given to mothers nor were they involved in the weighing of children. Studies done on growth monitoring reveal that it is crucial to understand well the reasons for weighing children, so that one can do it effectively. If growth monitoring is done with efficacy, it is essential for proper growth and development of the child and this can protect and promote nutrition, health and the well-being of the world's children (Morley, 1973). Gopalan and Chatterjee (1985) supported this when reviewing Asian programmes related to health and nutrition. However, it was worrying to note that the number of children brought to the GM

centres was on the decline. A lot of community awareness about the importance of growth monitoring has to be done jointly by both the CHNWs and the Community - Based Nutrition Programme.

It was encouraging to note that, majority of the CHNWs agreed that sick children should be well fed and more often. Starving of children during illnesses has been found to be a common detrimental practice that often than not seriously reduces a child's chances of recovery (Mitzner et. al; 1984). Findings from other studies have shown that malnourished children, by any indicator, have a higher risk of mortality than the well nourished, they grow at a slower rate than normal, have higher vulnerability to infections and lower immunity level (Scrimshaw et al; 1968). It is vital that the CHNW is able to recognise and intervene quickly by giving the right advice to the mothers or guardians of these children.

The Community - Based Nutrition Programme puts a lot of emphasis on control/preventive measures against disease occurrences. But it was interesting to note that, most of the measures advocated for by the programme did not feature prominently. For example, protection of water points was mentioned by one person in one of the FGD, while responses from the CHNWs were as follows; leaky tins were mentioned by 25%, personal hygiene by 5.6%, immunisation of children by 1.4%, and yet these are some of the activities that the programme considered important as it shifted to a community based approach. This means that awareness creation relating to these areas is still inadequate and therefore, more is required by the CBNP in order to have more positive impact.

The PANS team of Mbooni division was very knowledgeable, they knew well the functions as well as the activities and benefits of the different groups of the CRPs. In the FGDs the participants discussed well on the community's perception towards the CHNWs and their work. However, despite all this knowledge and awareness, Kisumu division scored better in practices than Mbooni and yet these teams are the technical people at the ground who ought to work closely with these groups. In spite of this, it was also interesting to note that, the Mbooni PANS team was more cohesive than their counterparts. It is clear that there is inadequate supervision of the PANS teams, which should have been maintained, in order to aid the community make important and positive decisions that affect them.

## 5.2 ATTITUDE

A majority of the CHNWs indicated that the training they had received was good and cited some of its benefits to them and to the community. The community also had high regard for these groups of people saying they are knowledgeable, friendly and good role models. They had benefited from them, especially the decrease in diarrhoea diseases, kwashiorkor and increased awareness in boiling of drinking water. Bringing of growth monitoring centres close to the households meant that, time saved from long distance walk is now used to take good care of their children, as well working hard to improve the food situation. The CHNWs had good practices too; they practised what they taught the community. The above provides information on the **two research questions** asked about the practices and attitude of the CRPs in sharing the acquired knowledge and skills and about how the community perceived the CRPs and their work in the community. Mitzner (1984) supports this findings, she says that people are more willing to receive information from those with whom they



have warm and trusting feelings. However the CHNWs also, came up with some of the challenges that they face such as, the work being hard and tedious, some community members acting to 'know it all', hence do not require their services and advise. They spent a lot of their time moving around in the community and there was no payment of any kind. Therefore, the CBNP has to realise that CRPs are a well-recognised groups willing to work with the community. Monitoring and adequate motivation will be appropriate for them because their activities affect the lives of the whole community.

