LEVELS OF COMMUNITY PARTICIPATION AND ASSOSIATION WITH NUTRITIONAL STATUS OF CHILDREN BENEFICIARIES AGED 6-59 MONTHS IN NUTRITION PROGRAMMES IN NAIROBI: THE CASE STUDY OF RIRUTA HEALTH CENTRE

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DECLARATION

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DEDICATION

This dissertation is dedicated to my parents, Philip and Sella Ouma, who have given me the opportunity of an education from the best institutions and support throughout my life, and also to my best friend, Kirina, who has always been ready to help and believed that I could do it.

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ACRONYMS AND ABBREVIATIONS

ADP: Area Development Programme

ASAL: Arid and Semi-Arid Areas

CCC: Comprehensive Care Centre

CHEWS: Community Health Extension worker

CHW: Community Health Worker

CMAM: Community Management of Acute Malnutrition

CP: Community Participation

CSB: Corn Soya Blend Flour

df: Degrees of Freedom

ENA: Essential Nutrition Actions

FBP: Food by Prescription

FGD: Focus Group Discussion

HAZ: Height for Age Z-score

HEB: High Energy Biscuit

IMAM: Integrated Management of Acute Malnutrition

IYCF: Infant and Young Child Feeding

KDHS: Kenya Demographic Health Survey

KII: Key Informant Interview

MAM: Moderate Acute Malnutrition

MUAC: Mid Upper Arm Circumference

nf: Desired sample size for a population less than 10,000

NGO: Non-Governmental Organization

OR: Odds Ratio

PDF: Portable Document Format

PHC: Primary Health Care

RUTF: Ready to Use Therapeutic Feed

SAM: Severe Acute Malnutrition

SPSS: Statistical Packages for Social Sciences

SWOT: Strengths, Weaknesses, Opportunities and Threats

UNICEF: United Nations Children Fund

USAID: United States Agency for International Development

WAZ: Weight for Age Z-score

WFP: World Food Programme

WHO: World Health Organization

WHZ: Weight for Height Z-score

OPERATIONAL DEFINITIONS

Acute Malnutrition: A condition in the body brought about by short term inadequacy of diet and disease results in an individual having a low weight for his/ her height.

Anthropometry: Tool used to identify malnutrition and monitor body measurements of clients.

Beneficiaries: Those children 6-59 months enrolled as malnourished in the nutrition programme to receive the food by prescription products.

Cadre: Principally refers to committed people within an organization that form, or have the capacity to form, the backbone of that organization.

Community: Refers to a group of people with diverse characteristics who are linked by social ties, share common perspectives and engage in joint actions in a geographical location or setting

Community health worker: A member of a community chosen by community members, or organizations to provide basic health and medical care and act as representatives of the community to the organization.

Effectiveness: Degree to which something is capable of producing a specific, desired effect.

Efficacy: Indicates the capacity for beneficial change of a given intervention

Food by Prescription: This is medical nutrition therapy for nutritional compromise that affects health and survival outcomes to support other aspects of HIV/AIDS programmaming

Level of community participation: Measure of participation on the likert scale.

Likert scale: Modified rating scale developed to score participation within the nutrition programme.

Mode of participation: This refers to the way the beneficiaries/ beneficiaries' representatives take part in the nutrition programme's activities.

Nutritional status: A measurement of the extent to which an individual's physiological needs for nutrients are being met

Participation: The act of beneficiaries/ beneficiaries' representatives taking part in the programmes activities. Its process through which stakeholders influence and share control over development initiatives, and the decisions and resources which affect them (the World Bank's Learning Group on Participatory Development, 1995)

Perceptions. Ways in which individuals regard, understand, or interpret community participation.

Satellite Sites: These are other health facilities that distribute the Food by prescription products

Underweight: Weight-for-age is a composite index of height-for-age and weight-for-height. It takes into account both acute and chronic malnutrition. Children whose weight-for-age is below minus two standard deviations are classified as underweight.

ABSTRACT

Nutrition has a dramatic global effect on the mortality and morbidity of children under the age of five years. Several interventions have been applied to help reduce the prevalence of undernutrition and community participation has been identified as an approach towards implementing the interventions. Following Alma Ata Declaration and as part of the primary health care movement much activity in the 1980s used community-based approaches. Through this, community/village health worker programmes were established in many countries to implement a range of health interventions.

Limited information exists to give a clear picture regarding the levels of community participation and process used to integrate participation in a community's activities and the outcome performance in the projects. The purpose of the study was to enhance the understanding of community participation as a tool for achieving nutrition programme objectives and the main objective was to provide more insight on the levels of community participation in nutrition programmes and their impact on the nutritional status of the beneficiaries

The study took place in the I BP nutrition programme at the Riruta Health Centre- Kawangware involving its beneficiaries only. A cross-sectional study design of both descriptive and analytical nature was carried out with a sample of 142 as determined through the Fischer formula for a population of <10,000. Focus group discussions, key informants and SWOT analysis were used to collect qualitative data and for the purpose of triangulating. A semi-structured questionnaire was administered for quantitative data. A two category likert scale (with high and low) was developed with the aid of the programme nutritionist and the community representative, to score and scale the levels of participation. The Likert scale was based on the most common ways of community participation commonly observed within the nutrition programme

It was observed that 67% of the participants had low levels of community participation on the likert scale (a total score of ≤2) while only 33% had high levels of community participation (a total score of ≥3). The results revealed that there was no direct relationship between community participation and nutritional status of the beneficiaries 6-59 months The beneficiaries who were underweight were 1.27 more times likely to participate in the programme's activities while the

wasted ones had the lowest chance that is 0.78 times likely to participate. Stunted beneficiaries were 0.99 times likely to participate in the nutrition programme's activities.

The findings of this study showed that the nutrition programme has low levels of participation which impacts negatively on the programmes performance as well as its comprehensive achievement of objectives. The community is not actively involved in the programme's activities and this should be improved through creating opportunities through which the programme staff can capture and sustain the community's attention without necessarily requiring monetary resources. The study concluded that there is no relationship between community participation and the nutritional status of the beneficiaries (6-59 months) enrolled in the Riruta health centre's nutrition programme. There was no statistically significant association between the level of community participation and being underweight (p=0.704), stunted (p=0.979) and wasted (0.065). More research should be done so as to establish the indirect benefits that community participation has on the programme and on the nutritional status on the beneficiaries e.g. its influence on recovery rates, relapse rates, defaults

CHAPTER 1

INTRODUCTION

1.1. Background information

Nutrition has a dramatic global effect on the mortality and morbidity of children less than five years of age. It is estimated that undernutrition is the underlying cause of between 35 and 50 percent of deaths in children less than five years. It causes low birth weights; underweight, wasting, and stunting of children; and micronutrient deficiencies of mothers and children. More than a third of African children under the age of five face undernutrition and are stunted in their growth and most face a wide range of physical and cognitive challenges not faced by their better-nourished peers.

In Sub-Saharan Africa more than one-quarter (28%) of children under age five are underweight The Kenyan national figure for acute malnutrition of children under five years old is estimated at 6%, however there are huge variations in different regions of the country. In the Arid and Semi Arid Areas (ASALs) where food insecurity and natural disasters have affected the population, rates of acute malnutrition among children under five are between 15-20%, and sometimes substantially higher (Snapshot of the Nutrition Situation in Africa- 2009).

