

**NUTRITION SITUATION IN KAKONKO AND KASANDA DIVISIONS
KIBONDO DISTRICT**

BASELINE SURVEY REPORT



TANZANIA FOOD AND NUTRITION CENTRE

Ocean Road, no:22

P.O. Box 977

Dar Es Salaam

Tel:118137/8/9; Fax:116713

Email: tfnc@muchs.ac.tz

August 1999

Acknowledgement

Tanzania Food and Nutrition Centre (TFNC) wishes to acknowledge with sincere gratitude all those who contributed to the successful completion of this baseline survey report on nutrition situation in Kakonko and Kasanda divisions, Kibondo district.

We are indebted to UNICEF for financing the study. We would like to thank staff of UNICEF in both Dar es Salaam and Kibondo field offices for facilitating the study.

The valuable assistance received from offices of Kibondo District Commissioner and District Executive Director is highly acknowledged. We understand that coordination of fieldwork would have been difficult without their support and cooperation. In this regard we would like to express our gratitude to Mr. Mussa Mangunguli who worked tirelessly with TFNC facilitators until late hours.

We wish to express many thanks to all Ward and Village Executive Officers for mobilizing the community in study areas to participate in the study as well as staff from health facilities and primary schools for allowing their premises to be used by survey teams. We are also grateful to household members who were involved in the study; without their co-operation this study would not have taken place.

Last but not least we would like to express our appreciation to all enumerators for their dedication and commitment during field work.

TABLE OF CONTENTS

Executive Summary	vi
1.0 INTRODUCTION.....	1
1.1 Rationale for Nutrition Assessment.....	1
2.0 OBJECTIVES OF THE ASSESSMENT	3
2.1 Overall objective.....	3
2.2 Specific Objectives:	3
3.0 SOCIO-ECONOMIC PROFILE.....	3
3.1 Location and Area	3
3.2 Population	4
3.3 Climate.....	4
3.4 Administrative Structure	4
3.5 Economic Activities	4
3.5.1 Agriculture	5
3.5.2 Processing Industries.....	5
3.5.3 Forest and Game Reserves	5
3.5.4 Mineral Resources	5
3.6 Social Services	5
3.6.1 Education.....	6
3.6.2 Health Services.....	6
3.6.3 Water Supply	6
3.6.4 Road Network.....	6
3.6.5 Air Services	7
4.0 METHODOLOGY.....	7
4.1 Study area and Population	7
4.2 Sampling Procedure	7
4.2.1 Sample size determination	7
4.2.2 Selection of villages	8
4.2.3 Selection of Households	9
4.3 Survey Instruments	10
4.4 Recruitment and Training	11
4.5 Organization and Logistics	11
4.6 Data Collection	11
4.7 Ethical Considerations.....	12
4.8 Data Handling and Analysis.....	12
5.0 RESULTS AND DISCUSSIONS	13
5.1 Description of surveyed population.....	13

5.1.1 Household leadership	13
5.1.2 Household size	13
5.1.3 Age distribution	14
5.1.4 Education level	14
5.1.5 Main Occupation	16
5.2 Health and Nutrition Situation	17
5.2.1 Morbidity	17
5.2.2 Nutritional status of children under five years	19
5.2.3 Low birth weight	26
5.3 Basic Services	28
5.3.1 Health services	28
5.3.2 Water and Environmental Sanitation	30
5.3.5 Family Planning Services	34
5.3.4 Immunization	35
5.4 Infant and child feeding practices	36
5.4.1 Duration of breastfeeding	36
5.4.2 Complementation	38
5.3.3 Feeding Frequency	39
5.5 Care of Vulnerables	40
5.5.1 Division of labour	41
5.5.2 Underfives care	42
5.5.3 Pregnant and lactating women	42
5.6 Community Participation	43
5.6.1 Participation in the decision making	45
5.6.2 Presence of Community groups	45
5.6.3 Contribution of resources	46
5.6.4 Information Communication and sharing	46
5.7 Effects of Refugee Influx	47
5.7.1 Refugees and Health	47
5.7.2 Other services	48
5.7.3 Diversification of market products	49
5.7.4 Labour market	49
5.7.5 Transfer of skills	49
5.7.6 Refugees and Environment	49
5.7.7 Security problem	50
5.8 District Potential and Constraints	50
5.8.1 Health	50
5.8.2 Agriculture and Livestock Development	51
5.8.3 Education	52
5.8.4 Community Development	52
5.8.5 Planning	52
3.0 Main Findings and Recommendation	53
7.0 REFERENCES	57

List of Figures

Figure 1:	Disease pattern by age group in Kakonko division 24 hours before the survey.....	19
Figure 2:	Disease pattern by age group in Kasanda division two weeks before the survey.....	19
Figure 3:	Nutrition status of underfive interms of stunting;Underweight and wasting.....	20
Figure 4:	Stunting pattern by age group (in months) in Kakonko.....	22
Figure 5:	Stunting pattern by age group in months) in Kasanda.....	22
Figure 6:	Underweight pattern by age group (in months) in Kakonko.....	24
Figure 7:	Underweight pattern by age group (in months) in Kasanda.....	24
Figure 8:	Wasting pattern by age group (in months) in Kakonko.....	26
Figure 9:	Wasting pattern by age group (in months) in Kasanda.....	26

List of Tables:

Table 1:	Study villages by division, ward and Ecological zone.....	9
Table 2:	Population and household size of selected villages by division, ward And ecological zone.....	10
Table 3:	Household heads by sex in Kakonko and Kasanda divisions.....	13
Table 4:	Age group distribution for surveyed households in kakonko and Kasanda.divisions.....	14
Table 5:	Educational level of household members by sex in Kakonko and Kasanda divisions.....	15
Table 6:	Distribution of household members by main activity by sex in Kakonko and Kasanda divisions.....	16
Table 7:	Percentage of children underfives years of age who were sick 24 houses preceding the survey.....	18
Table 8:	Percentage of children underfive years of age who were sick two weeks before the survey.....	18
Table 9:	Nutrition status of underfives in Kakonko and Kasanda as reflected by mean and median of z-scores.....	20
Table 10:	Number and percentage of children who are normal, moderate and severe stunting by age.....	21

Table 11:	Number and percentage of children who are normal, moderate and severe underweight by age.....	23
Table 12:	Number and percentage of children who are normal, moderate and severe wasting by age.....	25
Table 13:	Proportion of birth weight and home deliveries for underfives in Kakonko and Kasanda divisions.....	27
Table 14:	Availability and distribution of health care facilities by ward.....	28
Table 15:	Percent of households that are accessible to health facilities.....	29
Table 16:	Percent households regularly using services of nearest health facilities.....	29
Table 17:	Percent of households using different sources of water.....	30
Table 18:	Proportion of households within a recommended and not recommended distance to source of water.....	32
Table 19:	Percent of households and type of toilet facility.....	32
Table 20:	Percent of households and type of waste disposal facilities.....	33

Table 21:	Percent of underfives who have completed vaccination for their age.....	36
Table 22:	Age at which children stop breastfeeding in Kakonko and Kasanda.....	37
Table 23:	Reasons for stopping breastfeeding in Kakonko and Kasanda division.....	37
Table 24:	Percent and age at which solid foods are introduced to children underfive years of age.....	38
Table 25:	Percent of children underfive and number of meals taken in 24 hours.....	39
Table 26:	Division of labour in a household as perceived by members of focus group.....	41
Table 27:	Percentage of underfives and their care givers in the two divisions.....	42
Table 28:	Health staff disposition in Kibondo district.....	50

Executive Summary

This report presents findings of Nutrition situation in Kakonko and Kasanda divisions of Kibondo District. The survey aimed at establishing baseline information which will facilitate planning and monitoring of nutrition interventions. The assessment of nutrition situation prior to initiating any intervention was considered important for consensus building among stakeholders on priority areas to be addressed during the planning process.

The survey focused on assessment of the magnitude of Protein Energy Malnutrition (PEM) among children underfive years of age and the extent to which major diseases related to malnutrition affect them. Provision of information for application of triple A process (Assessment, Analysis and Action) during initiation of the Child Survival Protection and Development programme activities as well as involvement of district personnel in the initial stage of Triple 'A' i.e assessment of the problem were among the aims of the survey.

The survey draws secondary data from relevant sources including Kibondo district council and various relevant institutions and organizations in Tanzania. Primary data for households and the community in general was collected through quantitative and qualitative method. Assessment of nutritional status was done by anthropometric measurements of all children underfive years in sampled households.

The survey reveals that severe and chronic protein energy undernutrition is prevalent in the two divisions as indicated by levels of stunting (above 50 percent) and underweight (above 40 percent). Fevers associated with malaria, diarrhoea, coughs and other respiratory tract infections were prevalent among children underfives. Other diseases found during the survey were eye infections, scabies, measles and worm infestation.

Breastfeeding practices are positive to nutrition since initiation of breastfeeding is done soon after birth; all infants receive colostrum and are breastfed for a reasonable period of time. In addition, early as well as late complementation accompanied by few number of meals in a day among underfives were some practices revealed by the survey in relation to child feeding practices.

Besides adequate distribution of health care facilities the services offered were perceived by the users to be poor. Main reasons attributed to the situation among others were inadequate drugs and essential equipment, understaffing and high number of underqualified health staff in the districts.

Water services were also a problem in the two divisions as some were from unsafe sources and majority of the people (90.8 percent) found to be far from the sources implying that a lot of time is spent by household members in obtaining the service.

Many households (more than 94 percent) have toilet facilities and dispose their domestic waste in pits but practices related to personal hygiene were limited. There was gender biased division of labor which subjects women to more workload compared to men. However, men were willing to undertake activities perceived to be *feminine* in nature if improved technology was involved.

Despite the increased nutritional demand during pregnancy and lactation there was less consideration in terms of food and reduction of work for women during the period. Women have to work to the end of pregnancy.

It was also learnt that people were involved in making vital decisions regarding their development and most of the projects initiated in the villages were the result of significant contribution from villagers. This forms a basis for mobilizing people to initiate activities to solve their problems. Regarding refugees influx in the district, there were both positive and negative attributes associated to the influx.

The district is potentially capable of dealing with most of the problems. Along the process of solving those problems, setbacks such as under staffing and under qualified staff in different sectors and departments may require support to complement district efforts.

1.0 INTRODUCTION

The need for conducting Nutrition Assessment in Kibondo district is an outcome of appraisal mission by TFNC/UNICEF for initiating Child Survival, Protection and Development (CSPD) Programme in Kibondo district. During the visit to the district, the TFNC/UNICEF mission team held a meeting with individual heads of sections and also made a field visits. From the meeting and field visit it was observed that among other things there was inequitable distribution of social services in the district. In addition, refugee influx from Burundi was reported by district to have adverse effect on the communities' welfare (TFNC/UNICEF Appraisal mission Report, 1999).

The current refugee influx in Kibondo and neighbouring districts of Kasulu, Kigoma and Ngara began after the abortive coup against President Melchior Ndadaye of Burundi on October 21, 1993. As a result an estimated 250,00 Burundian refugees fled to Kigoma and Kagera regions (UNHCR, 1999). Initially, Tanzanian villagers from respective areas were hosting the refugees. Semi-permanent settlements were later established in Mtabila, Kanembwa and Mkungwa areas in Kigoma region. Due to the continuing insecurity in Burundi, the influx that began in 1993 continued until the refugee's population increased from 28,000 in May 1996 to 167,705 by the end of December 1998 (UNHCR, 1998).

The joint consultative meeting therefore recommended the following actions:

- Child Survival, Protection and Development (CSPD) should start soon in the district
- A health and nutrition assessment be undertaken prior to the initiation of CSPD programme.

1.1 Rationale for Nutrition Assessment

The latest information on the health and nutrition situation of Kibondo district comes from 1993 survey supported by the World Bank. Basing on the survey results and from other sources of information such as the Health Information Management System and MCH reports, the nutrition and health conditions of the people in the district were considered to be not good. At the same time, available information on health and nutrition was based on health facilities that are not evenly distributed. The absence of community based information on current health and nutrition situation has made it difficult to ascertain the type, severity and

spread of health and nutrition problems in the district.

Before initiating any interventions it was considered crucial to conduct nutrition situation assessment in the district. The assessment results would not only facilitate consensus building among stakeholders on priority areas to be addressed but would also provide baseline information for monitoring programme outcomes and impact.

In order for someone to understand the causes of malnutrition in a particular society and their relationship, information which will show explicitly health and nutrition situation of the area and if possible their likely determinants is vital. Once such information is available a "Triple A" process can be used to facilitate decision making process which will lead to appropriate actions for improving the observed situation. The application of "Triple A" process has to be in all levels, since each level of the society has a role to play in a process of eliminating malnutrition. This report attempt to provide information which could be used by the district and the two divisions to set triple "A" process in motion.

Information presented in this reports was collected from documents, households and discussions with community members. Before embarking on further analysis, a meeting was conducted at district level in order to present preliminary findings. Some of the findings have already started to be implemented. Therefore, we hope that this report will facilitate further actions which could not take place as a result of the preliminary report.

It is worthwhile at this juncture to highlight the structure of the report. The subsequent sections includes objectives of the assessment, social economic profile of the district methodology, results and discussions and last section provide summary of main findings and recommendations.

2.0 OBJECTIVES OF THE ASSESSMENT

Overall objective

The assessment was conducted with the overall objective of generating basic information on the health and nutrition situation of communities prior to CSPD start up in the district.

The results of the assessment will serve the dual purpose of updating districts information on health and nutrition situation and facilitate planning of interventions amidst scarce resources.