## CHAPTER 6

### CONCLUSION AND RECOMMENDATIONS

#### 6.1 CONCLUSION

The first objective of the study was to determine the current level of knowledge of the CHNWs. The results of this study provide evidence that all community health and nutrition workers interviewed received training from the community - based nutrition programme. From the curricula used for the training of the various CRP groups, it is evident that a lot of knowledge and skills was imparted on them. However, the water committee members and organic farmers have made little effort in sharing it out, although those who have done so have done good work. The knowledge performance in some essential questions was very encouraging especially from those with additional training. A majority of the CHNW scored half, and above the required points areas such as; their functions, advantages of breastfeeding, supplementary feeding and preventive measures against disease occurrences. But performance in reasons for weighing children and present immunisation schedule was not very encouraging and yet these are the vital areas mostly dealt with hence a better understanding was required. This meant that, if they had received additional training, refresher courses and adequate supervision that should be continuous then, a much better performance would have been achieved. Also more investigation should be done to find out why the older CHNW scored better than the young ones.

Another objective of the study was to determine the practices and attitudes of the CHNWs. Results show that they were regarded as warm and friendly people whom

the community approached easily without any problems. However, in all the growth monitoring centres no nutrition education was given, contrary to what they had outlined as one of their functions. The mothers (guardians) who brought the children for weighing were not actively involved in weighing and reading the weights of the children. Record keeping was very poor, no proper record books and no consistent. But generally, CHNWs are seen as good role models whose activities are recognised and have established a good working rapport with the community that they should continue to strengthen. Concerning attitude the CHNWs themselves were positive almost all of them appreciated their work and acknowledged the training that they had received. They said that they had benefited individually, their families and the community at large and were proud that the community held them in high esteem. Therefore, CHNWs are important to the community and possess knowledge and skills that the community ought to tap from, since most are willing to share. The CHNW also require adequate supervision, and sufficient motivation both from the programme and the community.

The CRPs in general are highly regarded people, seen as a knowledgeable group, especially the CHNWs and TBA. The community sees them as helpful and friendly people who communicate with them freely and work closely with the village elders in knowing the problems of the community and trying to solve them together. The communities also see them as practical people who practised what they taught them hence good role models who have supplemented government efforts at the grassroots level. The community who is the recipients does acknowledge that they have gained a lot from this group and recommended that more should be trained to ease the work and revealed that the other CRPs should emulate the CHNWs and TBA. They even

requested if more people can be trained in the other areas, water and organic farming. This answers the vital research *questions* asked earlier about how the community regards the various CRP groups and the practices and attitudes of CRPs in dissemination of the acquired knowledge and skills to the community.

The CHNWs cited some challenges that they faced in their community work, as; work being tedious, walking for long distances and no payment of any sort, irregular GM attendance, and some members claiming to know everything hence do not require their services. They also revealed that Mbooni community - based nutrition centre was not prompt in sending feed backs whenever they submitted their reports. Another challenge too, was that they were rarely supervised, hence seemed to be on their own (many thought the programme was no longer operating in their areas and had shifted elsewhere). This answers the question on constraints to information utilization by the community. However, with proper training, supportive supervision and sufficient motivation the CRPs can provide more effective services. Supervision is an important element in the implementation of any project if a positive impact is expected. It reveals on what areas need more attention and serves as a forum for discussions and consultations to enable proper decisions to be made. If contradictory nutrition information is given to the community the community gets confused and loose confidence on those charged with the responsibility of passing on appropriate and adequate information. In addition, there should be effective linkages between the CRPs and the community, since majority of the community members acknowledged the work down and services offered by the active groups. Therefore it is in view of the findings that the following recommendations were made.

## 6.2 RECOMMENDATIONS

- 1). The CBNP need to carry out adequate training; both the time and type of training and knowledge impacted on to the selected groups is crucial. The vital areas that need emphasis should be known during the training and refresher's courses carried out on a regular basis. Areas like importance of nutrition education, active involvement of mothers or guardians in weighing the children and proper record keeping.
  - More CHNWs should be trained to ease the workload of those already trained that have to cover a vast area. There should also be adequate supervision of both the CHNWs and the PANS teams to facilitate the implementation of the community's planned activities.
  
- 2). The programme ought to work closely with the two PANS teams who are the technical and back-stoppers at the ground. The teams being the link between the community and service providers, should be encouraged to work closely with the CRPs, in order to establish a strategy on how best they can translate the knowledge acquired into better practices. These will enable them to work together towards improvement of the health and nutrition of the community, especially the vulnerable and the 'at risk'.
  