The Declaration of Alma-Ata was adopted at the International Conference on Primary Health Care (PHC) in September 1978. It expressed the need for urgent action by all governments, all health and development workers, and the world community to protect and promote the health of all people. Following Alma Ata and as part of the primary health care movement much activity in the 1980s used community-based approaches and community/village health worker programmes were established in many countries to implement a range of health interventions. Interest waned in the 1990s, but interest in the potential of community-based approaches and particularly in the potential of community health workers (Haines et al, 2007) has been renewed

Several interventions have been put in place to help reduce the prevalence of under-nutrition and community participation has been identified as an approach towards implementing the interventions. The most common intervention employed especially in Sub-Saharan Africa is

nutrition feeding programmes. These nutrition programmes have made attempts of incorporating the community based approaches from the Alma Ata Declaration in their implementation strategies. Community participation is a means through which the target community can be educated and their competence in handling health and nutrition related issues increased. It is a vehicle for influencing decisions that affect the lives of communities and an avenue for ensuring sustainability of interventions. It makes the available infrastructure and programmes more relevant to people's needs as they are able to get involved in the implementation process and give feedback on the progress and ultimate outcome that they may have observed. In the context of nutritional programme intervention development and management community participation occurs where the community is involved in: identifying nutritional problems, decision making, developing action plans, implementing the best plan and monitoring the solution. During the implementation of nutrition interventions that incorporate feeding programmes, community participation is required to ensure that the plan of action is being followed, monitoring and feedback of recovery is done Through the involvement of the target community when implementing a nutrition programme, it is expected that the programme will get input from the community being targeted that is essential for the effective and efficient achievement of set objectives.

Community participation can be used to solve the problem of malnutrition by addressing the basic causes of malnutrition (figure 1). Basic causes of malnutrition propagate lack of knowledge which leads to the underlying and immediate causes of nutrition. Community participation can be viewed as a vehicle for influencing decisions that affect the lives of citizens and an avenue for transferring political power (Brager etal ,1987). Political power is essential in the allocation and distribution of resources to the community. In addition, community participation is also defines as a process through which stakeholders influence and share control over development initiatives, and the decisions and resources which affect them (the World Bank's Learning Group on Participatory Development, 1995), this implies that the community through community participation can be able to control their own resources and determine what they are used for Therefore, community participation is capable of empowering the target community to be able to manage and control their human, economic and organizational resources which are the basic

causes of malnutrition. Tackling the basic causes of malnutrition is a more sustainable and effective way of dealing with malnutrition.

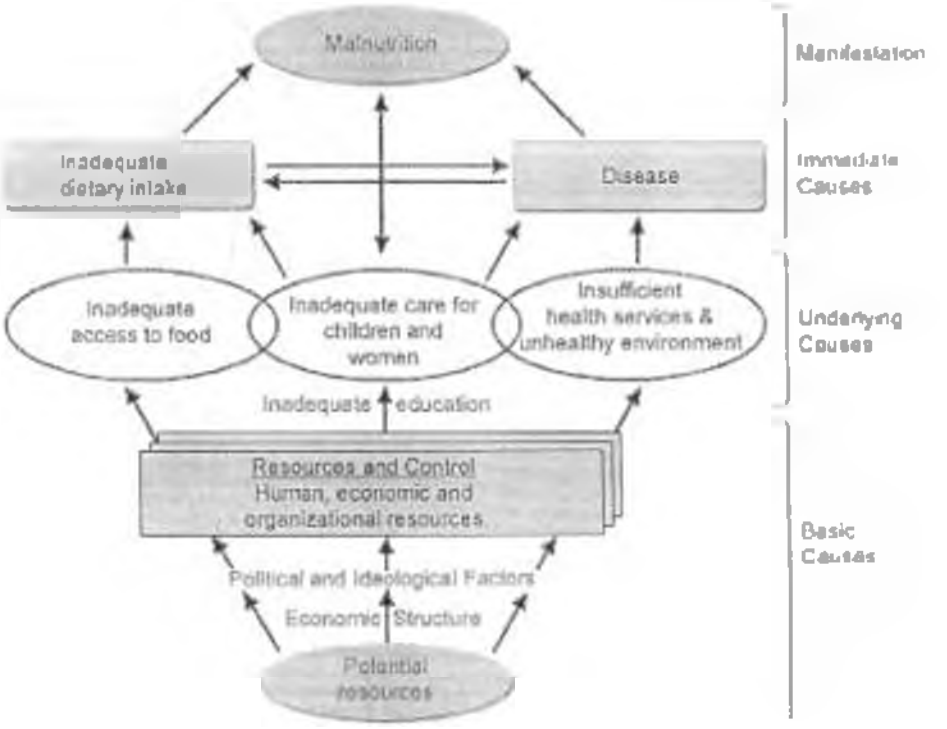

Figure 1.1 UNICEF conceptual framework of malnutrition

1.2. Statement of the problem

Community participation as a method of programme implementation is widely used by nutrition programme implementers yet its perception (by the community and implementers) and outcome have not been conclusively looked into. Limited information exists to give a clear picture regarding the process used to integrate community participation in a community's activities and the outcome performance in the projects. There has been little evaluation of community participation in nutrition programmes and its relationship with the nutrition status of the targeted communities. Nevertheless, the general assumption is that nutrition projects using community participation are succeeding in achieving their original objectives. It is this information gap that the study hopes to fill.

1.3. Justification

Generation of information on community participation especially in nutrition programmes is essential as it is an approach that is being used widely by various programme implementers. The study will generate information that will aid in enhancing the effectiveness, relevance and performance of the approach in the implementation of nutrition programme objectives.

1.4. Aim

To contribute towards the relevance of community participation as an approach towards implementing project objectives in local nutrition programmes.

1.5. Purpose

To enhance the understanding of community participation as a tool for achieving nutrition programme objectives.

1.6. Study objectives

1.6.1. Major objective

To determine the levels of community participation in nutrition programmes and its relationship to the nutritional status of the beneficiaries 6-59 months.

1.6.2. Sub objectives

1. To determine the socio-economic status of the study population's households.
2. To establish the perception of community participation among the programme staff and participants.
3. To determine the characteristics of persons involved in community participation
4. To determine the levels of community participation in the nutrition programme.
5. To assess the nutritional status of the beneficiaries 6-59 months.
6. To establish the relationship between community participation and the nutritional status of the beneficiaries 6-59 months in the nutrition programme.

1.7. Hypothesis

There is a relationship between the level of community participation and the nutritional status of the beneficiaries 6-59 months in the study population.

1.8. Benefits of the study

1. Relevant stakeholders who include the governmental and non-governmental programme implementers will be enlightened on whether community participation in local nutrition programmes is having an impact on the concerned communities.
2. Establishment of areas in community participation that can be improved to effectively and efficiently achieve nutrition programme goals.