2.2 Specific Objectives:

The specific objectives of the assessment were as follows:

- a) Provide baseline information on the health and nutrition situation;
- b) Facilitate consensus building among stakeholders on the main problems affecting women and children in the district for prioritization of interventions;
- c) Provide information for application of "triple A process" i.e. Assessment, Analysis and Action during CSPD initiation;

3.0 SOCIO-ECONOMIC PROFILE

This section presents profile of basic socio-economic information for Kibondo district. The information will cover location and area, population, climate, administrative structure, economic activities and social services available in the district.

3.1 Location and Area

Kibondo district lies between latitudes 3.9° and 5.0° South of the Equator and longitudes 0.2° and 31.5° East of the Greenwich Meridian. To the North the district is bordered by Ngara and Biharamulo districts. To the East it is bordered by Bukombe and Kahama districts. To the South the district shares border with Urambo, Kigoma and Kasulu districts while to the West is shares border with the Republic of Burundi. The district occupies a total area of 16,058 km² of which arable land is around 8,000 km². Approximately, two thirds of the district area is covered by forest and game reserve.

3.2 Population

According to the 1988 population census, the population for Kibondo district was 175,604. With a population growth rate of 2.8 percent per annum, the district's population for 1998 was estimated to be 231,455 with 124,154 females and 107,301 males. The population density is 11 persons per square kilometer. However, the population distribution is highly un-even since forest and game reserve cover about two thirds of the area in the Eastern and Southern parts of the district.

3.3 Climate

The district experiences a sub-tropical type of climate. Temperatures range between 15°C and 22°C. Rainfall is bimodal ranging from 800 mm to 1600 mm per annum. Wettest months are April and May while August through October is the driest period.

Three major ecological zones that exist in the district are:

- the Highlands that comprise the hilly zone in the western part of the district;
- the Intermediate zone which is heavily dissected by river valleys; and
- the Lowland which occupies about two thirds of the district, covered by Miombo woodland and infested with tsetse flies.

3.4 Administrative Structure

Kibondo district is comprised of four administrative divisions namely Kibondo, Kakonko, Kasanda and Mabamba. The district has a total of 20 wards and 65 villages. The composition of villages for each division is as follows: Kibondo (24), Kakonko (19), Kasanda (9) and Mabamba (13).

3.5 Economic Activities

Agriculture and livestock keeping are the dominant economic activities in Kibondo district. Fishing though occasionally practised in Malagarasi river other water streams and natural ponds is mainly for domestic use. About 95 percent of fish consumed in the district comes from outside the district namely from Mwanza and Kagera regions and Kigoma district.

3.5.1 Agriculture

Both food and cash crops production are the main agricultural activities. Food crops grown include maize, cassava, banana, groundnuts, beans, pigeon peas and sorghum/millet. Cash crops include coffee, cotton and tobacco. Livestock keeping is also practised and includes cattle, pigs and chicken keeping. However, weak extension services and tse tse fly infestation affect livestock development in the district.

3.5.2 Processing Industries

There are few cotton ginneries in the district. Coffee is processed (pulp-removing) in the homesteads before marketing.

3.5.3 Forest and Game Reserves

There is a large forest reserve (Buyungu/Mwaiye) which covers an area of 5,148 km² with a variety of tree species. The forest is a major source of timber and poles for houses building and other uses and also provides honey and wax for beekeepers. Adjacent to the forest reserve in the Northern and Southern part of the district is the Moyowosi game reserve which offers a variety of fauna species like buffaloes, lions, elephants, whale billed, leopards, giraffes, antelopes, monkeys and hyenas.

3.5.4 Mineral Resources

There are some salt deposits in the game reserve. However, they are not explored and its potential production is not known.

3.6. Social Services

The district experiences both inadequate and inequitable social services distribution among its population. The services include education, health, water supply and transport infrastructure. Problems associated with social services inadequacy are further exacerbated by refugees influx in the district, particularly in Kasanda where two refugee camps are established and Kakonko division which primarily serve as entry point for refugees from Burundi. The situation of social services in the district is briefly described below.

3.6.1 Education

Kibondo district has 67 primary schools and three secondary schools. One of the secondary schools is government owned while the other secondary schools are owned by parents and catholic mission respectively. In addition, there are two training institutions namely a Folk Development College and Maternal and Child Health Training institute. However, the later is not operating due to recent curricula changes in the training institutions under the Ministry of Health.

3.6.2 Health Services

The district has one hospital with 119 beds, three Rural Health Centres with 73 beds, 45 dispensaries and 18 villages health posts. Referral of patients to the district hospital is constrained by unreliable means of transport. Referrals from the district hospital are directed to Kabanga hospital in Kasulu and Maweni hospital in Kigoma. The quality of services rendered is below standard due to inadequate medical supplies and shortage of professional staff. Comparatively, Kakonko and Kasanda divisions are reported to be more under served among all divisions available in the district.

3.6.3 Water Supply

There are 15 gravity and one pumping-water schemes in the district. In addition, there are 21 other water sources comprised of bore and shallow wells, protected springs and three rain harvest points. Nevertheless, the distribution of those water schemes in the district is highly un-even. Kasanda division is the least served with only two types of water sources of which none is gravity or pumping scheme. Kakonko division on the other hand, has a total of 14 water sources of which 10 are gravity, two shallow well/bore hole and two rain harvest points.

3.6.4 Road Network

Kibondo district has a total of 804 kilometres of road network. There are no tarmacked roads. About 125 km of the road network is trunk road of earth/gravel surface which links the district with Kigoma regional headquarters and other districts i.e. Kasulu, Biharamulo, Ngara and Kahama districts. The remaining district and feeder roads network are of earth surface.

3.6.5 Air Services

There is an airstrip located 11 kilometres from Kibondo town. The airstrip is mostly accessed by light private aircrafts; linking the district with other towns with airports and airstrips such as Kigoma, Mwanza and Ngara.

4.0 METHODOLOGY

In this study a combination of qualitative and quantitative techniques were used in collecting primary data. This section describes the sampling procedure, survey instruments, recruitment and training of enumerators. Also the section describes the study's organization and logistics together with some ethical considerations adhered to.

4.1 Study area and Population

The assessment conducted in Kibondo district was specifically focused at Kakonko and Kasanda divisions. The two divisions are reported to be relatively under served in terms of social services such as health, education and water supply.

Basing on the 1988 population census, the 1998 population for Kakonko was estimated to be 65,527. The division is composed of six wards and 20 villages including Kakonko urban with a total of 13,105 households. On the other hand, Kasanda division has three wards consisting of nine villages and 6,425 households with an estimated population of 32,124 people.

4.2 Sampling Procedure

4.2.1 Sample size determination

The study adopted the formula recommended by WHO to determine the number of children under five years of age to be covered when conducting a nutrition survey (Nutrition Guideline, 1995). i.e.

$$n = \frac{t^2 p (1-p) x e}{d^2}$$

Where:

- n = Sample size of children under five years of age
- t = Confidence Interval (CI). 95% CI= 1.96
- p = Prevalence of underweight among children under five (28.8%)

- 1-p = Proportion of children not underweight (71.2%)
- d = Precision error (5%)
- e = Design effect (3)

The prevalence of underweight among children under five years of age was used as critical variable in the study population. The available data shows that prevalence of underweight among children under five years of age in Tanzania is 28.8%. This study required 95% confidence interval and 5 percent absolute precision error. Using the formula a sample size of 926 children under five years of age was obtained for inclusion in the study. Estimation of number of households likely to provide the required children under five years of age was based on the 1988 population census. The national household average of under fives was estimated to be 1.5. Using this estimate, the number of households to be covered in the two divisions were calculated to be around 617. The Probability proportional to size (PPS) technique was used to distribute the 617 households in the two divisions.

4.2.2 Selection of villages

The selection of study villages were based on ecological zones which in most cases determine socio-economic activities of the inhabitants. In the two divisions of Kakonko and Kasanda, two major predominant ecological zones exist, namely lowland and highland areas. To ensure representation of study villages from each zone all villages in the study area were categorized on ward basis which in most cases represent the same ecological zone. Fifty percent of all villages in each division were selected for the study. Table 1 shows the villages selected for the assessment and their respective ecological zones.

Table 1. Study Villages by Division, ward and Ecological zone

Division	Ward and No. of villages	Ecological zone	Villages selected
Kakonko	Kakonko (6)	Lowland	Mbizi Kanyonza Kiyobera Muganza
	Rugenge (2)	Highland	Kiga Kasongati
	Kasugu (3)	Highland	Kinonko
	Muhange (3)	Highland	Kabare
	Nyabibuye/ Rumashi (2)	Highland	Nyabibuye
	Nyamtukuzi (3)	Highland	Kinyinya
Kasanda	Kasanda (2)	Lowland	Kasanda Kazilamihunda
	Gwanumpu (4)	Highland	Bukirio Katanga
	Mugunzu (3)	Highland	Nyagwijima
Total for study area	29		15

Selection of study villages was done to represent each ward which in most cases covers the same ecological zone. Within a ward simple random sampling was used to select the villages. Wards with many villages were given more weight in selecting villages for the study.

4.2.3 Selection of Households

A list of all households with children under five years of age in the selected villages was established with the help of village leaders and health workers of health facilities for the respect villages. A random selection technique was then used to select required number of households from each village selected for the assessment. The actual number of households per village was determined by PPS technique as shown in Table 2.

Table 2: Population and household size of selected villages by division, ward and ecological zone

Division	Ward	Village	Population	Number of Household	Ecological Zone
Kakonko	Kakonko	Mbizi	5735	1147	Lowland
		Kanyonza	3338	668	
		Kiyobera	3409	681	
		Mugunzu	2634	526	
	Rugenge	Kiga	3606	721	Highland
		Kasongati	5002	1000	
	Kasuga	Kinonko	3538	707	Highland
	Muhange	Kabare	4775	955	Highland
	Nyabibuye	Nyabibuye	3013	602	
	Nyamtukuza	Kinyinya	2526	805	
Kasanda	Kasanda	Kasanda	5791	1158	Lowland
		Kazilamihunda	3266	653	
	Gwanumpu	Bukirilo	5234	1047	Highland
		Katanga	3313	663	
	Mugunzu	Nyagwijima	3947	789	Highland
Total					

All available children under five years of age in the selected households were included in the study.

4.3 Survey Instruments

A structured household questionnaire and checklist were developed as survey instruments for collecting both quantitative and qualitative data (Appendix 1 and 2). The questionnaire used in this assessment had five main components i.e. identification particulars, household composition, health and nutrition. The last component covered information on anthropometric measurements which entailed taking weight and height measurements of underfives. Weight was taken using electronic scale (seca) to the nearest 0.1 gm. Height or length of children was measured by length board to the nearest 0.1 cm.

A checklist was used for guiding focus group discussions. The checklist had seven components namely nutrition, gender roles in households, community participation in development projects, refugee influx, health and environmental sanitation, availability and utilization of some basic services. The last component was on availability and utilization of family planning services.

4.4 Recruitment and Training

The field survey team was composed of four resource persons from TFNC and 18 staff who were recruited from Health, Agriculture, Community Development, Education and Planning departments in Kibondo district. Before embarking on field work the team was intensively trained for two days on data collection methods. The training also included familiarization and use of survey tools i.e. household questionnaire and anthropometric equipment. During the training, emphasis was put on standardization and data collection techniques in order to ensure accuracy and precision particularly in taking anthropometry measurements.

4.5 Organization and Logistics

The organization of the nutrition assessment in Kibondo district was guided by the objectives of the assessment. Information regarding the study and its objectives were communicated in advance to relevant divisions, ward and village authorities for securing their cooperation and support, including timely community mobilization and listing of study households.

4.6 Data Collection

The assessment entailed collection of primary as well as secondary data on health, nutrition and other social conditions. The focus was mainly on health, nutrition, education, water and sanitation aspects. Other areas of concern were Community perception on refugee's influx, Knowledge, Attitude and Practice on personal hygiene and sanitation, child feeding practices and care of pregnant and lactating women. Others were community participation in development projects and support network that exists within the community.

Quantitative primary data was obtained through interviewing of parents or guardians of underfives. Anthropometric measurements i.e weight and height of underfives were taken after interviewing household representatives. For qualitative information, three villages were purposeful selected for focus group discussions. One of the villages selected is near to a refugee camp while the remaining two are located in the highland and lowland zones respectively. There were three types of focus groups namely youths comprising both sexes below 25 years of age, adult women above 25 years of age and adult men over 25 years of age in three villages involved in the discussions. Each focus group comprised members ranging from 8-10 people. The discussions were facilitated by resource persons from TFNC and assisted by primary school teacher from respective villages.

Secondary data was obtained through review of relevant reports and relevant documents from Kibondo District Council offices and sectoral departments. Other information was also obtained from UNICEF, UNHCR and TFNC.

4.7 Ethical Considerations

Survey respondents and members of focus group discussions were briefed on the purpose of the survey and asked for their consent for interviewing and discussions respectively. They were also assured of confidentiality of individual information being collected for building the trust needed for their cooperation. During field work, parents of children who were found with clinical signs of severe malnutrition were counselled and advised on immediate action to be taken. Likewise, preliminary observations and results of the survey were communicated to district authorities immediately after field work for alerting them on areas which need immediate attention.

4.8 Data Handling and Analysis

Qualitative information from different focus group translated from Swahili to English. Later it was grouped according to the themes of checklist that was used during group discussion. Information from key informant and three separate focus groups in each village were compared in order to ensure that nothing from the discussion was left out. In addition, the comparison facilitated the process of understanding the perception of different categories of people on various issues raised during the discussions in respective groups.