- 3). On the issue of motivation, especially for the CHNWs, it is important that clear guidelines are set on the issues of remuneration verses voluntary work and emphasised on during the selection of groups to be trained. The community should also continually be sensitised on the work of the CRPs and made aware

that they do not receive any payment from the programme, and hence should look for ways of sustaining them (tilling their land, weeding or harvesting).

- To motivate the CRPs, exchange tours to other project areas should be incorporated into the CBNP, as that will make them acquire new ideas. Motivation could also be in form of teaching aids like posters, brochures, and books for those who can read. This will also make them feel that their work is not inferior, but important to them and the community.

### **6.3 Final Note**

The main objective of the study was to assess the current knowledge, practice and attitude of trained community health and nutrition workers. However, there were no readily available criteria that the researcher could use to come up with an assessment criterion. Therefore, the researcher had to create her own criteria for assessment. These criteria can be used in similar studies in future, while the grading system developed is also useful and can be applied in grading of nutrition programmes. The training of community resource persons by the community - Based Nutrition Programme has been on-going for five years now, it is advisable to carry out a longitudinal study to assess its impact on the health and nutrition of the children.

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# APPENDICES

## Appendix 1: Survey Questionnaire Instructions

The Questionnaire is in four sections. Please respond to all questions in all the sections. If there is any question that you do not understand or you need clarification, please feel free to ask. The interviewer will circle the answers where appropriate.

Interview Number \_\_\_\_\_ Date \_\_\_\_\_

Division \_\_\_\_\_ Village \_\_\_\_\_

Interviewer \_\_\_\_\_

### **Section 1. Demographic Data:**

1. Age of the respondent \_\_\_\_\_
2. Gender            1 = Male            2 = Female
3. Marital status.
  - 1 = Married
  - 2 = Single
  - 3 = Divorced
  - 4 = Widowed
  - 5 = Separated
4. Level of education
  - 1 = No education
  - 2 = Primary education
  - 3 = Secondary education
  - 4 = Others (specify)
5. Current occupation
  - 1 = None
  - 2 = Self- employed
  - 3 = Farmer
  - 4 = Employed in office
  - 5 = Volunteer worker
  - 6 =Others (specify)
6. Religion
  - 1 = Christian
  - 2 = Muslim
  - 3 = Others (specify)
7. Are you currently involved in community health and nutrition work?





16. How often should an infant breastfed?

- 1 = Every 3 hours
- 2 = On demand
- 3 = Do not know
- 4 = Others, (specify)

17. According to you, what is the best age to stop breastfeeding a child altogether?

- 1 = \_\_\_\_\_ months
- 2 = \_\_\_\_\_ years
- 3 = Others, (specify) \_\_\_\_\_
- 4 = Don't know

18. What are some of the foods grown in this community?

_____	_____	_____
_____	_____	_____
_____	_____	_____

19. What should be babies' first additional feed to breastmilk.

- 1. =Water
- 2. =Uji(porridge)
- 3. = Mashed fruits
- 4. = Fruit juice
- 5. = Sugar water
- 6. =Salt-sugar solution
- 7. = Mixed diets
- 8 =Others

20. At what age should these feeds begin?

- 1 = Below 1 month
- 2 = 1 - 2 months
- 3 = 3 - 4 months
- 4 = 6 months - 1 year
- 5 = 1 - 2 years
- 6 = Above 2 years

21. Should sick children be given any food?

- 1 =Yes
- 2 =No
- 3 =Don't know

22. If yes, what foods are recommended for sick children?

_____
_____

23. What are the common childhood diseases?

_____	_____	_____
_____	_____	_____

24. Is diarrhoea a big problem in this community?

1 = Yes      2 = No

3 = Don't know

25. If so, what are the major causes of diarrhoea?

\_\_\_\_\_

\_\_\_\_\_

26. What advice do you give a mother whose child is having diarrhoea?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

27. What are some of the control / preventive measures that the community should take against diseases occurrences?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

28. What is the present immunisation schedule for children under 5 years?  
(fill answers in appropriate columns )

Age of immunisation	Disease
1.	
2.	
3.	
4.	