CHAPTER 2

LITERATURE REVIEW

2.1. Definition of community participation

Community participation has several definitions some of which are:

- An educational empowering process in which people and their institutions, in partnership with the existing systems, identify problems and needs and increasingly assume responsibility themselves to plan, manage, control and assess the collective actions that are considered necessary (Professor Roy Burman etal., 1988)
- The creation of opportunities to enable all members of a community to actively contribute to and influence the development process and to share equitably in the fruits of development (United Nations, 1981)
- A means to educate citizens and to increase their competence It is a vehicle for influencing decisions that affect the lives of citizens and an avenue for transferring political power. However, it can also be a method to co- opt dissent, a mechanism for ensuring the receptivity, sensitivity, and even accountability of social services to the consumers (Brager etal.,1987)
- A process through which stakeholders influence and share control over development initiatives, and the decisions and resources which affect them (the World Bank's Learning Group on Participatory Development, 1995)
- The process by which individuals, families, or communities assume responsibility for their own welfare and develop a capacity to contribute to their own and the community's development(Oakley and Marsden, 1987)
- In the context of development, community participation refers to an active process whereby beneficiaries influence the direction and execution of development projects rather than merely receive a share of project benefits (Paul, 1986)

From all these definitions, community participation occurs when a community organizes itself and takes responsibility in managing its problems. Taking responsibility includes identifying the problems, developing actions, implementing, and following through. Therefore community participation in the context of nutritional management occurs where the community is involved

in identifying nutritional problems, developing action plans, implementing the best plan and monitoring the solution. It lays emphasis on people and their active and responsible participation in getting their own community issues solved. It can therefore be concluded that community participation involves both information feed forward and feedback. Feed forward is the process whereby information is communicated from public officials to citizens concerning public policy, feedback in this context is the communication of information from citizens to public officials regarding public policy (Brett, 2008).

2.2. Objectives of community participation

The objectives behind the involvement of the local community in the management of nutrition can be broadly grouped as:

(1) To identify problems, needs and other important values

(2) To provide critical information related to the problem

(3) To generate ideas to solve the existing problems

(4) To evaluate alternatives and pick the best option

(5) To resolve conflict by consensus

(6) To provide feedback and enable continuous action

(Marsden, and Oakley, 1987).

When institutions include diverse groups in decision-making and service delivery, it benefits from their first-hand understanding of the issues. The agency gains new perspectives that test their assumptions and serve as a reality check. Social, economic and environmental problems can be complex therefore by bringing different networks together; government agencies gain new sources of information, build a sense of joint purpose, and increase the possibility of findin sustainable solutions (Abbot, 1996).

Active relationships can also be built between the community and the relevant institution People develop confidence in agencies that invite participation and genuinely listen This c build a foundation of trust that is valuable when tough decisions need to be made It also allov for continuity in the part of the community in supporting the agencies activities Throu observing people's right to participate in decisions that affect them they gain confidence

achieving the objectives of programmes. Agencies can encourage a participatory democracy in which everyone recognizes that they have a stake and a part to play. These objectives can only be met when people feel more fairly treated and more valued when the activities being carried out and the decisions are in co-operation with the diverse communities in the target population. Creating an environment where people can solve their own problems encourages self-reliance and innovation which enhances the effectiveness and efficiency with which programmes objectives are achieved.

Community participation allows for the measuring of progress more effectively improves monitoring and evaluation of community-delivered programmes. Active relationships can also enable constructive feedback on programmes performance. In addition, the staff also builds a range of communication and cross-cultural skills that are applicable in many other settings (Oakley and Marsden, 1987).

2.3. Types of community participation

There are usually two players involved in community participation; the authority programme and the community.

The participation of both these players needs to be in optimum quality and quantity to enable sound community participation. The participation of the community is normally allowed by the programmes policy provisions.

Some communities may be knowledgeable and may easily get into the participation process, some communities may be severely ignorant and it would not be easy to get them into the participation process. Therefore it is necessary to classify the various levels of citizen participation and restrict/enhance the participation of a community to a particular level. The level of community participation employed depends on the nature and literacy levels of the target community.

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Table 2.1: Types of community participation

Participation type	Characteristics
1. Passive	People are told what is going to happen, or participate by answering questions only.
2. Consultative	People express their views, which may be taken into account, but have no share in decision making.
3. For material incentives	People participate in activities in order to receive food, cash or other incentive. Still no decision-making and participation often ends when incentives end.
4. Functional	People from groups and carryout activities to meet objectives of project, but no involvement in choosing activities. Some groups may in time become stronger and more self-reliant
5 Interactive	People participate in joint analysis and planning, joint decision-making, with project staff.
6. Self-mobilization	People take initiatives independent of project staff. They develop contacts with external institutions to access technical expertise and funding, but retain control over decision-making.

(Community Participation in development PDF)

2.4. Methods of community participation

Usually once the level of community participation is fixed, the method by which the community shall participate needs to be decided. A number of methods of community participation exist, some of which are explained:

2.4.1. One way communication

When the objective is only feed forward which is the process whereby information is communicated from public officials to citizens or only to inform the community In one way communication techniques, print and media advertisements may be followed:

Print Advertisements: This broad category includes all techniques where well prepared printed material relating to the particular programme is circulated to the community by various means. Their form may range from simple notices placed on the notice boards, through leaflets and brochures to extensive technical expert reports. The materials may also vary in character; they may be simple in order to draw the public attention or complex containing a lot of technical details for people with specialized knowledge. The major advantage of the circulating printed materials is that it is very easy and can be easily modified to suit the level of the community However experiences show that the cost and proper placing of the printed material should be carefully judged for an effective communication to occur. The various techniques for print advertisements include; leaflets, books, inserts, notice board displays, bulletins, brochures, information sheets, technical materials, posters, materials sent by post, expert technical reports, public presentations and exhibitions.

Media Advertisements: One way information is also made through the mass media Mass media comprises of; newspapers, magazines, radio, television and internet which is a crucial component for informative activities. Though mass media may account for better reach, easier understanding and cheaper communication, there exists little control over the provision of information. Media advertisements includes; press releases, advertisements in newspapers, magazines, television, radio and websites, press conference, television and radio programmes, interviews in any media, creation and maintenance of website, and announcements through talented vocalists in autos/taxis (piure org, 2011).

2.4.2. Two way communication

Communication is effective and complete only when it is a two way process. Two way communication is commonly encouraged in developed countries and in a few developing

countries. The two way communication is applicable in consultations, collaborative action and collective action. The two way communication techniques can be employed in a variety of ways for community participation.

Community meeting: this exercise involves gathering of interested and diverse people in the community and discussion of problems and solutions. The community meetings are little informal. This is broadly intended as a confidence building or conflict resolution exercise.

Community hearing: this is a more formal version of community meeting. Here the size is very limited; only experts and knowledgeable citizens are invited for participation. They are highly structured, and appropriate records should be maintained carefully.

Seminars, forums and workshops: these focus on the particular problem to be solved and are another important tool for two way communication. They are effective in two means as it functions to inform people, clarify doubts and seeks solution and enables co-ordination with special interest groups, specific individuals and segments representing the group. While seminars and workshops are organized by the authority and participated by the community, forums are organized by the community and participated by the authority.

Community Trips. Just like field visits and excursions, community trips are organized towards increasing the understanding and co-ordination with agencies enable better understanding of the problem through practical demonstrations and interviews.