Processing of quantitative data started immediately after the interviews by manually checking all the responses recorded on the questionnaire in order to maintain field data collection quality. Manually edited data were then entered into the computer using "EPI INFO" software version 6.04. After finishing data entry logical cleaning of data was done by running frequency tables. Thereafter data analysis of clean data was done using the same software.

5.0 RESULTS AND DISCUSSIONS

5.1 Description of surveyed population

This section gives description of the population surveyed in Kakonko and Kasanda divisions in order to understand its characteristics in terms of household leadership and size, age distribution, level of education attained and main occupation of household members. Understanding of these characteristics is important for facilitating the interpretation of other survey results such as ownership of resources at household level and their distribution for general household welfare and care of children and pregnant women in particular.

5.1.1 Household leadership

Survey results show that most of the household heads in both Kakonko and Kasanda divisions were male (Table 3).

Table 3: Household heads by sex in Kakonko and Kasanda divisions

Division	Household Leader		Household Leader		Total
	Male headed		Female headed		
	No	%	No	%	
Kakonko	369	92.5	30	7.5	399
Kasanda	206	94.5	12	5.5	218
Total	575	93.2	42	6.8	617

The fact that many households are headed by males and both parents are staying with their families, children are more likely to get support from both parents. This suggest that there is a great opportunity for advocating adequate care in many families in the two divisions.

5.1.2 Household size

Information about household size is important in understanding some of the factors affecting care of children in a household. Maximum household size in Kakonko was 14 persons while in Kasanda was 12 persons. Minimum household size for both Kakonko and Kasanda divisions was three persons and the average household size was 5.9 in Kakonko and 6.2 for Kasanda. The difference in household size in the two divisions was not significant ($p=0.09$). The observed household size in both divisions is slightly above the national average i.e 5.2.

5.1.3 Age distribution

Distribution of age groups in a population is important factor in understanding nature of a population in terms of ratio of dependants to working age group. Table 4 indicates that about 27.3 percent of the population in Kakonko is underfive while children between the age 5 to 14 years is 30 percent. The same pattern was observed in Kasanda. The underfives were around 25 percent and children between 5 to 14 years were about 32 percent.

Table 4: Age group distribution for surveyed households in Kakonko and Kasanda divisions

Age group (Years)	Kakonko		Kasanda		Total
	No	%	No	%	No
Underfive	603	27.3	300	25.4	903
5 - 14	664	30.0	381	32.2	1045
15 - 25	341	15.4	192	16.2	533
26 - 45	550	24.9	281	23.8	831
46 - 65	48	2.2	29	2.5	77
Above 65	6	0.3	0	0.0	6
Total	12212	100.0	1183	100.0	3395

Furthermore, the eligible working age groups in both divisions of the population in both divisions i.e the age groups between 15 to 25 years and 26 to 45 years account for about 40 percent of the total population.

5.1.4 Education level

Education of household members especially mothers is one of the important factors contributing to improvement of nutritional status of household members particularly children. Table 5 shows the education level attained by household members in both divisions of Kakonko and Kasanda.

Table5: Education level of household members by sex in Kakonko and Kasanda divisions

Education level	Kakonko				Kasanda				Total
	Male		Female		Male		Female		No
	No	%	No	%	No	%	No	%	
Less than 7 years of age	399	36.5	409	36.9	210	34.4	225	38.5	1243
None	150	13.7	174	15.7	82	13.4	92	15.8	498
Adult education	16	1.5	23	2.1	15	2.5	4	0.7	58
Standard 1-4	162	14.8	130	11.7	110	18.0	75	12.8	477
Standard 5-8	345	31.6	365	32.9	183	30.0	183	31.5	1076
Some sec. sch.	8	0.7	3	0.3	3	0.5	3	0.5	17
O-level	5	0.5	0	0.9	6	1.0	1	0.2	12
A-level	4	0.4	0	0.0	0	0.0	0	0.0	4
High education	3	0.3	5	0.5	1	0.2	1	0.2	10
	1092		1109		610		584		3395

It is interesting to note that the proportion of females with no education is higher than that of males in the two divisions. It was found that 15.7 percent of female population has no education compared to 13.7 percent for men in Kakonko division. The same pattern was observed in Kasanda division where majority of women had no education. The situation in Kasanda was 15.8 percent of women had no education while only 13.4 percent for men had no education. On the other hand, the proportion of women who had completed standard 5 to 8 is slightly bigger than that of men in both divisions. In Kakonko division 32.9 percent of women had completed standard 5 to 8 compared to 31.6 percent of men. In Kasanda a similar pattern was observed whereby almost 32 percent of women had completed the same level of education compared to 30 percent for men.

Late enrollment was also found to be a problem as majority of children who were supposed to be in school by their age were still at home doing domestic activities and sometimes selling labour to other people in order to increase household income. Despite the adoption of the national policy on Universal Primary Education over twenty years ago, illiteracy rate is still high in the study areas. These findings emphasize the need of examining the constraints for its implementation and formulating new strategies for reducing illiteracy in both divisions.

5.1.5 Main Occupation

Main occupation was considered to be any activity that occupies more time of household members in order to earn a living. In this study it was found that majority of households members who were above seven years of age were farmers. Table 6 indicates categories of main activities that occupy people's time in the two divisions of Kakonko and Kasanda.

Table 6: Distribution of household members by main activity by sex in Kakonko and Kasanda divisions.

Activity	Kakonko				Kasanda			
	Male		Female		Male		Female	
	No	%	No	%	No	%	No	%
Farming	405	74.9	445	82.9	237	72.9	222	79.9
Tending livestock	2	0.3	5	0.9	0	0.0	4	1.4
Employee	27	5.0	7	1.3	16	5.0	4	1.4
Petty trader	7	1.3	0	0.0	4	1.3	0	0.0
O. business	30	5.5	15	2.8	8	2.5	7	2.6
Others	70	12.9	65	12.1	60	18.5	41	14.7
	541	100.0	537	100.0	325	100.0	278	100.0

Many people in the two divisions engaged in farming with women taking the lead. The proportion of women engaged in farming activities is 82.9 percent in Kakonko and 79.9 percent in Kasanda compared to 74.9 percent and 72.9 percent for men in the two divisions respectively. The proportion of household members engaged in other types of activities such as formal employment, petty trade and attending livestock for their livelihood is quite small in both divisions. However, there were other business (eg. selling labour) which rank second after farming in both divisions.



This finding reveals that still more women are involved in agricultural activities. The extensive involvement of women in agricultural activities may have negative effect on child care particularly if there are no proper arrangements made for adequate care of underfives when parents are working in the field.

From Table 6 it appears that agriculture is the dominant occupation in both divisions. This emphasize the fact that efforts to improve livelihood of people in the two divisions should primarily focus on the sector of agriculture. From group discussion it was revealed that food production has deteriorated over the years due to inability of many families to buy inputs such as seeds and fertilizers, presence of drought, infestation of pests and vermin infestation as well as lack adequate agricultural extension services. The problem has also been further compounded by lack of market for agricultural produce. It is therefore important to invest adequate efforts in agriculture related activities including establishment of stable and reliable markets for their produce. The following quotes confirm the problem of market;

"... people from the district came here to promote cultivation of cotton ... villagers accepted the idea ..., the first harvest were sold to cooperatives by credit ... until to date no one has been paid ..."

5.2 Health and Nutrition Situation

The situation of health and nutrition in Kakonko and Kasanda divisions will be discussed in this section. Aspects covered under health situation include main diseases mostly affecting children i.e. fever which is usually associated with malaria, diarrhoea, cough and pneumonia. In terms of nutrition status of under five anthropometric indicators will be used to describe nutrition situation. These include stunting, underweight and wasting. In addition, low birth weight as an indicator of maternal nutrition and neonatal wellbeing will also be discussed.

5.2.1 Morbidity

The interaction of diseases and malnutrition is the leading cause of morbidity and mortality in children in most African countries. The presence of malnutrition increases the severity of infection and also the presence of infection makes malnutrition worse. Bearing this relationship in mind, it was important to examine the situation of diseases affecting children 24 hours and two weeks preceding the survey. Table 7 and 8 shows the situation in both aspects.

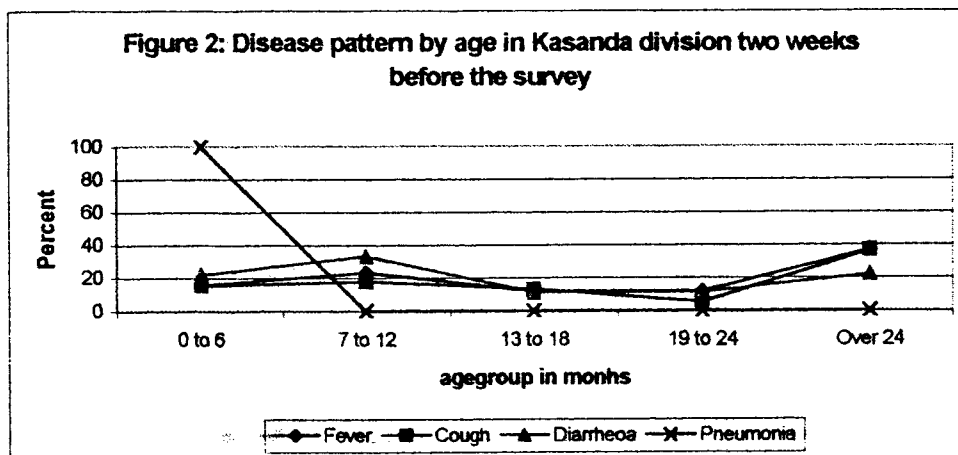
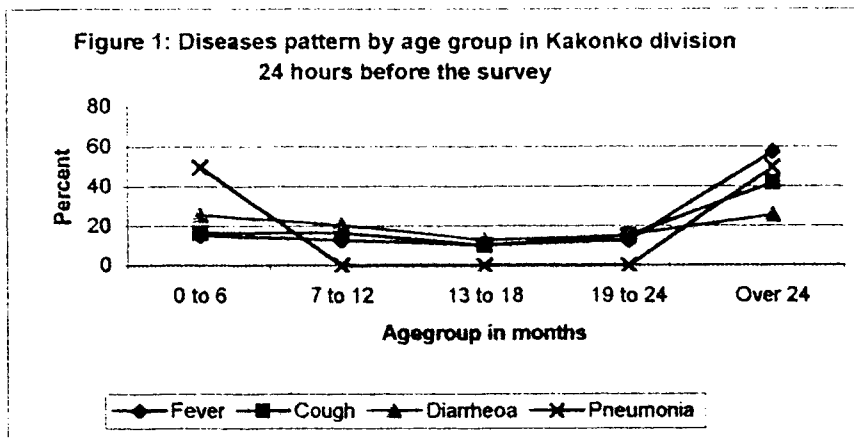
Table 7: Percentage of children underfive years of age who were sick 24 hour preceding the survey

	Kakonko		Kasanda	
	#	%	#	%
Fever	98	16.7	58	16.7
Cough	91	15.5	46	13.3
Diarrhoea	40	6.9	9	2.6
Pneumonia	5	0.9	1	0.3
Others	135	22.9	106	30.5
Normal	220	37.3	115	33.1
	589	100.0	347	100.0

Table 8: Percentage of children underfive years of age who were sick two weeks before the survey

Disease	Kakonko		Kasanda	
	#	%	#	%
Fever	159	27.0	102	29.0
Cough	112	19.0	57	16.2
Diarrhoea	63	10.7	32	9.2
Pneumonia	4	0.7	4	1.1
Others	129	21.9	121	34.4
Normal	122	20.7	36	10.2
	589	100.0	352	100.0

Tables 7 and 8 show similar pattern of diseases. Percentage of children with symptoms of fever (which might be malaria) was high compared to other diseases. Other diseases in terms of hierarchy were cough, diarrhoea, pneumonia and others. Others in this study observed to be parasitic worms, measles, anaemia, skin and eye diseases. *Ascaris Lumbricoides* and round worms were among the intestinal parasites reported by mothers. The presence of ascaris among children suggests existence of poor sanitary conditions that could be harbouring several other microscopic parasites which could not be seen by mothers. Further categorisation of diseases in terms of age groups shows interesting results. Children of age group 0 to 6 and those above 18 months were found to be mostly affected by all forms of diseases namely fever, cough, diarrhoea and pneumonia. Pneumonia was found to affect more young children (0 – 6 months). Figures 1 and 2 summarize the situation observed 24 hours and two weeks before the survey.



5.2.2 Nutritional status of children under five years

Protein-Energy Malnutrition (PEM) in young children is currently the most important nutritional problem in many African countries including Tanzania (Latham, 1997). Failure of children to grow adequately is the first and most important sign of PEM. It is a result of consuming too little food, particularly of energy origin in general and frequently is aggravated by infections (Latham, 1997, FAO, 1997,). The nutrition situation of Kakonko and Kasanda as depicted by the survey shows that stunting was the main nutritional problem followed by underweight and wasting (Figure 3 and Table 9).