29. What is growth monitoring?

1 = Checking if the children are eating

2 = Assessing the growth of children below age 5 to ensure they are growing well and if not, intervene.

3 = Finding out whether children are breastfeeding well

4 = Don't know

30. What are the reasons for weighing children?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**SECTION 111. ATTITUDE**

31. What do you think about the training that you received?

\_\_\_\_\_

32. Do you think the training received is adequate and relevant to your work? Explain how

\_\_\_\_\_  
\_\_\_\_\_

33. According to you, what are some of the challenges you face as a community health and nutrition worker?

\_\_\_\_\_  
\_\_\_\_\_

**SECTION 1V. PRACTICES:**

34. About, how many children do you weigh per a growth monitoring session?

1 = Below 10

2 = 10 - 20

3 = 21 - 30

4 = More than 30

35. What advice do you give to mothers whose babies are (fill answers in appropriate columns

<b>Underweight</b>	<b>Well nourished</b>
1.	
2.	
3.	

36. Do you 1 = Agree 2 = Disagree 3 = Don't know

the following statements, on the importance of carrying out cookery demonstrations?

1. Encourages the use of locally available foods to make balanced diets \_\_\_\_\_
2. Provides more knowledge on how to prepare balanced diets \_\_\_\_\_
3. Encourages mothers to sell local foods and buy other foods (e.g. bread, etc.) \_\_\_\_\_
4. Helps mother improve their cooking methods \_\_\_\_\_

37. What nutritional and health advice do you give to pregnant women?

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38. Where do most women in this community delivery?

1 = At home

2 = At the health facility

3 = Don't know

39. How do you administer children with diarrhoea cases when presented to you?  
Explain

---

---

---

40. Does the community here, know who you are and the services you offer?

1 = Yes

2 = No

3 = Don't know

41. If yes, are the services you provide accessible and acceptable? Explain

---

---

### **General Comments**

42. In your opinion, how does the community perceive your work

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43. In your community health and nutrition work, what lessons have you learnt about your work?

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44. Do you have any additional comments that you would like to make about this study or other issues that you feel the study should have also addressed?

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## **Appendix 2: FOCUS GROUP DISCUSSION GUIDE COMMUNITY MEMBERS.**

1. Do you have any community health and nutrition workers in your community
2. What are the roles/functions of these workers?
3. What specific activities are the community health and nutrition workers involved in your community?
4. What are the community's perceptions and attitudes towards the community health and nutrition workers?
5. How has your community benefited from the work of the community health and nutrition workers?
6. Do you have any trained traditional birth attendants (TBA) in your community? If so, how functional are their services?
7. How does your community perceive the TBA's and their work?
8. What do you know about the organic farmers?
9. What are the advantages of organic farming as compared to other types of farming?
10. Do you have any water committee members in your community? If so, what are their specific responsibilities? And how effective have they been in their work?
11. Generally, how useful have these groups (CHNWs, TBAs, organic farmers and water committee members) been to your community? Explain

### Appendix 3: OBSERVATION GUIDE - Growth monitoring centre.

Date \_\_\_\_\_ Division \_\_\_\_\_ Location /area \_\_\_\_\_

Name of GM centre \_\_\_\_\_

Will observe the conditions of some of the weighing tools used by the CHNWs at some GM centres and their record keeping.