Field Offices: The operation of special field offices for a particular issue in the locality of the community serves to establish a more or less specialized communication between the agency and the public. In studies necessitating close local contact and co-ordination, this approach may be used efficiently.

Charette: A Charette is a highly intense meeting oriented towards resolution or results. It is a select group meeting with an exclusive purpose of reaching a decision or resolving a conflict. A

technique used very occasionally, the success of the Charette is highly dependent upon the selected people and the leader of the Charette. (Carpenter, 2007)

These are the various methods of community participation. The selection of a method of community participation for a particular environmental management issue is very critical. It should be understood that there are a lot of techniques and well planned community participation should involve the use of multiple techniques. The methods should be chosen based on the objective of the participation, level of opted participation and the stature of the community (piarc.org, 2011).

2.5. Benefits of community participation

Community Participation is a process convened with the benefit of the society in mind. The exercise of community participation is advantageous to the community and the agency/authority/ programme. The benefits of community participation can be grouped as:

Shared responsibility: Community participation promotes shared responsibility by service providers and the community members. When the responsibility is shared by the community and the agency/authority/ programme fewer problems are identified, solutions are sought more easily.

Acceptable solution: The major advantage of community participation is that we strive towards a solution that is acceptable by one and all. Rather than enforcing a solution. Community participation enables the acceptance of the solution by the people and agency, hence promotes goodwill and co-operation. The records prove that getting the community involved in programme design and implementation ensures that strategies are appropriate for and acceptable to the community and its youth.

Empowerment of youth: Youth are the future of our country. The youth are strongly influenced by social, cultural, and economic factors. When the youth benefit from improved knowledge

about local problems, they can bring a huge transformation. Community Participation has always empowered the youth, who in turn empower the community.

Resource mobilization: When the communities "own" the local programmes, they often mobilize resources that may not otherwise be available. They can work together technically and financially to advocate for better programmes, services, and policies.

Efficient decision making: By enabling community participation, the public's knowledge and intellectual skills are put into account. This may lead to generation of new ideas, minimizing wrong solutions, better understanding of problems and totally lead to an efficient decision (piurc.org, 2011).

2.6. Problems in community participation

Apart from the benefits, community participation also poses important challenges:

Coordinating: One of the most critical problems today is the relationship between programme authorities and the community, and between programme authorities themselves. The general relationship between a community and authorities is not prospective. The community just receives information from the authorities but does not give any feedback. Projects and policies are planned by one agency/authority, designed by the second agency/authority, mobilized by the third, implemented by the next and monitored by another. As a consequence of this mix up of agencies, many programmes tend to be developed and they degrade the participation. Co-coordinating within the agencies and with the people is always a problem.

Controlling: When an institution or programme deals with a community policy issue, its responsibility is to find and assure the project's interest. Such interest leads to the centralized control through regulations, licensing, funding and even implementing. However the idea of community participation, in itself, is a decentralization concept. Therefore tension always exists between the centralized needs of the authority and the decentralized needs of the people and it is difficult to control these conflicting concepts.

Representativeness: One of the most frequent challenges in a community participation programme is the selection of a proper representative of the community. The citizens who get involved in a community participation programme are not the representative of the majority, but they are rather elite/knowledgeable citizens. This is a very serious problem that makes conflict resolution/ decision making a tougher process. In this category, the selection of a few people and denial of the rights of other community members to participate may also lead to unwanted politics and friction.

Dissonance: One of the factors for government agencies is the conflict between political and technical interests in decision making. The excessive use of technical factors to justify political discussions is the reason behind the emphasis of citizen involvement. Michener (1998) notes that community participation only increases the tensions of technical and political considerations When the technical decisions are against the community considerations. then the whole process seems to be not only stupid but creates tension within the community (Michener, 1998).

Community participation can also be quite time consuming and does not necessarily produce quick visible outputs. This is because workers involved need to be sensitively aware of the concerns and feelings of the community and to respond to these with respect and patience (piarc.org, 2011).

2.7. Community participation in health and nutrition programmes

There is evidence that without community participation health and development programmes flounder (Pritchett and Woolcock, 2004). Nutrition is a key component of health and a key part of human survival packages therefore the need for encouraging participation by the target community. Community participation can enhance the uptake and response to health and nutrition interventions, their scalability and sustainability.

Community can also aid in enhancing the health and nutrition delivery systems. This is because there are avenues created through which the programme can be monitored by both the beneficiaries and the programme staff. In Kenya, community based approaches that incorporate

community health workers and community health extension worker have been incorporated to ensure that follow-up on beneficiaries' adherence to the health and/or nutrition intervention is effectively done. The beneficiaries in turn feel more at ease when they are assigned to community health workers and community health extension worker who they can freely interact with during the course of the intervention and even after. These community workers have on the other hand to be motivated and trained in order to execute the duties well.

Participation by the beneficiaries and the target community as a whole is important as people's health and nutrition status is not merely an outcome of the health and nutrition services that they receive but equally important what the people do for themselves. Through participation people are empowered on what the best course of action for obtaining and maintaining a good health and nutrition status. In addition the target community may be empowered enough to encourage other members of the community to partake in the programme's activities ultimately allowing the scalability and improved coverage of the programme's objectives.

2.8. Review of methodologies

The likert scale is a psychometric scale commonly involved in research that employs questionnaires (Wikipedia. Likert, 1932) It is the most widely used approach to scaling responses in survey research. It is used as a means of capturing variation within an underlying phenomena or an attitude.

A scale can be created as the simple sum questionnaire responses over the full range of the scale. It aids with ranking phenomena or attitudes from high to low or best to worst levels (Reips, 2008).The purpose of the likert scale is to sum the scores for each respondent (the rating average), and the intent of the likert is in that the statement will represent different aspects of the same attitude (Dormody, 1994.) The total scores of each respondent can be used to develop the points in a scale. The points in a likert scale may range from two to seven points. The points within a scale capture the intensity of the given phenomena or attitude. By using the median, a 2 point scale of high and low (Elaine et al. 2007) is made and is the most commonly used for ease in interpretation and understanding (Jamieson, 2004). This means that all those who fall below the median are categorized as low while all those above the median are categorized as high

2.9. Case studies in community participation

2.9.1. Madagascar: Expanded School and Community Food and Nutrition Surveillance and Education Programme – SEECALINE (Phase I: 1993-97; Phase II: 1998 to present)

This programme, heavily funded by the World Bank, expanded in 1998 to the national level. The budget includes a contribution of food for supplementary feeding from the World Food Programme (WFP), an in-kind contribution from the government and a contribution of labour from the beneficiaries. The programme has specific nutrition objectives and community involvement objectives. It has four main components: community nutrition, school nutrition, natural disaster preparedness and information, education, communication. Community participation is weak and passive and sustainability doubtful, with little thought or effort devoted to institutionalization of the activities. It has a top-down, short-term approach, and its major achievements lie in the area of sensitization and drawing in a wide cross-section of agencies and institutions. There are, however, difficulties with collaboration and adequacy of supervision, leading to poor quality control of the activities. Programme data from growth monitoring suggest a substantial improvement in nutrition, but in the light of poor attendance and the low level of community based activity, these data are questionable. Programme documentation is good, and the SEECALINE has benefited from a number of evaluations and reviews. However, there is little evidence that any of the recommendations of these exercises have been used to modify the programme especially in light of community participation.