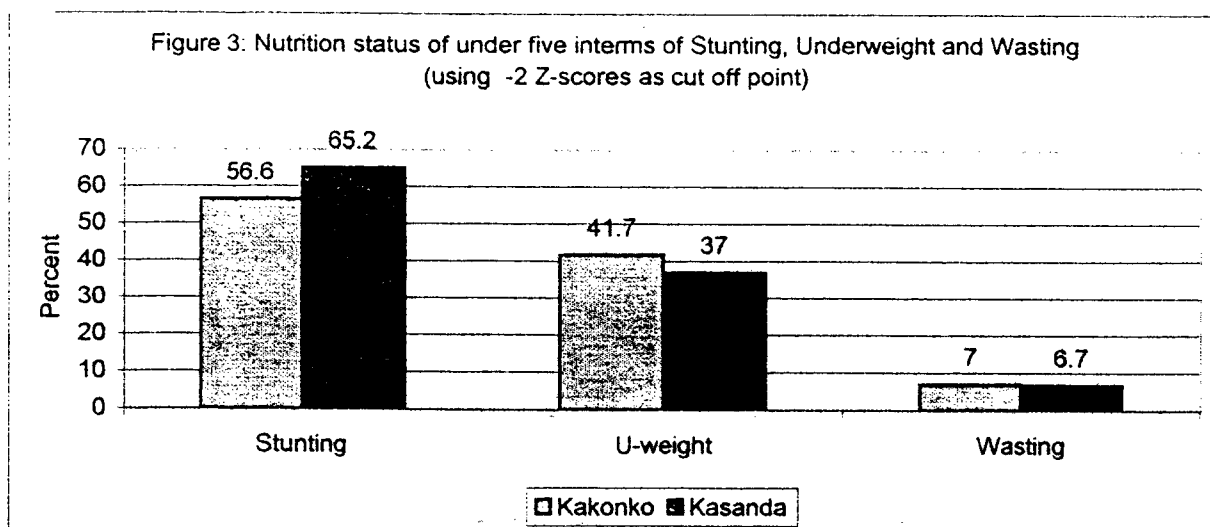


Table 9: Nutrition status of underfives in Kakonko and Kasanda as reflected by mean and median of z scores

	Error! Bookmark not defined.Kakonko			Kasanda		
	Stunting	Underweight	Wasting	Stunting	Underweight	Wasting
Mean	-2.065	-1.636	-0.574	-1.870	-1.379	-0.534
Median	-2.150	-1.740	-0.590	-1.967	-1.520	-0.530
Standard deviation	1.431	1.351	1.124	1.341	1.502	1.031

Table 9 and Figure 3 indicates that stunting is the leading problem followed by underweight in both divisions. Table 9 shows that in average the children from the two divisions are malnourished.

(i) Stunting (Height for Age)

Stunting which relate height to age of an individual indicates past chronic undernutrition. Prolonged undernutrition results into growth retardation in both height and weight but impaired gain in height is referred as stunting. Table 10 shows the prevalence of stunting in both divisions by age.

Table 10: Number and percentage of children who are normal, moderate and severe Stunted by age

Division	Normal		Moderate				Severe					
	#	%	#	%	#	%	#	%	#	%	#	%
Kakonko												
0 - 6 month	40	95.2	34	94.4	1	2.4	2	5.6	1	2.4	0	0.0
7 - 12	14	43.8	17	63.3	14	43.8	6	22.2	4	12.5	4	14.8
13 - 18	8	42.1	8	53.3	5	26.3	5	33.3	6	31.6	2	13.3
19 - 24	16	43.2	11	35.5	10	27.0	12	38.7	11	29.7	8	25.8
> 24	62	41.6	49	31.8	48	32.5	57	37.0	39	26.2	48	31.2
Total	140	50.2	119	(45.2)	78	(28.0)	82	(31.2)	61	21.9	62	23.6
Kasanda												
0 - 6 month	22	100.0	22	100.0	0	0.0	0	0.0	0	0.0	0	0.0
7 - 12	16	72.7	11	68.8	4	18.2	3	1.88	2	9.1	2	12.5
13 - 18	9	56.3	11	55.0	1	6.3	4	20.0	6	37.5	5	25.0
19 - 24	5	50.0	6	31.6	2	20.0	11	57.9	3	30.0	2	10.5
> 24	40	43.5	37	44.0	33	35.9	24	28.6	19	20.7	23	27.4
Total	92	(56.8)	87	(54.0)	40	(24.7)	42	(26.1)	30	(18.5)	32	(19.9)

Table 10 shows lowest prevalence of moderate and severe stunting in children between 0-6 months of age and rises sharply in children between 7 - 12 months of age and also in above 24 months of age. Population in which more than 50 percent of children under five years of age have height for age below -2 z-score are commonly considered to be severely affected (FAO, 1997). The total stunting in both divisions was above 50 percent. In such a situation Kakonko and Kasanda can be regarded as severely affected. The pattern of stunting in both divisions is further illustrated in Figure 4 and 5.

Figure 4: Stunting pattern by age group (in months) in Kakonko

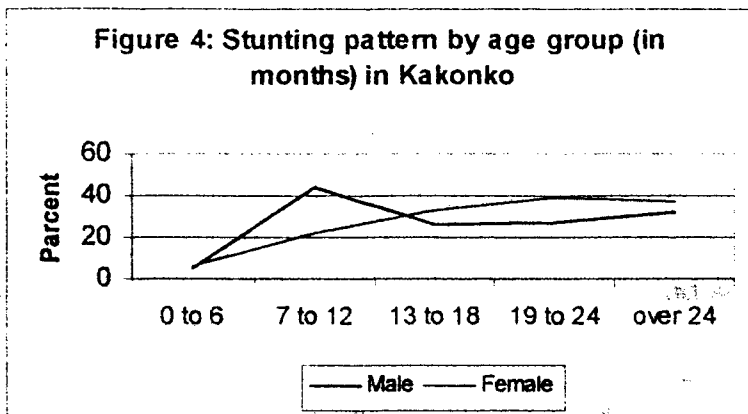
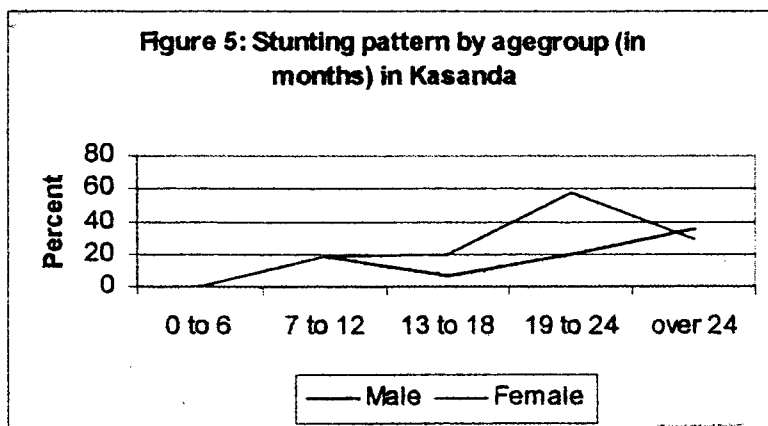


Figure 5: Stunting pattern by agegroup (in months) in Kasanda



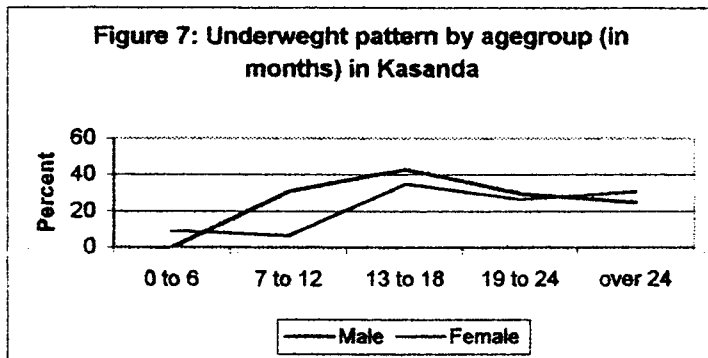
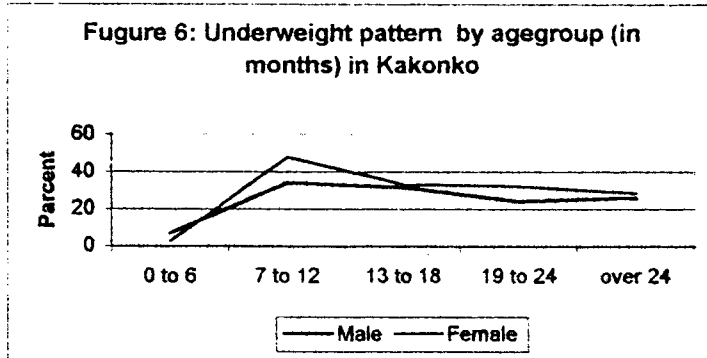
ii) Underweight

Underweight that compares weight to age of a child indicates both chronic and acute malnutrition. A child who weighs less than expected weight for his/her age is referred to underweight. The proportions of underweight children in both divisions are shown in Table 11.

Table 11: Number and percentage of children who are normal, moderate and severe underweight by age

Division	Normal		Moderate				Severe					
	Male #	Female %	Male #	Female %	Male #	Female %	Male #	Female %	Male #	Female %		
Kakonko												
0 - 6 month	38	90.5	35	97.2	3	7.1	1	2.8	1	2.4	0	0.0
7 - 12	12	37.5	9	33.3	11	34.4	13	48.1	9	28.1	5	8.5
13 - 18	5	26.3	9	60.0	6	31.6	5	33.3	8	42.1	1	6.7
19 - 24	21	56.8	16	51.6	9	24.3	10	32.2	7	18.9	5	16.1
> 24	96	64.4	91	59.1	39	26.2	44	28.6	14	9.4	19	12.3
Total	172	61.6	160	60.8	68	24.4	73	27.6	39	(14.0)	30	11.4
Kasanda												
0 - 6 month	22	100.0	20	90.9	0	0.0	2	9.1	0	0.0	0	0.0
7 - 12	14	63.6	11	68.8	7	31.8	1	6.3	1	4.5	4	25.0
13-18	5	31.3	10	50.0	7	43.8	7	35.0	4	25.0	3	15.0
19 - 24	6	60.0	13	68.4	3	30.0	5	26.5	1	10.0	1	5.3
> 24	62	56.9	49	58.3	23	25.0	26	31.0	7	7.6	9	10.7
Total	109	67.3	103	64.0	41	25.5	41	25.5	13	8.0	17	10.6

From table 11 underweight rises sharply after the age of 6 months showing some peaks in children of age between 7 - 12 months of age, thereafter a slight decline start to be observed. Population with 20 to 40 percent of children who are underweight can be considered as moderately affected but more than 40 percent is severely affected (FAO, 1997). Total underweight for both Kakonko and Kasanda was 40 percent. The population in both divisions can therefore be considered severely affected by underweight. The pattern of underweight in both divisions are shown in Figure 6 and 7.



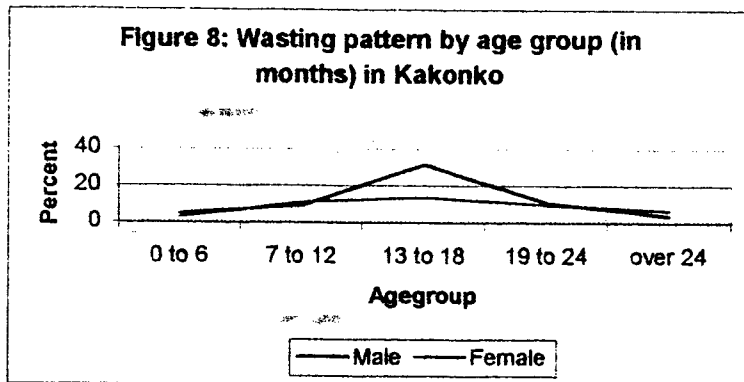
iii) Wasting:

Wasting compares weight to height of an individual. Negative deviations of the indicator from the standard indicate a short term undernutrition (acute undernutrition) due to rapid decline in body weight. Table 12 shows the situation by age in both divisions.

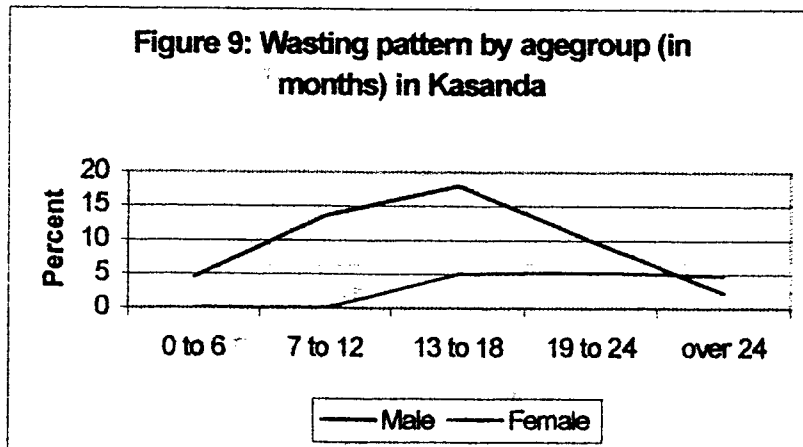
Table 12: Number and percentage of children who are normal, moderate and severe wasted by age

Division	Normal				Moderate				Severe			
	Male		Female		Male		Female		Male		Female	
	#	%	#	%	#	%	#	%	#	%	#	%
Kakonko												
0 - 6 month	40	95.2	35	97.2	2	4.8	1	2.8	0	0.0	0	0.0
7 - 12	29	90.6	24	88.9	2	6.3	3	11.1	1	3.1	0	0.0
13 - 18	13	68.4	13	86.7	4	21.1	1	6.7	2	10.2	1	6.7
19 - 24	33	89.2	33	89.2	4	10.8	1	9.7	0	0.0	0	0.0
> 24	144	96.6	144	96.6	4	2.8	9	5.8	1	0.7	0	0.0
Total	259	92.8	245	93.2	16	5.7	15	5.1	4	1.4	1	0.4
Kasanda												
0 - 6 month	21	95.5	22	100.0	1	4.5	0	0.0	0	0.0	0	0.0
7 - 12	18	81.8	16	100.0	3	13.6	0	0.0	1	5.3	0	0.0
13 - 18	13	81.3	19	95.0	3	18.0	1	5.0	0	0.0	0	0.0
19 - 24	9	90.0	17	89.5	1	10.0	1	5.3	0	0.0	1	5.3
> 24	89	96.7	79	94.0	2	2.2	4	4.8	1	1.2	1	1.2
Total	150	92.6	153	95.0	10	6.2	6	3.7	2	1.2	2	1.2

As it is in the case of stunting and underweight, wasting is minimal in the age group 0-6 months. Prevalence of wasting rises after six month of age until to the age of 13 and 18 then drops or start to stabilize after the age 18 months. Figure 8 and 9 illustrate the pattern of wasting in both divisions.