1. Please, observe the following items and condition (indicate appropriately in the table)

Conditions 1 = good 2 = Fair 3 = Poor

Items	Good	Fair	Poor
Scales			
Pants			
Length boards			
Surrounding			
Record keeping			

( *Observe the following from the records* )

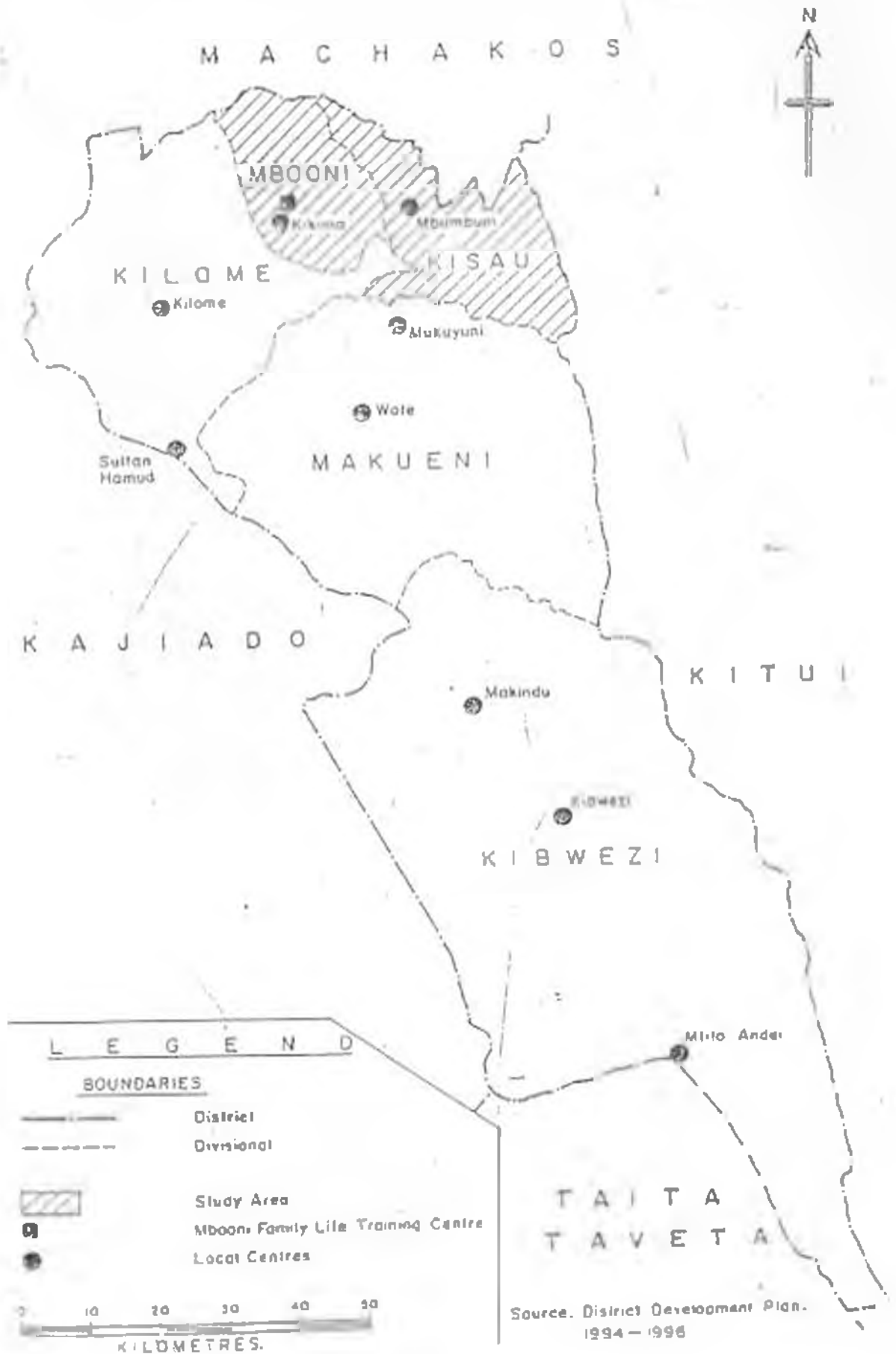
2. How many community growth monitoring centres were started after the training?
3. How many are functional?
4. How many have closed down?