2.9.2. Zimbabwe: Community Food and Nutrition Programme – CFNP (1987 to present)

This is a national programme, focusing on improving food production and access at the local level. It is the phase after the Supplementary Feeding Programme, established soon after independence as an emergency programme to cope with food shortages following drought. While there is no real evidence of community-initiated actions, the programme has made use of a cultural tradition (*Zunde raMambo*- the chief's granary), which has generally been a positive experience but does not necessarily imply active community decision-making. The main objective of the programme focuses on community participation and the improvement of food

and nutrition security but there are no specific nutrition targets. The programme has gathered no data to demonstrate nutrition impact, but national surveys suggest an improvement until recent years, corresponding to the trends in the country's economy

2.10. Gaps in knowledge

Community participation as an approach towards programme implementation is considered effective and widely used in different programmes. The limited evaluation of its relevance, performance and effectiveness provides a basis for this study. Few studies in the health field have examined this, although work in other fields such as development studies does exist.

CHAPTER 3

STUDY SETTING AND METHODOLOGY

3.1. Study setting

Riruta health centre is located in Kawangware, approximately 15km to the West of Nairobi City centre and between Lavington estate and Dagoretti centre. Kawangware is a low income settlement with an ethnically diverse population estimated at 650,000 people. Children of 16 years and below are estimated to constitute half of the population.

The health centre is a facility run by the City Council of Nairobi that offers the following services: Antenatal, Antiretroviral Therapy, Basic Emergency Obstetric Care, Curative Outpatient Services, Family Planning, Growth Monitoring and Promotion, HIV Counseling and Testing, Home Based Care, Immunization, Prevention of Mother to Child transmission of HIV, Rural Health Training Centre / Rural Health Demonstration Centre, Tuberculosis Diagnosis, Tuberculosis Labs, Tuberculosis Treatments, and Youth Friendly Services. The nutrition department in the hospital addresses patients referred from all the service stations who might have a nutritional issue e.g. food- drug interaction.

The clinic catchment area are Kawangware, Muslim, Riruta and Gatima which are further divided into units called villages which differ in size. It is approximated that the clinic serves about 125,322 people. The nutrition department runs a Food by Prescription programme (FBP). These programmes are integrated into the health centre's daily. FBP was initiated in the clinic in the 2008 by USAID and is now in its 4th year. The programme is supported by two voluntary CHW selected by the community elders, approved and trained by the health centre. The products in FBP includes fortified blended flour, ready to use therapeutic feeds (plumpy-nut and plumpy-soy). The target patients are those requiring comprehensive care (CC) normally adults with HIV/AIDS and/ or tuberculosis with a BMI less than 18.5 and children with moderate and severe malnutrition irrespective of their HIV status. The FBP was necessitated by the fact most of the clients have low income and thus find it is difficult to the drug prescription schedules as advised by physicians effectively complexing overall management of these patients. The resultant effect

is that patients end up taking unnecessarily longer periods in the programme and thus hindering achievement of the programme goals despite the intervention

3.2. Methodology

3.2.1. Study design

A cross-sectional study design of both descriptive and analytical nature was carried out. There was the use of both qualitative and quantitative approaches. The design of the study was retrospective. The study was evaluative attaining objective knowledge and quantitatively measuring community participation so as to assess its merit and worth in relation to dietary diversity and nutritional status of the beneficiaries 6-59 months. A semi-structured study tool was designed and administered to the beneficiaries of the programme to capture both quantitative and qualitative data. The data collection procedures used during the study included: one on one interviews, focus group discussions, key informant interviews and strengths weaknesses and opportunities analysis. The different data collection procedures were employed to observe triangulation in order to facilitate validation of data through verification from the various sources.

3.3. Study population and sample Selection

The study involved the beneficiaries of the Food by prescription programme in the Riruta Health Centre. The programme has satellite sites that have incorporated projects that are directed towards improving the nutritional status of their target populations and are assumed to practice community participation. Four of these satellite sites that are part of the Riruta Health Centre's nutrition programme were selected through stratified sampling so as to incorporate both the programme's satellite sites which seem to have poor and high levels of community participation (See Appendix 1).

Inclusion criteria: The study included:

Male and female beneficiaries, between 6- 59 months of the Riruta Health Centre's FBP nutrition programmes and the Riruta Health Centre programme's staff.

Exclusion Criteria: The study excluded:

Beneficiaries 0-5 months and those 5 years and above enrolled as beneficiaries in the Riruta Food by Prescription nutrition programme and all those who are not beneficiaries of the Riruta Food by Prescription nutrition programme.

3.3.1. Sample size determination

a) Sample size of the beneficiaries 6-59 months

Children who visit the Riruta health centre are referred to the Riruta FBP nutrition programme and qualify to be enrolled as beneficiaries are less than 10,000. In order to determine the desired sample size (*nf*) when the population is less than 10,000, the required sample size (*n*) when the population is greater than 10,000 had to be computed and *nf* derived from *n*. In this case the Fischer et al (1991) recommended application was used to obtain *n*

$$n = \frac{z^2 \times pq}{d^2}$$

$$n = \frac{(1.96)^2 \ (0.203) \ (0.797)}{(0.1)^2}$$

n = 157

Where;

n = the required sample size for populations greater than 10,000

z = the standard normal deviation 1.96 which corresponds to the 95% confidence interval

p = prevalence of underweight at 20.3% (KDHS 2008-9)

q = 1-p which is 1 - 0.203 = 0.797

d = degree of accuracy/ degree of precision at 10%

In order to determine the desired sample size (*nf*) when population is less than 10,000, Fischer et al (1991) the following formula was applied:

nf = n/(1+ n/N)

nf = 157 / (1+ 157/100)

n= 142

Where:

nf = the desired sample size where the population is less than 10,000

n = the desired sample size where the population is greater than 10,000: 157 for this study

N = the estimate of the population size: 1000

Due to the effects of attrition a 5% allowance was included to cater for the effects of the study design and for non-response. Therefore the total number for the study population was: **148.**

b) Sample size for the focus group discussion

Four FGDs, one for each satellite site with 8 to 16 people each was conducted.

c) Sample size for key informant interviews

This involved 6 key informants (who were willing to participate in the study) drawn from the pool of implementers. They included: two nutritionists, two community health workers and two implementing members of staff.

d) Sample size for the Strengths Weaknesses Opportunities and Threats (SWOT) analysis

A sample of 5 respondents (who were willing to participate in the study) drawn from the various implementing partners took part in the SWOT analysis.