The highest prevalence of wasting (15 percent) observed in the age group over 24 months. According to FAO (1997). If a 5 to 10 percent of the population group is below -2SD the degree



of acute under nutrition may be considered as moderate. In terms of Kakonko and Kasanda the situation can be regarded as moderate for female and acute for male.

5.2.3 Low birth weight

A baby who weighs less than 2.5 kg at birth is considered to be of low birth weight (UNICEF, 1995, FAO, 1997). The causes of low birth weight are many and interrelated. Causative factors, are the mothers' low intake of energy food low weight gain during pregnancy due to

various reasons such as low pre-pregnancy weight, short stature and diseases such as malaria. Other factors are increased frequency of pregnancy and lactation, combined with the seasonal stress of heavy agriculture work. (ACC/SCN, 1991, Kavishe and Mushi, 1993; FAO, 1997). The situation in Kakonko and Kasanda is summarised in Table 13.

Table 13: Proportion of birth weight and home deliveries for underfives in Kakonko and Kasanda divisions

Division	Normal BWT		LBW		Home Delivery		No Card		Total
	#	%	#	%	#	%	#	%	
Kakonko	245	41.7	28	4.8	281	47.8	34	5.8	588
Kasanda	122	34.8	14	4.0	192	54.9	22	6.3	350
Total	367	39.1	42	4.5	473	50.4	56	6.0	938

Table 13 summarises findings on the birth-weights of children, home deliveries and children who did have card during the interview. The average prevalence of low birth weight in the area is 4.5 percent. The prevalence of low birth-weight in the two divisions is below 10 percent indicating that it is not a problem of public health significance. Birth weight is an important indicator of the well being of neonates and women of reproductive age. Children born with low birth weight are at greater risk of being malnourished in their first year of life. To a mother, low birth weight of her baby is usually an indication of undernutrition mainly of Protein Energy Deficiency and Iron Deficiency Anaemia during pregnancy.

About 50.4 percent were home delivery while 6.0 percent had no MCH card and therefore had no records on birth weight. The home delivery rate is slightly higher in Kasanda (54.9 percent) than in Kakonko (47.8 percent). The proportions of children who are not born in the health facility is high, suggesting that there is underutilization of this particular service. These findings are supported by remarks from members of group discussions who said;

"...traditional birth attendants (TBAs) assists deliveries for a little payments and provides needed care.. as a result mothers are more motivated... and also mothers appreciate the service.."

5.3 Basic Services

Basic services that are going to be discussed in this section are health, water and sanitation. Inadequate availability and accessibility to basic services is one of the underlying causes to malnutrition. (Pelletier, 1994; Jonsson, 1995; Anderson *et al.*, 1995)

5.3.1 Health services

Health services entails not only availability of health staff, provision of adequate preventive and curative services, but also the accessibility to the services by the people. The national policy regarding the accessibility to health services emphasizes the maximum distance of 5 km to the nearest health service (MoH, 1990). By impression it seems that health care facilities are adequately available and well distributed, Table 14 summarise availability and distribution of health care facilities by ward.

Table 14: Availability and distribution of health care facilities by ward

Division	Ward	Health Facility		No of Villages served
		Health Centre	Dispensary	
Kakonko	Nyamtukuza	Nyanzige	Health Centre	3
		Muhange	Dispensary	1
	Nyabibuye	Kabare	Dispensary	2
		Nyabibuye	Dispensary	1
		Rumashi	Dispensary	1
	Kakonko	Kakonko	Health Centre	4
Kasanda	Kasanda	Kabingo	Dispensary	2
		Kasanda	Dispensary	1
		Keza	Dispensary	2
	Gwanumpu	Bukirilo	Dispensary	1
		Gwanumpu	Dispensary	1
		Katanga	Dispensary	2
	Mugunzu	Mugunzu	Dispensary	2
		Nyagwijina	Dispensary	1

Source: Kibondo district social economic profile 1998.

The availability of health facilities as shown in Table 14 does not indicate how many households are accessible to the facilities in terms of distance. Table 15 indicates proportions of households that are within the recommended distance to the nearest health facility.

Table 15: Percent of households that are accessible to health facilities

Division	Recommended Distance				Missing	
	#	%	#	%	#	%
Kakonko	329	95.6	6	1.7	9	2.6
Kasanda	214	93.9	9	3.9	5	2.2
Average	543	94.9	15	2.6	14	2.4

On average 95 percent of households in the two divisions are within the recommended distance of five kilometers to health facility as per ministry of health policy of 1990. This is a positive achievement towards provision of health care. However, the presence of facilities does not guarantee the utilization of the facilities. The utilization of health facilities is shown in Table 16.

Table 16: Percent of households regularly using services of nearest health facilities

Division	Dispensary		Health centre		Total
	#	%	#	%	
Kakonko	279	81.1	63	18.3	
Kasanda	137	60.5	89	39.0	
Average utilization	416	72.7	152	26.6	

Table 16 suggests that health facilities available in the two divisions are actually been utilized as shown by large proportion of household using the nearest facility. Findings from key informants and focus group discussions revealed that the services were not adequate provided. Some of the reasons given were;

"...they were few staff, lack or inadequate diagnostic equipment such as microscope, shortage of drugs due large population served..., In the case of Katanga (a village bordering Burundi) people from Burundi come for service hence drugs get finished early..."

From the quote it is apparent that people served by the existing health facilities are not satisfied with the services. The disease situation observed in both division shows that the demand for drugs was high. However, the supply of drugs which normally determined by guidelines provided by Ministry of Health is done once in a month. Furthermore, the amount of

drugs put in the kit does not take into consideration requirements of drugs in respective villages due to variation of population served.

5.3.2 Water and Environmental Sanitation

Water

The aspect of water is vital especially when one considering causes of diseases such as diarrhoea, dysentery, cholera and typhoid. These infectious diseases are important factors associated with malnutrition problem. Table 17 shows different sources of water and proportions of households using the sources.

Table 17: Percents of households using different sources of water

Source	Kakonko		Kasanda		Average users	
	#	%	#	%	#	%
Tap water	88	25.7	35	15.5	122	21.4
Improved well	53	15.5	38	16.8	91	16.0
Bore-hole	12	3.5	8	3.5	20	3.5
Spring	14	4.1	26	11.5	40	7.0
River/stream	97	28.3	86	38.1	183	32.2
Pond/Dam	7	2.0	1	0.4	8	1.4
Un-protected well	72	21.0	32	14.2	104	18.3
Total	343	100.0	226	100.0	569	100.0

People in Kakonko and Kasanda use different sources of water namely bore-holes, springs, streams or river, un-protected as well protected wells. From Table 17, it is apparent that a large proportion of households in both divisions (32.2 percent) get their water from streams/river, 21.6 percent use tap water, 16 percent use water from improved wells, 18.3 utilise water from unprotected well and only 3.5 percent get water from bore-holes.

The quality of water in terms of safety depends on the source. Unprotected wells, rivers/streams, ponds and shallow wells are sources which are prone to various sources of contamination such as surface run-off and animal droppings. Water from these sources are generally not treated before being used for domestic purposes, therefore possibility of contaminating utensils and foods are higher. Drinking water from these sources can result into water born diseases like diarrhoea and others.

Some of these sources are seasonal which again raise an issue of mothers to spend more of their time on looking for water. Focus group discussions revealed that;

"... Water from streams unprotected wells and springs sometimes get dried and hence unreliable hence unreliable sources.."

This implies that women have to walk long distances looking for water resulting into firstly, increased workload on women increases and as a result affecting both women's health and care of under fives in the households. Secondly, when water is obtained from a distant place the possibility of fetching enough water for domestic purposes is minimal, and the tendency is therefore, to minimize the use of water for domestic purposes to the extent of affecting their general cleanliness. For example, utensils will be washed with small amount of water, washing clothes and bathing will be minimised. The prevalence of water washed diseases in such a situation is an inevitable outcome. Some of the water washed diseases observed in Kakonko and Kasanda were scabies and eye infections. Information from group discussion also revealed that, washing of clothes and taking bath is something which is done once in while due to the problem of water.

Presence of standing waters like in ponds, unprotected wells and ditches is also posed another public health problem as it formed breeding places for vectors like mosquitoes which spreads malaria parasites. This together with uncleared vegetation during the pre-harvest period can be related to observed prevalence of fever in the two divisions.

The national water policy stipulates that maximum distance to the nearest source of drinking water should not exceed 400 metres. The distance to source of water is summarised in Table 18.

Table 18: Proportion of households within a recommended and not recommended distance to source of water

Division	Distance of source of water					
	Households within Recommended Distance		Household within a not recommended distance		Household not responding	
	#	%	#	%	#	%
Kakonko	28	8.4	295	88.9	9	2.7
Kasanda	9	4.0	211	93.8	5	2.2
Average	37	6.6	506	90.8	14	2.5

The physical accessibility of water indicates that 88.9 percent and 93.8 percent of households in Kakonko and Kasanda respectively were not within a recommended distance to sources of water (Table 18).

Sanitation

Sanitation in this study focused on availability and use of facilities and systems used by households for waste disposal. Table 19 shows percent of households and type of toilet facility.

Table 19: Percent of households and type of toilet facility

Division	Proportion of Household with toilet					
	Flush		Pit		No facility/Bush	
	#	%	#	%	#	%
Kakonko	19	5.6	321	93.9	2	0.6
Kasanda	5	2.2	217	95.6	4	2.4
Average	24	4.2	538	94.6	6	1.3

Results from Table 19 indicates that majority of households have pit latrines in both divisions (94.6%) and only a small proportion of the household do not have latrines (1.3 percent) findings from focus group discussions coincide with the findings as it was reported that;

"... Majority have latrines ... this is because of a strong community mobilization aimed at constructing latrines in the divisions... those who could not construct the latrines were fined..."

System used to dispose household waste has an influence on the environmental cleanliness. Table 20 summarises proportion of households and type of waste disposal

used in the villages of both divisions.

Table 20: Percent of households and type of waste disposal facilities

Division	Waste disposal facilities					
	Bin		Pit		Random/field	
	#	%	#	%	#	%
Kakonko	1	0.3	204	59.3	139	40.4
Kasanda	2	0.9	159	70.0	66	29.1
Average	3	0.5	369	63.6	205	35.9

Waste disposal as shown in Table 20 indicates that many households in both divisions (63.6 percent) have pit for waste disposal and 35.9 percent of households dispose waste randomly in the field. Household waste can be used to make composite manure that could be used for improving soil fertility. However, this was not a practice in the two divisions.

☛ Personal hygiene

If health benefits related to water and sanitation are to be fully realized it is important that the aspect of personal hygiene be part and parcel of the sanitation package. The situation of Kakonko and Kasanda with respect to personal hygiene were reported by members of the focus groups during the discussions. The views from the groups are summarized hereafter;

"... Clothes used for work are normally not washed..., Washing depends on the availability of other clothes for changing There is a habit of not taking bath regularly among some people particularly men...., Women take bath at the river/streams sites while men do it at home.. men take bath once a week(on pretext of distance to source of water..."

As discussed earlier, long distance to sources of water affects amount of water collected and usually lead to limited hygienic practices. If adult men who can express their needs can not take bath regularly due to problems of fetching adequate water, what happens to under fives whose need are to be fulfilled by their mothers or other caretakers!

5.3.5 Family Planning Services

Unplanned pregnancies and short intervals between the pregnancies have been cited to be among the factors contributing to inadequate care to children, short period for breastfeeding and even deaths for some children (Latham, 1997). People especially the poor should realise that there are benefits associated with smaller families and the truth that more children require more resources, more food, more care, more time, more school fees and more other needs. Availability, provision and acceptance of family planning services in Kakonko and Kasanda were explored through group discussions. Generally, the services are available and accessible. There is low acceptance of modern contraceptives particularly to men. Reasons for this differed between men and women.

Men gave the reasons that there are side effects that could harm their wives. The side effect includes fever, blood pressure and loss of weight. It was also said that:

"... The health providers themselves are not good example to be emulated, they have many children and talk of side effects.."

This quote shows that health providers are not practising family planning as a result people do not have confidence on what they preach. On the other side, women gave the following reasons; Church norms prohibit the use of modern contraceptives especially Roman Catholics. It was also said that;

"...Our men do not like and family planning education is mainly targeted to women... the service need to be extended to men..."

From the two quotes it is clear that women who goes for MCH services and receive the family planning education do not talk about the side effects as they are well informed. Although women plays a key role in issues related to health care in the family, reproductive and economic activities still they are not able to make vital decision on issues related to their own health. It seems that health education is more targeted to women who are not decision makers. As a result the whole process of promoting family planning and health general need to include the whole society including men. This was also suggested by women during group discussion. They said;

"... men should be included in health education programme.."