( *Observe* )

5. Observe if any nutrition education is given
6. Are the mothers / guardians actively involved in weighing children?

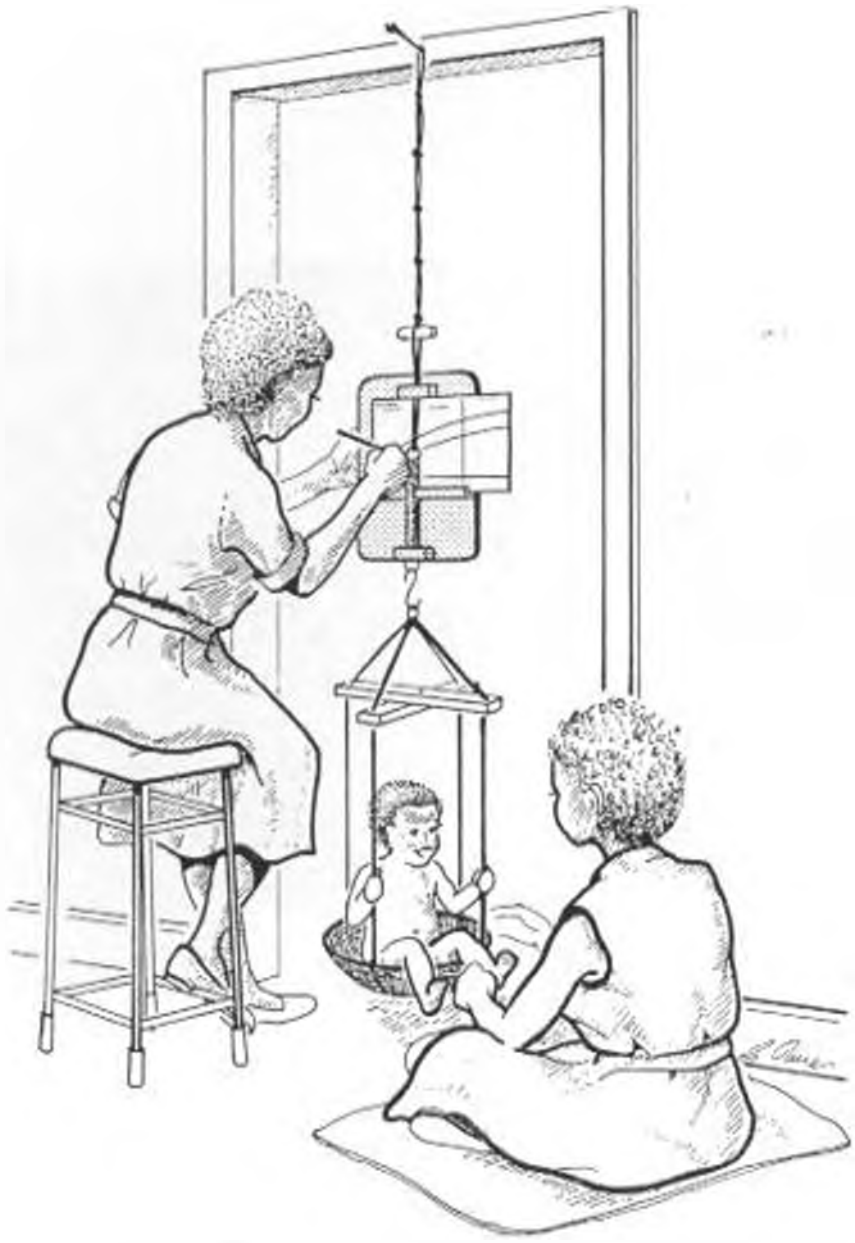


**Appendix 5: LOCATION OF THE STUDY AREA IN MAKUENI DISTRICT.**





**Appendix 6 : TRAINING OF CHWs**



**Community workers must keep watch and look out for trouble before it comes  
Prevention is better than cure!**

## Appendix 7 : TRAINING OF CHWs



**"Good training is absolutely essential to the success of CBHPs and the costs involved must not be under-estimated."**

**Appendix 8: CONCEPTUAL FRAMEWORK ON THE CAUSES OF MALNUTRITION (UNICEF 1992)**