3.3.2. Sampling procedure

a) Sampling of the beneficiaries 6-59 months

The study population for the cross-sectional study consisted of children both male and female within the age group of 6-59 months who were enrolled as beneficiaries of the Rirata Health Centre Nutrition Programme. They were identified through both purposive and random sampling. Purposive sampling was done to include only the beneficiaries 6-59 months and their caregivers enrolled in the programme while the random sampling was done to identify who among the beneficiaries and their caregivers among those purposively sampled would take part in the study.

b) Sampling for the focus group discussion

The caregivers of the beneficiaries and the Community Health workers in FBP programme participated in the Focus Group Discussions (FGDs). The guardians of the beneficiaries who participated in FGDs were selected through both purposive and random sampling with assistance

from the community health workers (See Appendix 1). The FGD participants selected were between the age of 18 and 49 years.

c) Sampling for key informant interviews

The members of staff who implement the nutrition programme acted as Key Informants (KIs). These were purposively selected by the head nutritionist at Riruta Health Centre, based on their knowledge of the programme.

d) Sampling for SWOT analysis

This involved respondents from managerial and policy level staff. They were purposively selected by the head nutritionist at Riruta Health Centre, and requested to fill the SWOT analysis template.

3.4. Research materials and resources

Resources and materials that were required during the study included personnel, travel, stationery and other equipment. A detailed checklist is shown in table 3.1.

Table 3.1: Research materials and resources

PERSONNEL:	TRAVEL	STATIONERY:	EQUIPMENT:
Supervisor	RESOURCES:	Notebooks	Salter scales
Investigator	Field transport	Pencils	MUAC tapes
Field assistant	Miscellaneous	Erasers	Stadiometers
Enumerators		Sharpeners	Flash disk
Driver		Questionnaires	Laptop
			Stop watch
			Tape recorder

3.5. Data collection tools and equipment

The study tools included a semi-structured questionnaire, FGD question guide, key informant interviews question guide and the SWOT analysis template. The study utilized equipment salter

scales for weight, MUAC tapes for mid upper arm circumference, stadiometers for height and a tape recorder for recording the FGD and Key Informant sessions.

3.6. Recruitment and training of enumerators

First year certificate students in human nutrition from the Nairobi Aviation College were informed about the recruitment of enumerators for the study. 11 individuals were assessed on the following on the following requirements through a one on one interview: a Kenya secondary school certificate, fluency English and Kiswahili and excellent communication skills

5 individuals were thereafter recruited as enumerators for the study and trained on: overall objectives of the study, filling the questionnaires conclusively, taking anthropometric measures and how to conduct FGDs and record information during the discussion sessions. The training schedule that was used is shown in Appendix 7. The training sessions took place in Nairobi-Runda Estate.

Two survey teams were formed which consisted of two enumerators and a field guide. A volunteer statistics student from Moi University- Narok was also trained as a data clerk.

3.7. Pre-testing of the research instruments

The questionnaire was pre-tested before the end of the training of the enumerators. The semi-structured questionnaire was pretested on a total of fifteen respondents in nutrition programme in Githogoro Slums in Nairobi. The Key Informant, SWOT and FGD guides were also pre-tested with two people each. The pre-test helped in gauging whether the respondents could understand the questions posed on the data collection tools and if the tools were yielding valid responses. The tools were then modified based on data collected from the pre-test and were not included in the final research data.

3.8. Data collection techniques and procedures

Both qualitative and qualitative data were collected. The enumerators that had been trained and recruited collected data using a pretested semi-structured questionnaire for the one on one interviews, FGD guide for the focus group discussions and a key informant interview guide for the key informant interviews. The SWOT analysis template was a self administered tool which

was distributed among the managerial and policy level staffs that were willing to take part in the study and collected after five days. All these were determined after translation of the research objectives into variables, activities and the data collection tools. (See Appendix 8)

3.8.1. Semi-structured questionnaire

Data was collected using semi-structured interviewer administered questionnaires for the cross-sectional study involving the beneficiaries 6-59 months. The questionnaires were used to record the information on:

a. Level of participation based on a developed 7-level likert scale. (See Appendix 4: Section B: Question 1)

   The likert scale was developed with the aid of the community health workers and the programme nutritionist who provided an exhaustive list of likert items which were the ways through which the participants commonly participate in the Riruta FBP nutrition programme's activities. The list had 7 ways through which the community commonly participated which were:

   1) Receive the material benefits that are provided by the programme
   2) Attend meetings scheduled for beneficiaries regularly
   3) Attend management/ decision making meetings
   4) Attend trainings organized by the nutrition programme
   5) Identify other members of the community in need of assistance by the nutrition programme
   6) Attend community activities organized by the nutrition programme
   7) Provide resources e.g. manpower when needed by the nutrition programme

   A checklist was developed and total scores obtained for each participant.

b. Anthropometric measurements of the children 6-59 months was done and recorded on a record sheet attached to the semi structured questionnaire (See Appendix 4 Section C).

c. The characteristics of the beneficiary in terms of age, sex, education level, occupation and other relevant demographic characteristics. (See Appendix 4: Section A).

d. Activities the participants take part in for the programme.

3.8.2 Focus group discussion guide

This had all the questions that generated information from the FGD sessions (See Appendix 5). The tool was used by the enumerators recruited whereby one acted as a moderator, one as an observer and the rest as recorders. The tool aided in collecting data regarding:

a. How community participation is used to identify the needs and the beneficiaries
b. How community participation is supported by the implementers of the nutrition programme
c. How community participation has been integrated into the community's activities
d. The community's perception of community participation.

3.8.3 Key informant guide

Information from the key informants was collected using this tool. It was used to collect data regarding the provisions regarding community participation. This aided in probing so as to get indepth information from key informants. The key informant interviews were conducted by the primary investigator.

3.8.4 SWOT analysis template

A SWOT analysis template was used to assess the strengths, weaknesses, opportunities and threats regarding community participation This involved respondents from managerial and policy level staff who were issued with the template which was later collected after five days.

3.9. Human subjects and ethical considerations

Information on the purpose of the research was shared with the respondents in order to minimize bias and obtain complete and reliable information. This information was also included in the questionnaires being filled by the clients in the form of a cover letter (See Appendix 3).The community will get a final copy of the thesis through the nutritionist and the community health workers.

3.10. Data quality control measures

3.10.1 Training of the study team

Quality assurance was pursued through training of the study team. There was training on how to ask the questions, fill in the questionnaire and conduct focus group discussions.

3.10.2 Pretesting of the questionnaires

The questionnaires were pretested on a total of 20 respondents in a nutrition programme in Githogoro Slum, Nairobi with condition similar to the research area. The pre-test helped in gauging whether the respondents could understand the questions posed on the data collection tools and detect anything that could impede the tool's ability to collect data. The tools were then modified based on data collected from the pre-test and were not included in the final research data.

3.10.3 Reviewing of completed questionnaires

The completed questionnaire was cross checked for completeness of data, consistency of answers obtained and for correct filling of the research tools every day. All the detected errors were corrected. The respondent was revisited to ensure that all information gathered is conclusive in cases where the data collection tool was incomplete.

3.10.4 Minimization of confounding factors

Confounding factors which are factors that may have affected the results of the study were minimized through the clear selection of the respondents.

3.11. Data management and analysis

3.11.1 Data entry and cleaning

Data entry and cleaning was done through developing a data entry template in Statistical Package for Social Sciences (SPSS) after pre-testing the questionnaire. During the study, data from the questionnaires was entered daily after being thoroughly checked. By tabulating and running all

the variable frequencies, data cleaning was done as it made it easier to identify missing or wrong values.