Furthermore, discussions with men indicate that men appreciate the benefits of child spacing and that was revealed by the following quotes;

"... My wife got pregnant when our child was only 8 months old to avoid the mistake... these days I am sleeping alone... our child is still young..."

Together with the appreciation of the benefits of child spacing, still option is traditional abstinence method which could be inconvenient leading to temptations which are dangerous in relation to Sexually Transmitted Illness (STI) and polygamisim. The suggestion given by women that "male should be targeted on family planning education" is valid and should not be on family planning alone but to all matters related to family health because men plays key role in decision making.

5.3.4 Immunization

Around 90 percent of the worlds' children now survive beyond their 5th birthday (ACC/SCN, 1998). One of the contributing factor is increased vaccination coverage in which some of the diseases used to kill children have been checked by vaccination.



The diseases are measles, whooping cough, tetanus, tuberculosis and diphtheria. This means that there is a great need of promoting vaccination exercise in order to reduce morbidity and mortality rates. The situation in Kakonko and Kasanda is summarized in Table 21.

Table 21: Percent of underfives who have completed vaccination for their age

Division	Vaccination					
	Complete		Incomplete		No information	
	#	%	#	%	#	%
Kakonko	523	91.3	40	7.0	10	1.8
Kasanda	302	89.1	34	10.0	3	0.9
Average	825	90.5	74	8.1	13	1.4

Table 21 indicate timely completion and coverage of vaccination to under fives. The Table shows that on average 90.5 percent in both divisions had timely completed their vaccination while 8.1 percent did not. Those whose information could not be obtained did not present MCH card during the interview. The immunization results in Kibondo gives information about service users as well as the health care system. The coverage of above 90 percent in vaccination suggests that the users seem to utilize the service. This is an achievement which need to be commended.

5.4 Infant and child feeding practices

Inadequate food intake is one of the immediate causes of malnutrition in the country. This subsection will concentrate on breastfeeding and weaning practices in association to food intake of under fives.

5.4.1 Duration of breastfeeding

The importance of long duration of breastfeeding socially, nutritionally and immunologically necessitate breastfeeding period to two years and beyond. The situation of breastfeeding duration and reasons for stopping breastfeeding in Kakonko and Kasanda are shown in Table 22 and 23.



Age at which children stop breastfeeding in Kakonko and Kasanda division

Age at which children stopped BF in months

Duration	7 to 12		12 to 18		more than 18 month	
	#	%	#	%	#	%
Kakonko	39	12.5	53	16.9	221	70.6
Kasanda	21	10.5	37	18.5	142	71.0
Average	60	11.7	90	17.5	363	70.8

About 70 percent of children stopped breastfeeding at the age above 18 months.

Table 23: Reasons for stopping breastfeeding in Kakonko and Kasanda division

Division	Proportion of children in given reason				
	Pregnancy	Mothers illness	Child's	Weaning illness	Others age
Kakonko	64.1	4.6	6.6	0.3	24.3
Kasanda	57.3	7.0	8.6	0.5	26.5
Average	61.6	5.5	7.4	0.4	25.2

The main reasons for stopping breastfeeding in both divisions was found to be another pregnancy (Table 23).

Initiation of Breastfeeding

Early initiation of breastfeeding is recommended at least within the first hour after birth. Usually it is recommended to put the child into the breast early as it is important to stimulate hormones for lactation establishment. In both divisions it was observed that initiation of breastfeeding is done soon after birth. It was said that;

"... after washing a baby is then put into a breast.."

It is apparent that colostrum is given to the new borns. This was further confirmed during group discussion as it was said;

"... traditionally women are not allowed to express the breast milk on the ground if the children still alive..."

5.4.2 Complementation

Exclusive or nearly exclusive breastfeeding for the first four to six months of life, followed by breastfeeding for many more months while other foods are gradually introduced is considered to provide optimum infant feeding. Age at which food other than breastmilk is introduced to children in both divisions is shown in Table 24.

Table 24: Percent and age at which solid foods are introduced to children under five years of age

Division	Age in months											
	<u>≤1</u>		<u>2</u>		<u>3</u>		<u>4</u>		<u>5</u>		<u>6 or more</u>	
	#	%	#	%	#	%	#	%	#	%	#	%
Kakönko	10	1.8	11	2.0	162	29.0	227	40.7	75	13.4	73	13.1
Kasanda	3	0.9	4	1.2	136	41.6	112	34.3	28	8.6	44	13.5
Average	13	1.5	15	1.7	298	33.7	339	38.3	103	11.6	117	13.2

Introduction of foods other than breastmilk in the study area is done as early as 1 month but majority start between three and four months that is 33.7 and 38.3 in Kakönko and Kasanda respectively (Table 24). The Table shows that majority of children start other foods at three and four months. Early introduction of food increased the risk of exposing infants to contaminated foods since in many rural societies environment in which foods are prepared and fed are not complete hygienically safe. Moreover, early introduction of foods to infants reduces the amount of safe and protective breastmilk taken by the infants and therefore reducing immunological substances responsible for protecting a child from getting infections. Not only

that, also the intestinal tract of an infant might not be strong enough to digest and absorbed the foods as a result causing disturbances in the gut. The reduction of sucking which is a result of early introduction of other foods, may also reduce the stimulation of nipple resulting into insufficient breastmilk syndrome.

Those who start complementation late that is more than 6 months are starving the infants since after six months the food requirements of an infant outweighs breastmilk supply. This put infants into a risk of undernutrition. There is also a possibility of child refusing foods when introduced late. An average weaning age in both Kakonko and Kasanda was found to be 4 months.

5.3.3 Feeding Frequency

Meal frequency in Tanzania on average is twice or three times per day. The recommended feeding frequency for children of under five years of age is more than four times a day. The situation in Kakonko and Kasanda does not deviate from others in Tanzania as seen in Table 25.

Table 25: Percent of children under five and number of meals taken in 24 hours

Age group in months	Number of meals												Total	
	<u>1</u>		<u>2</u>		<u>3</u>		<u>4</u>		<u>5</u>		<u>6</u>			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Kakonko														
0-6	46	59.0	15	19.2	12	15.4	5	6.4	0	0.0	0	0.0	78	14.4
7-12	2	5.9	11	32.4	11	32.4	9	26.5	1	2.9	0	0.0	34	6.3
13-18	9	15.3	16	27.1	28	47.5	4	6.8	2	3.4	0	0.0	59	10.9
Over 18	12	3.2	93	25.1	140	37.7	94	25.3	26	7.0	6	1.6	371	68.5
Total	69	12.7	135	24.9	191	35.2	112	20.7	29	5.4	6	1.1	542	
Kasanda														
0-6	30	68.2	5	11.4	6	13.6	3	6.8	0	0.0	0	0.0	44	13.6
7-12	6	16.7	8	22.2	9	25.0	12	33.3	1	2.8	0	0.0	36	11.1
13-18	6	15.8	13	34.4	11	28.9	4	10.5	4	10.5	0	0.0	38	11.8
Over 18	9	4.4	44	21.5	76	37.1	54	26.3	19	9.3	3	1.5	205	63.5
Total	51	15.8	70	21.7	102	31.6	73	22.6	24	7.4	3	0.3	323	

Table 25 indicates that majority of the children eats 2-3 meals in 24 hours. The younger ones, 0 – 6 months get mostly one meal (59.0 percent). As children grows the number of meals increase to five (20 percent) or even more.



In the first 6 months of life breastfeeding is able to provide all the nutrients required for infant nutrition. Meal frequency at this age is not important as long as the child is fully breastfed. From the sixth to twelfth months full breastfeeding can provide up to three quarters of the energy needed by a child. AS the child grows the energy requirement increased such that breastmilk alone can not meet the requirements. In such a situation number of meals provided to a child is vital in meeting the energy requirements of a child.

5.5 Care of Vulnerables

The conceptual frame work used for analysing the causes of malnutrition shows that care of vulnerable groups such as children, pregnant and lactating mothers is important underlying determinant of malnutrition (Kavishe and Mushi, 1993; Jonsson, 1995). Caring capacity is the ability to use human, economic and organizational resources for the benefit of household members especially the most needy (FAO, 1997). There is a lot of issues one has to consider whether the caring capacity is adequate or not. Such issues are education, knowledge, culture, time and ability to control available resources especially income (Kavishe and Mushi, 1993; Latham; 1997, Jonsson, 1995). For nutrition perspective it involves the integration of the issues to ensure adequate food intake, prevention of diseases and ensuring the accessibility to other basic services which in one way of the other will affect nutrition status. The care of underfive includes breastfeeding which provide security and reduce child stress. Provision of shelter and clothing; feeding; prevention and treating illness, showing affection, interaction and stimulation, playing and socialising as well as providing a safe environment for child survival and development. (Jonsson, 1995, Latham 1997; FAO, 1997).

The way in which care is given is crucial aspect of the whole concept of care (Jonsson 1995). There

must be a motivation to do so, skill, physical capacity, continuity and consistency as well as understanding and adequate responsiveness to the child needs (Jonsson, 1995; Latham, 1997). The situation in Kakonko and Kasanda as related to care is discussed under three major items namely division of labour, care of children underfives and pregnant and lactating women.

5.5.1 Division of labour

Results from the focus group discussions indicate that there is gender division of labour. Table 26 summarizes the findings on division of labour as revealed by member of focus group discussions in the two divisions.

Table 26: Division of labour in a household as perceived by members of focus group

Men perceived activities	Women perceived activities
- House construction	Fetching of construction materials
- All other work pertaining construction e.g. roofing,	Farming
- Wood placement etc.	Fetching water
- Herding livestock	Collecting grasses for roofing and woods
- Long trip business	Cooking
- Farming except weeding	Harvesting, caring children
- Hunting	Stone milling
- Cleaning bush	Weeding

These results suggest that women plays a significant role in production work together with their men. Besides production activities women take full responsibility in domestic chores as well as reproductive activities. Some of the work undertaken by men are seasonal different from many routinely domestic chores performed by women.

Although it was debatable, men claimed that when their wives are sick or have other problem they can assist their wives in performing domestic work such as cooking, chopping and carrying firewood.

It was interesting to learn that men who usually assist their wives were known in the village. Some women said;

"...we know only three men in this place who help their wives and other men laugh at them telling them that their wives have bewitched them..."

Nevertheless, it was further learned that men could undertake activities that perceived to be feminine when technology is involved. For example men were taking cereals to milling machine but they won't use grinding stone at home. This suggests that in order for men to help their wives not only education and awareness creation is needed but also introduction of labour saving

technology must be considered.

5.5.2 Underfives care

Caretaker is an important person in the process of promoting proper growth of a child. Table 27 summarises type of caretakers for children under fives of age in the two divisions.

Table 27: Percentage of underfive and their caregivers in the two divisions

Divisions	Mother		Caretaker				Total	
	#	%	#	%	#	%	#	%
Kakonko	572	97.3	13	2.1	2	0.3	587	62.8
Kasanda	341	98.3	4	0.1	2	0.1	347	37.2
Total	913	97.7	17	1.8	4	0.4	9	934

In both divisions majority of children were getting care from their mothers. Unlike adults, children can not defend themselves. Their health, nutritional needs and their protection has to be supported by adults and usually their mothers. Thus the caring capacity for children is influenced by the time mother has for providing child care. In Kibondo and Kasanda where caretakers are mothers who have a lot to do and walk long distance to look for water, it is unlikely that mothers will breastfeed optimally and spare some time to show affection and interact effectively with their children.

5.5.3 Pregnant and lactating women

Pregnancy and lactation are special situations that increase physiological demand of women thus increasing their nutritional vulnerability. Pregnant and lactating women need special consideration in terms of food and workload. Findings from focus group discussions indicate that pregnant women eats just like others in the family. Normally, it is between 1-2 meals per day depending on the availability of food in the family. It was found that eating breakfast is not very common among adults including pregnant and lactating women. The perceptions of men on women to have a rest especially during pregnancy differed considerably between adults and youth. Majority of adults seem to agree with the following quote while majority of youth did not accept it at all.

"...Pregnant women has to work until the day of delivery...also she has to chop and carry firewood."

The situation during lactation does not differ very much from that of pregnancy. Focus group discussions revealed that;

"... usually lactating mothers are not excused from any work except in the first and the second week after birth.. to allow the umbilical cord to heal after that a woman will carry her baby on her back and continue working normally.."

Lactation like pregnancy requires extra energy. When a woman eats as required during pregnancy there is usually energy served for lactation. As it was stated previously that usually there is no excuse for work and also there is inadequate provision of extra food during pregnancy and lactation. This situation result into women (pregnant and lactating) performing their duties on the expense of their health. During focus group it was confirmed that breastfeeding is always stopped by unplanned pregnancy. Repeated pregnancy and lactation in a shorter period without proper care to women can result into exhaustion of women's body.

In a situation where feeding frequency is low and there is heavy workload especially at the late trimester of pregnancy little energy will be served by women for better pregnancy outcome as well as successful lactation. However, the situation observed in the two divisions regarding the perception of young men on the care of pregnant women gives hope that there is a possibility of change in male attitudes towards care. Male youth commented that;

"... there are type of work which a pregnant women can be excused sometimes in later stages of pregnancy not right from the beginning of pregnancy these include fetching water and collecting firewood.."

The perception of this young generation is promising as it shows some change in their attitude towards care of pregnant and lactating women. This suggests that there is a room for attitude change therefore efforts should be invested in behavioural change interventions.