Outliers were identified after running the frequencies and respondents revisited to establish whether they were due to measurement errors or other anomalies. This was done so as to avoid exaggeration caused by them.

Analytical flags were also incorporated to prevent ambiguous data from being left unnoticed.

Information obtained from the key informant interviews and FGD sessions was transcribed, translated (when needed) and interpreted together to ensure that what is recoded is what was said.

3.11.2 Data analysis

Data from the completed questionnaires were analyzed using SPSS/PC statistical data software, Windows excel and ENA.

Community participation was scored through adding up the totals from the likert items (Appendix 4: Section B: Question 1). A two-point likert scale (high and low) was created using the median (Elaine et al. 2007) with those who fell below 2 (which was the median) being categorized as low levels of community participation while those above were categorized as high levels of community participation.

Anthropometric indices were calculated using WHO child growth standards. Classification of malnutrition was done as in table 3.2. Mid-upper arm circumference (MUAC) with a cut-off point of 12.5 cm was used as a proxy for low weight-for-height. There were no children in the Riruta FBP nutrition programme who were well nourished they were all malnourished as the programme enrolls children to be treated for malnutrition

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Table 3.2 Classification of malnutrition in children

Nutrition Indicator	*Well- nourished in Z-score*	*Moderate malnutrition in Z-score*	*Severe malnutrition in Z-score*
Oedema	No	No	Yes
Weight for height (wasting/ WHZ)	+2 to -1 Z-score	-2 to -3 Z-score	<-3 Z-score
Height for age (stunting/ HAZ)	+2 to -1 Z-score	-2 to -3 Z-score	<-3 Z-score
Weight for age (underweight/ WAZ)	+2 to -1 Z-score	-2 to -3 Z-score	<-3 Z-score
MUAC children aged 6-59 years	12.5-13.5cm as risk group and >13.5cm as well nourished	<12.5cm	<11.5cm

Golden et al (2006) and WHO for MUAC classification (WHO, 2011)

Associations, correlations and differences were done using both parametric and non-parametric statistical tests as shown in table 3.3.

Table 3.3 Table showing the operationalisation of variables into tests for statistical analysis.

Variable	Description	Type of data	Scale measure	Descriptive	Inferential
Dependent Variables					
1. Community participation	1.Level of community participation	Binary	Ordinal	Mode Frequencies	Chi
	2. Scores for community participation	Continuous	Interval	Mean Median Mode Sd Range Frequencies	Regression Mann-Whitney
Possible Independent					
1. Cadre of participants	1.Age of participant and child	Continuous	Interval	Mean Median Mode Sd Frequencies	
	2.Sex If participant	Binary	Nominal	Frequencies Mode	
	3 Education level	Nominal	Nominal	Frequencies Mode	
	4.Level of education	Nominal	Nominal	Frequencies Mode	
	5.Marital status of participant	Nominal	Nominal	Frequencies Mode	
	6 Occupation	Nominal	Nominal	Frequencies Mode	
	7.Means of participation	Nominal	Nominal	Frequencies Mode	
	8 Length of stay in the programme	Continuous	Interval	Mean Mode Sd Frequencies	
	8.Number of children represented in the programme by participant	Discrete	Interval	Mean Frequencies	
	9.Relationship to child in the programme	Nominal	Nominal	Frequencies Mode	
	10.Reason for participation	Nominal	Nominal	Frequencies Mode	

Variable	Description	Type of data	Scale measure	Descriptive	Inferential
2. Social economic status	1 Level of education	Nominal	Nominal	Frequencies Mode	
	2.Main source of income	Nominal	Nominal	Frequencies Mode	
	3.Household characteristics and durables	Nominal	Nominal	Frequencies Mode	
	4. Household size distribution	Discrete	Interval	Mean Median Mode Sd Range Frequencies	
3.Nutritional status	1.Weight for Height	Continuous	Ratio	Mean Medium Mode Sd Frequencies	Odds ratio Chi- square Spearman's correlation Mann-Whitney
	2.Height for age	Continuous	Ratio	Mean Median Mode Sd Frequencies	Odds ratio Chi- square Spearman's correlation Mann-Whitney
	3.Weight for Age	Continuous	Ratio	Mean Median Mode Sd Frequencies	Odds ratio Chi- square Spearman's correlation Mann-Whitney

CHAPTER 4
RESULTS

4.1. Social economic status of the study population

4.1.1. Main source of income

Figure 4.1 shows the highest proportion of the study population were casual labourers at 40% followed by those who were on salary, 11% got their income from commercial trade, 10% were selling animal and animal products, 3% were selling crops and 2% were surviving on gifts while another 2% were surviving on remittances.

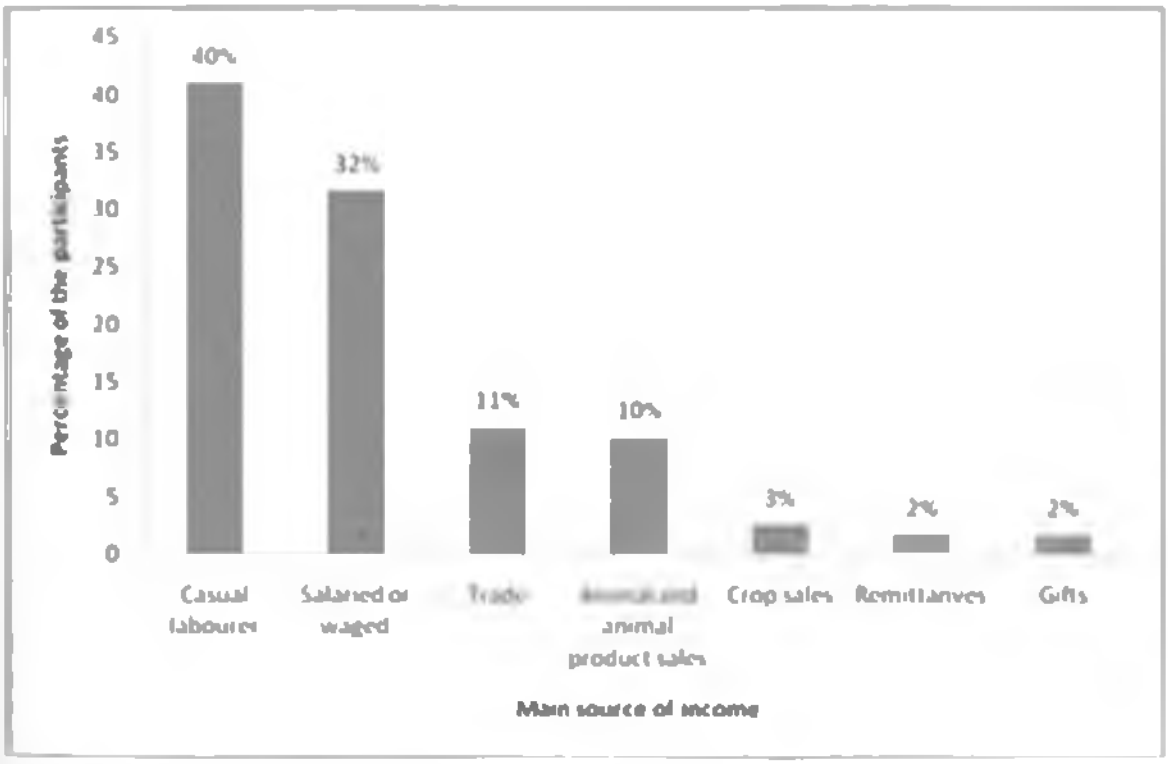

Figure 4.1 Main source of income for the household

4.1.2. Household Characteristics

4.1.2.1 Main water Sources

Table 4.1 shows the distribution of households according to the main water sources. Safe water sources were used 92% of the study population. The safe water source used by the majority was

tap water. Unsafe water sources were used by 8% of the participants' households i.e water from unprotected wells (2%), rain water (3%) and river/stream water (2%).