5.6 Community Participation

Community participation (CP) has three main dimensions namely sharing power and scarce resources, deliberate efforts by social groups to control their own destiny in order to improve their living conditions and opening up opportunities from below (Ghai, 1988). Thus community participation is a process which involves among other things empowerment of the community in decision making, control of resources and participation in different phases of the project cycle. This is because by involving the community in decision making it allows beneficiaries to influence the direction and execution of the programme

(ACC/SCN, 1991). Within the communities of Kakonko and Kasanda, some people considered development projects as those projects which generate income. Social services projects such as roads construction, health facilities rehabilitation etc. were seldom viewed as development projects. When asked on their roles in the development projects in the community the common response was:

"... We had many projects such milling machine and shop, to date none is functioning..

"

In regard to the projects, it was found that almost all of the income generating projects established in both Kakonko and Kasanda division were not operating. The main question one would like to have an answer is why? It was quite clear that people were not involved in making decisions regarding those projects such as prioritization of their needs, planning and monitoring of projects implemented in their villages. This was clear during focus group discussions where it was reported that some of the projects were nationalised by the government and handed over to the villages.

It is apparent that there was little preparation of the villages to take over the project such that all members of the villages including their leaders could feel ownership and therefore instill sense of responsibility and accountability. The nationalised projects were given to the village as "gift" or "reward" without adequate consideration of various management aspects as a result most of them were not functioning due to lack of accountability.

Despite these shortcomings people in the villages were still willing to contribute their labour, time and materials to other projects such as building new classes, digging trenches for water pipes, rehabilitation of health facilities and schools. People said;

"... we are willing to contribute labour and materials such as sand, and stones because no one can steal labour, also it is easy to see the outcome in a short period of time."

Experience from successful projects elsewhere indicates that, projects which show immediate returns are more likely to attract many people and therefore realise more participation as well as more accountability (ACC/SCN, 1991). Normally CP is a reflection of commitment and therefore ensures responsibility and accountability for the actions decided by the community (Shrimpton, 1995).

Although people were not involved during the inception of the income generating projects, somehow efforts were employed to understand why things did not work. Village members were able to recall on some efforts made by themselves to revive the projects, their efforts were frustrated by higher authorities.

It was said;

"... we have reported the issue to the district authority but nothing has taken place.... we do not understand what should be done.."

It is important to understand that CP does not imply stopping support from the central and local government. Government should provide support to foster CP. Such support could be personnel, facilities and training. There are indicators which signals the existence of CP spirit among the members of the community. These indicators include participation in decision making, resource contribution by community groups and information communication and sharing. All these indicator were visible in both divisions.

5.6.1 Participation in the decision making

All decisions that were made at the village level were reached after involving all members of the village through general village meeting or using acceptable structures such as village government. Decisions made through any of the two structures are considered as of the majority and therefore people are said to be involved in decision making process. In such situation all have to be accountable for the consequence of their decisions.

5.6.2 Presence of Community groups

Community groups include local communities such as health committees, water committee and school committee which take the responsibility of managing communal activities at the village level (ACC/SCN, 1991; Jonson, et al 1993). This indicator was seen in the villages. It was confirmed that;

"... we have school committee, water committee, defence and security committee."

The structures are important and need to be supported in order to foster CP which is the corner stone for many successful community based programmes.

5.6.3 Contribution of resources

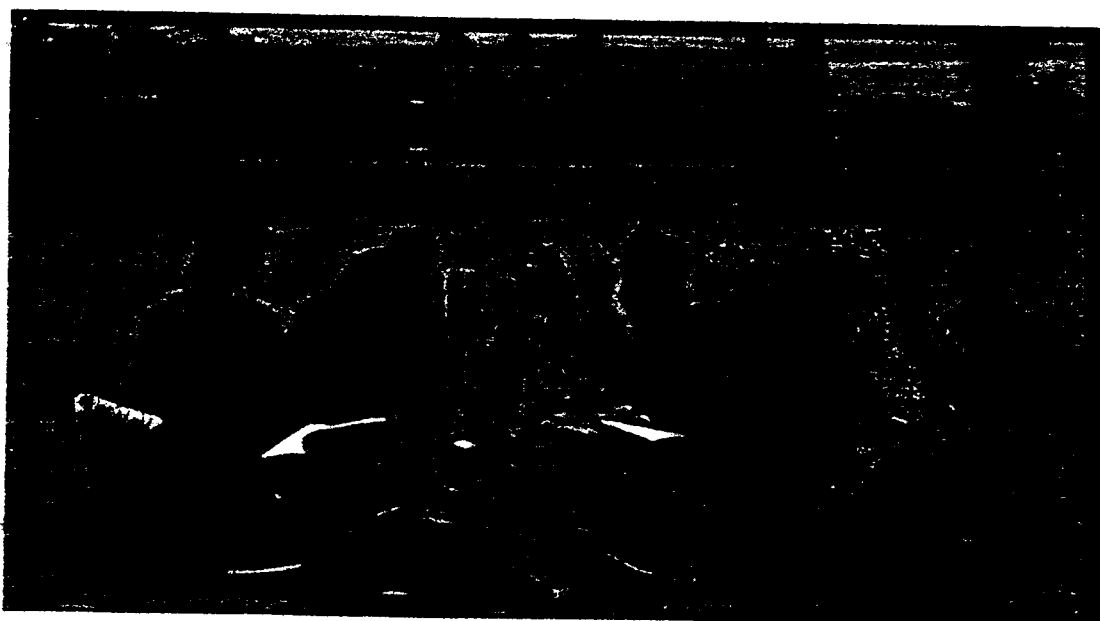
Contribution of resources alone cannot fully indicate CP unless the contribution is fully linked to decision making power (ACC/SCN, 1991). This implies that an increasing sense of ownership of nutrition programmes should lead to a greater voice in the process of implementation; with the main objectives being to eliminate external dependency and ensure sustainability of the programme (Underwood, 1983; ACC/SCN, 1991). This aspect was clearly reflected by some village members when they said;

"... we know our limitations in terms of resources; we can contribute labour, and reasonable amount of cash to support development activities."

The quotation shows that if the priorities of the community are well thought the issue of contributing resources won't be a major problem.

5.6.4 Information Communication and sharing

Communication of information for the purpose of management of community activities is a crucial factor in fostering CP, especially the aspect of feedback. Communication of and information sharing by all people involved in the implementation of community activities not only facilitate the programme implementation but also helps to sustain community interest and increase community involvement (ACC/SCN, 1991, Pelletier, 1994; Jonsson, 1995).



During discussions problems on information communication and sharing were evident. It was said that:

"...general meeting is usually conducted when there is something to be done communally for example construction or rehabilitation schools, health Centres, or contribution for certain activities... usually no feedback is given including reporting on the situation of assets and finance of the village.."

It was agreed in the group discussion that information communication and sharing was one of the reasons contributing to lack of transparency and mistrust of leaders. This aspect was found to be the main problem resulting into failure of many projects. Despite the existence of conducive structures at village for information communication and sharing level it was not clear as to why such situation happens. Nevertheless, the existence of one indicator is not enough to guarantee community participation and therefore adequate implementation of the activities at community level. Hence a combination of factors as well as quality of leadership (as a contextual factor) are necessary in fostering community participation.

5.7 Effects of Refugee Influx

Initially the refugees from Burundi hosted by local communities of Kibondo district before the government mobilized necessary support from relevant authorities. There is no doubt that even after settling in refugee camps, the rapid and unplanned increase of population created imbalance between available resources and services on one side and the population of the area on the other side. While the imbalance has caused hardships to both refugees as well as local communities, there are aspects which local communities consider to be positive as a result of their interaction with refugees. The effects of refugees influx on communities of Kakonko and Kasanda divisions in particular and Kibondo district in general are briefly described below.

5.7.1 Refugees and Health

The establishment of essential services like health in refugee settlement is a deliberate move by relevant authorities to cope with unplanned rapid increase of population pressure. The health facilities in refugee camps are in Kasanda division and are relatively well staffed and equipped in terms of drugs, various diagnostic equipment and other essential medical supplies compared to health facilities of similar categories in surrounding areas.

The marked difference in service provision prompt to local population to seek medical services in refugee camps. Thus the health facilities in the camps has increased availability and accessibility to improved health services by local communities. In group discussions it was said that;

"... sometimes we send our patient to the camps where medical services are free.."

Nevertheless, the refugees accused by local population for contaminating water sources and bringing illnesses such as scabies, "plastic teeth," and dysentery locally termed "*machinya*". The later is associated with big houseflies which local communities claim to have been seen for the first time in their areas after the refugees influx. It was said that;

"... we did not have problems of diseases such as 'machunya' scabies and dysentery before the arrival of refugees.."

5.7.2 Other services

A familiar phenomenon of refugees fleeing their country from persecution or war like event is the disparate need for humanitarian services such as food, shelter and care. The refugees from Burundi were initially hosted by local communities prior to mobilization of necessary support/assistance from relevant organizations and institutions like UNHCR and other NGOs. Support provided to refugees by local communities included contribution of food, shelter and other humanitarian services. No doubt the support provided increased hardship to the local population. Hardships encountered include depletion of food stocks and sharing of locally available services such as health, water supply etc. prior to installation of relatively improved services in the refugee camps.

To some local people, the authorities seem to have provided preferential treatment of refugees over local population. Such preferential treatment to refugees in terms of services at a time when local communities are faced with deteriorating social services and food shortage problem make them recall with bitterness the hospitality they provided to refugees. When participants of focus group discussions were asked on their attitudes towards refugees one of them remarked;

"...we contributed our food during their (refugees) arrival, now we have problems of food shortage but no one is taking care of us.."

5.7.3 Diversification of market products

The individual desire for self-supporting compelled some refugees to dispose off some of their possessions such as shoes and clothes and newly acquired items after settling in camps. In certain instances some refugees were compelled to sell food items distributed to them so as to obtain food of their choice. This has ultimately resulted to increased diversity of products in local markets in the district.

5.7.4 Labour market

As already mentioned, the desire for self-supporting and acquisition of other essential items the refugees are forced to sell their assets including labour. As a result, refugees have served as source of cheap labour in areas surrounding camps. However, since the labour market is mostly limited to unskilled labour, most of refugees engage in activities that required unskilled labour such as farming and other manual work. For instance, when labour for rehabilitation of Kinyinya primary school was not forthcoming from local communities labourers were readily obtained from nearby refugee camps. Only in certain circumstances few skilled refugees manage to secure temporary employment in organisations providing humanitarian services in refugee camps. On the other hand, the different organizations and institutions which serve refugees have provided employment opportunities to both foreign as well as local individual with different expertise and skills.

5.7.5 Transfer of skills

Among the positive aspects associated with refugees influx by local population is transfer of skills. Some of the key informants reported that as a result of social interaction with refugees, the local communities have acquired some skills from Rwandan refugees such as mason, construction, and carpentry. The acquired skills are asset which can be of great use to local population.

5.7.6 Refugees and Environment

As a result of refugees influx in the district, the local communities have witnessed mass felling of trees by refugees for various domestic use such as houses construction, fire wood, etc. The massive felling of trees accelerate deforestation in areas surrounding the refugee camps. In addition, there are activities in refugees settlements which have been associated with disturbance of the ecosystem. Such activities range from indiscriminate hunting of wild animals to tsetse fly control in areas surrounding refugee camps. The local communities have further associated tsetse fly control through insecticide-sprayed traps with bees disappearance, resulting to shortage of honey and wax. There is fear that if those

Table 28: Health staff disposition in Kibondo District

Health Staff Cadre	Requirement	Available	Defferece
District Medical Officer	1	1	-
Medical Officers	1	-	-1
Assistant Medical officers	2	1	-1
Clinical Officers	23	13	10
Rural Medical Aides	32	25	-7
Nursing Officers	15	7	-8
Trained Nurses	20	9	-11
Nurses/Midwives	28	10	-12
MCH Aides	74	47	-27
Medical Attendants	234	276	+58
Pharmaceutical Technicians	2	1	-1
Lab. Technicians	1	1	-
Health Officers	5	5	-
Health Assistants	45	22	-26
Mortuary Attendants	2	1	-1

Source: Kibondo District Socio-Economic Profile 1998

5.8.2 Agriculture and Livestock Development

The district is endowed with vast, fertile land and variety of climate favourable for cultivation of various crops and livestock keeping. The ecological and rainfall variation are conducive for cultivation of different food and cash crops such as banana, maize, cassava, beans, sorghum, millet, coffee, cotton and tobacco. The existing river valleys in the district some of which have potential for palm trees and palm oil production (e.g. Kabingo and Kiyobera valleys in Kakonko division) provide opportunity for off-season cultivation.

However, a number of factors affect improved agricultural production. The factors range from poverty among majority of farmers, wide use of unimproved agricultural methods such as use of traditional farm implements, inadequate use of fertilizers, weak extension services in agriculture and livestock development, unreliable supply of agricultural inputs and market for agricultural produce. In addition, poor transport infrastructure in the district contributes to high production costs. The vast land areas that could be potential for pasture development are highly infested with tsetse flies.

5.8.3 Education

Most of the villages in the district have primary schools. Construction of schools in the remaining three villages namely Samvura, Ilabiro and Churazo in Kibondo, Kasanda and Kakonko divisions respectively is underway. Their completion will reduce the walking distance for all pupils from respective in the district's villages. The three secondary schools existing in the district provide opportunity for some pupils who complete primary education for further education.

Problems facing the education sector in the district include late enrolment of standard one pupils, shortage of teachers, classrooms, learning and teaching materials and funds all of which contribute to low performance in the sector. The availability of three secondary schools only limit the number of pupils in the district being selected for secondary education. The district also has high adult illiteracy rate.

5.8.4 Community Development

The Community Development department has the responsibility of mobilizing the Community for implementing various activities which aim at improving community's socio-economic situation.

Some of department's staff are already attached to NGO's implementing activities at Community level including the Tanzania Christian Refugees Services, Concern and CARITAS. The organizations have experience in utilizing staff from the department in community awareness creation on the importance of various activities being initiated at community level, promotion of technical skills and use of available resources at community level through self reliance spirit.

Major problem facing the department is shortage of staff particularly at ward level and transport facility for follow up. If these problems are addressed the department is potential for catalysing the community in implementing newly initiated development activities such as those under the Child Survival, Protection and Development Programme.

5.8.5 Planning

The planning department has the crucial role of coordinating various development projects and activities being implemented in the district under different sectors. Basing on its functions, the planning unit is well positioned to identify areas where there is resource overlap and duplication of efforts. However, severe shortage of qualified staff adversely affect the capacity and capability of the unit in fulfilling its functions. For effective planning, coordination and follow up of various development activities in the district the unit needs to be strengthened.

6.0 Main Findings and Recommendation

More than 90 percent of households in both divisions were men headed households with average household size of six members. The fact that majority of households are men headed, men should be fully involved in all efforts aimed at improving the health and nutrition situation in the two divisions.

Farming is the main occupation of people in both divisions. Any effort to improve household economic base should use agriculture as an entry point. In addition, introduction of appropriate cash crops seems to be one of the potential areas that could be explored to improve household income. The aspect of marketing should also seriously be considered so as to ensure reliable market for the produce.

Majority of children who were sick during two weeks preceding the survey had fever (which might be malaria), followed by cough/pneumonia and diarrhoea. Other ailments reported include parasitic worms, measles, anaemia, skin and eye diseases. Usually most of these diseases are related to water and sanitation. Inadequate environmental and personal hygiene practices were found to be a problem. If health benefits related to water and sanitation are to be fully realised improvement of water sources and promotion of environmental as well as personal hygiene is vital. Efforts should therefore be directed towards improving sources of water and intensifying public health education in all segments of the population in order to reduce chances of being affected by the prevailing diseases.

Stunting was found to be a leading problem followed by underweight and wasting. The pattern of all forms of malnutrition identified seem to increase after weaning age and rises to the second year of life and then either stabilises or gradually drops. It appears that feeding practices in the two divisions was a problem. Efforts should be made to provide education especially on the importance of adequate breastfeeding, correct supplementation and other issues regarding appropriate weaning practices. Also infant feeding practices in both divisions indicated that few people introduce foods other than breastmilk to children as early as one

month. Early introduction of food other than breast milk to infants exposes them to contaminated foods which normally contribute to diarrhoea diseases in children. Moreover, the risk of contracting diseases increases due to reduced breastfeeding which contains immunological substances which are responsible for increasing disease immunity to a child.

It seems that the observed late enrolment of eligible children for primary school education could be due to stunting. Children look too short for their age and thus parents have to wait for their children to pick up in height before enrolling them in schools. Parents, community leaders and teachers need therefore to be informed on this problem, such that they become aware of it, and hence be able to enrol children once their age is eligible for starting primary school education.

Although health care facilities seem to be relatively well distributed, the quality of services is not adequate. Factors attributed to poor quality of health services include shortage of drugs, lack of essential equipment, shortage of staff and in some places under qualified staff. Government in collaboration with communities have to do something in order to improve quality of the available health facilities by providing the facilities with adequate and qualified staff as well as equipping the facilities with at least minimum acceptable set of equipment.

In general terms, family planning services were available and accessible in both divisions. However, their utilization was found to be low because they were mostly targeted to women who are rarely involved in decision making in household and family issues. Although women play key role in issues related to family health care, reproductive and economic activities they are seldom involved in making decision even on matters related to their own health. The whole community in general should therefore be targeted by IEC strategy. In order to realise better results in family planning activities it is recommended that men should also be among the main target in education programme aimed at promoting family planning services.

Accessibility to domestic water sources in both divisions indicate that many households are located in areas where distance to water sources is more than the recommended distance of 400 metres. As a result, women have to walk long distance and use more time in fetching water.

The long distances to water sources not only increase women workload but also deprive them time for child care. Community themselves should therefore be assisted to establish improved source of water close to their households using available resources. This is possible as majority are willing to contribute in such endeavour. Women play a significant role in production work. Besides production activities women were found to take full responsibility in both domestic work as well as reproductive activities. Most of the work undertaken by men were mostly seasonal in contrast to routine domestic work performed by women. Despite the special consideration required by pregnant and lactating women in terms of food intake and workload the study revealed that no special consideration was given to them in both divisions. This issue needs to be strongly addressed by the community and be included in IEC package for interventions being introduced in the areas.

People in all villages were found to be involved in making vital decisions regarding their development. It was clear that most of the development projects initiated in the villages was a result of significant contribution from the villagers. However, all income generating activities such as communal shops and milling machines were not operating. It is important to understand that community participation does not mean stopping support from the central and local government. Lack of support from central and local government has contributed to failure/non-functioning of communal income generating activities in both divisions. Therefore, both local and central government should provide adequate support which will enable to foster active community participation in all development activities initiated in the areas.

The presence of refugees has seen to have profound effect to the community in both divisions. The effect has been found in health, education, marketing, source of labour, environment, security and safety. Positive effects have been noticed in all areas except in the area of environmental preservation as well as security and safety of the community. It is therefore recommended that efforts be made by the government to ensure refugees do not threaten security and safety of the community as it will disrupt implementation of developmental initiatives in the area.

7.0 REFERENCES

- ACC/SCN, (1991). Managing successful nutrition programmes. Nutrition policy discussion paper No. 8. A paper on ACC/SCN workshop at 14th IUNS International congress on Nutrition, Seoul Korea 20-25 August, 1989.
- Andersen, P.P. Pelletier, D.L. and Alderman, H. (1995). Beyond child survival: An overview of the issues. In Andersen, P.P. Pelletier, D.L., and Alderman, H. (eds.) priorities for action, p 1 - 14. Cornell Child growth and nutrition in developing countries: University Press, Ithaca and London.
- Basch, E.C. (1987) Focus group interview: an underutilized research technique for improving theory and practice in health education. *Health and Education Quarterly*. 14 (4): 411-448.
- Chambers, R. (1992) Rapid but relaxed and participatory rural appraisal: towards application in health and nutrition. In Scrimshaw, S.N. and Gleason, R.G. (eds.) *Rapid Assessment Procedures. Qualitative methodologies for planning and evaluation of health related programmes*. Boston, MA. USA. International nutrition foundation for developing countries. pp 295-305.
- FAO, (1997), *Agriculture, Food and Nutrition for Africa: A resource book for teachers of Agriculture*. Food and Nutrition division, FAO; Rome Italy.
- Ghai, D. (1988). Participatory development: Some perspective from grass roots experiences. In *Journal of Development planning* . 19:215-246
- Jonsson, U. (1995) *Towards an improved strategy nutrition surveillance. Food and Nutrition Bulletin*. 16 (2): 102 – 111.
- Jonsson, U., Blomqvist, B. and Yambi, O. (1993) *Mobilization for nutrition in Tanzania*. In Rhode, J., Chatterjee, M. and Morley, D. (Eds.) *Reaching Health for all*. Delhi, Oxford University Press. pp 187-211.
- Jonsson, U., (1995): *Towards an Improved strategy nutrition surveillance. (Food and nutrition Bulletin) 16 (2): 102-111*
- Kavishe, F.P., and Mushi, S.S., (1993). *Nutrition relevant actions in Tanzania. 20th Anniversary of TFNC, 1973-1993, Monograph series no. 1 Dar es Salaam, Tanzania.*
- Kibondo District Council (1999). Profile of Kibondo district.**
King, F.S. and Burgess. A. (1993). *Nutrition for Developing Countries*. Oxford medical Publications, Oxford, U.K.
- Latham, (1997). *Human Nutrition in the Developing World*. FAO and Nutrition Series No. 29. ISSN. 1014-3181, Rome, Italy.

Ministry of Health (1990). National Health Policy for Tanzania: Dar es Salaam Tanzania.

Pelletier, D. (1994) Community based monitoring and action: an assessment of experiences, theories and assumptions. A paper presented at the First Canadian Conference on Internal Health held in Ottawa, Canada, 13 - 15 November, 1994.

Shrimpton, R. (1995). Community participation in food and nutrition programmes: An analysis of recent government experience. In Adersen, P.P., Pelletier, D. and Alderman, H. (eds.) Child growth and nutrition in developing countries. Primary for Action. Ithaca and London, Cornell University Press. pp 243- 261.

TFNC/UNICEF (1999), Appraisal Mission report

UNHCR, (1999). Milestone; Information bulletin, January-March 1999 issue. Dar es Salaam, Tanzania.

UNHCR (1998b). Milestone; Information bulletin; October - December 1998 issue. Dar es Salaam, Tanzania.

UNICEF, (1998). Humanitarian Assistance to Children. NIAN Journal of Distinction, No. 492 Kigoma, Tanzania

Part B: Household Composition

5	6	7	8	9	10
Line No (Circle Head of Household	Name of household members (start with head of household. Do not forget children and infants)	Age (in years) Enter Age at last birthday	Sex 1= Male 2= Female	Highest Educational Attainment 0= None 1= Adult Education only 2= Standard 1-4 3= Standard 5-8 4= Some secondary Education 5= O' level 6= A' level 7= Higher Education 8= Less than 7 years of age.	Occupation/ Principal Activity 1= Farming 2= Tending Livestock 3= Employee Formal sector 4= Petty Trader 5= Other business 6= Too old 7= Student 8= Under 7 years of Age 9=Others (specify)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

--	--

Nutrition

1. Check in Part B - 6 & 7 Household Composition on total No of der fives living in the household.....

	Child Name	Child Name	Child Name
	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
20. Date of birth of child (check growth card)	Day month year <input type="text"/>	day month year <input type="text"/>	day month year <input type="text"/>
21. Sex 1= Male 2= Female	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
22. Birth weight [check growth card] 1=Single ton; 2= multiple birth	Weight <input type="text"/> Kg	Weight <input type="text"/> Kg	Weight <input type="text"/> Kg
23. Was (name) birth single or multiple? 1= Single 2= Multiple birth	<input type="text"/>	<input type="text"/>	<input type="text"/>
24. Immunization status [check growth card] 1= completed 2= Not completed	<input type="text"/>	<input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
25. Care taker of child 1= Mother, 2= Father 3= Grand mother 4= Elder brother/sister 5= Other [specify]	If 4: specify..... <input type="text"/>	If 4 specify..... <input type="text"/>	If 4 spec..... <input type="text"/>
26. Has [Name.....] ever breastfed? 1= Yes, 2= No 3= Don't know	<input type="text"/>	<input type="text"/>	<input type="text"/>
27. Is [Name.....] breast feeding? 1= Yes>> Q. 29 2= No 3= Don't know			

- Participants: Three groups each comprising of 7 - 10 community members as follows:
- Group 1: Adult men over 25
 - Group 2: Adult women over 25 years
 - Group 3: Youths (boys and girls) age 15 - 25 years

Be for starting the discussions the facilitators should introduce themselves to group members and explain to them the objective of the discussion.

Nutrition

1. Probe on pattern of child breast feeding in the community e.g. duration of breast feeding, whether infants are given colostrum. Ask for reasons if colostrum is not given to infants.
2. Probe on factors which lead to stopping breast feeding
3. Ask when food other than breast milk e.g. thin gruel are introduced to infants (complementary foods)
4. Probe on child feeding frequency i.e. No. of meals/feeding per day.
5. Ask if according to local customs there are certain foods which are not given to children and reasons. Inquire if such attitudes still prevail.
6. Probe on intra household food distribution. Ask what age children start to share food with adults from common plate.
7. Probe whether pregnant and lactating women get special care compared to other women and men in the community e.g. in feeding, exemption in certain types of work, etc. Ask on the present situation.
8. Probe whether men or women are traditionally restricted from eating certain types of food. Ask for reasons and whether such tradition still prevail.

Participation in Development Projects

9. Probe if there are (or used to be) restrictions for either men or women to participate in certain types of work in the community/household.
10. Probe whether there are types of support network that exist in the village. Ask for their opinion on those network i.e. whether they are satisfactory or have limitations.
11. Probe if there are development projects initiated in the community. Ask whether the community has been involved in the projects in one way or another. and their attitudes for being involved (or not being involved).

Refugees Influx

12. Probe on their perception on refugees influx in the district. Ask whether there are positive or negative aspects/factors associated with refugees influx in the district.

Sanitation

APPENDIX 3: FIELD ENUMERATORS

1.	Anna G. Bazaliwa	Health/MCHA
2.	Paskazia Makwaya	Health H/ASST.
3.	Modesta Magandula	Health H/Asst
4.	Laurean Alphonse	Health Clinical Officer
5.	Lucas Kasubi	Assistant Medical Officer EHA
6.	Rhoda Konakuze	Health Nursing Assistant
7.	Lessa Daniel	Health Assistant
8.	Mwamini Teikwa	Health Nursing Assistant
9.	Mathias Marefu	Health Nurse
10.	Emmanuel Kalyegila	Community Development
11.	Leonce S. Rweyemamu	Health Assistant
12.	Sylvanus Mparazo	Education Curriculum Development Officer
13.	Stafford Ntamsigo	Ward Education Coordinator
14.	Mussa Magunguli	Planning Officer
15.	Kanyuko Sadock	Agriculture Extension Officer
16.	Kiemena Almasi	Agriculture Extension Officer
17.	Charles B.K. Mugizi	Agriculture Extension Officer