Table 4.1 Water Sources

Water source	Households for the beneficiaries (N=117)	
	Frequency	Percentage
Safe sources		
Tap water	93	79
Water pump	4	3
Protected well	12	10
Unsafe ware sources		
Unprotected well	2	2
Rain water	3	3
River/stream	3	3

4.1.2.2 Sanitation facilities

Table 4.2 shows that pit latrines were the most common (84%) form of sanitation used in the study population's households. Only 16% had access to a flush toilet.

Table 4.2 Sanitation facilities

Sanitation	Households for the beneficiaries (N=117)	
	Frequency	Percentage
Flush toilet	19	16
Pit latrine	98	84

4.1.2.3 House construction materials

Table 4.3 shows that the households that had iron sheet roofs were 96%. The rest had concrete (1%) and tiled (3%) roofing. Most (68%) still have walls made from iron sheet material while the least had walls made carton boxes (1%).

Table 4.3 Construction materials

Characteristics	Households for the beneficiaries (N=117)	
	Frequency	Percentage
Roof materials		
Concrete	1	1
Roofing tiles	3	3
Iron sheet	113	96
Wall materials		
Concrete/cement	5	4
Stone	21	18
Wood	9	8
Iron-Sheet	79	67
Earth	2	2
Carton boxes	1	1

4.1.2.4 Sources of cooking fuel

Table 4.4 Source of cooking fuel

Cooking fuel	Households for the beneficiaries (N=117)	
	Frequency	Percentage
Gas cooker	13	11
Firewood	13	11
Charcoal	67	57
Paraffin/ Kerosene	24	21

4.1.2.5 Household possessions

Table 4.5 shows that 71% of the participants had at least one radio in their household. The proportion that had mobile phones was 86%, 18% had a bicycle, 62% had a sofa set, 25% had a water- tank, 55% had a television set and 57% had a mosquito net.

Table 4.5 Household possessions

Durables	Frequency of the study population (N=117)	Percentage of the study population
Radio	83	71
Mobile	107	86
Bicycle	21	18
Sofa-set	72	62
Water-tank	29	25
Television	64	55
Mosquito net	67	58

4.1.3 Household size distribution

Table 4.6 shows that 33% of the households which was the highest population group had a total of three household members. This was followed by households with 5 and 4 household members at 23% and 22% respectively. Just 11% of the study population had 6 household members. Households with 7 and 8 members were at 4% each. The least percentage of the population had 2 household members at 3%. The maximum number of individuals within a household was 8 while the minimum was 2. The average household size was 4.4 (±1.431). Male to female ratio within the study population was 1:1. The average number of males per household was 2.14 (±1.181) while the average for the females was 2.24 (±1.431). The minimum and maximum number of males in a household was 1 and 6 respectively. The minimum and maximum numbers of females in the households for the participants was also 1 and 6 respectively. Males accounted for 49% of the members in the households while the females were 51%.

Table 4.6 Distribution of household members in the study population

Household members	Frequency (N=117)	Percentage
2	3	3
3	38	33
4	26	22
5	27	23
6	13	11
7	5	4
8	5	4
Total	117	100

4.1.4 Household head by sex

Figure 4.2 shows majority of the households (85%) were headed by males while 15% were female headed.

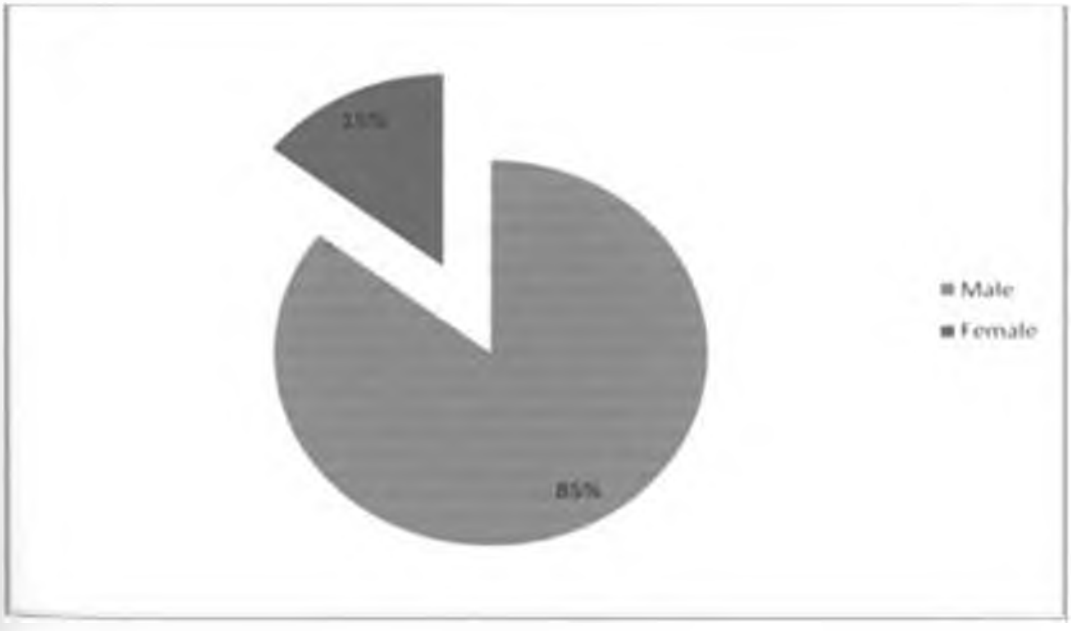

Figure 4.2 Distribution of household heads by sex

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4.2. Community participation

Community participation is the creation of opportunities to enable all members of a community to actively contribute to and influence the development process and to share equitably in the fruits of development (United Nations, 1981). It is a means through which the target community can be educated and their competence in handling health and nutrition related issues increased. The dimensions of community participation addressed in the study included:

1. Perception of community participation among the programme staff and participants
2. Characteristics of persons involved in community participation
3. Distribution of participants by how they participate
4. Scores in community participation
5. Levels of community participation as per the likert scale

4.2.1. Perception of community participation among the programme staff and participants

Focus group discussions conducted were transcribed, translated and information on the following aspects obtained:

1. Conveying of information
2. Recovery rates
3. Sustainability
4. Addressing the programme objectives
5. Decision making
6. Resource mobilization
7. Resepresentativeness
8. Problem solving
9. Recommendations

Table 4.7 Perception of community participation among the programme staff and participants

ASPECT	COMMUNITY	PROGRAMME STAFF
Conveying of information	Generally a one way approach	Easier for a one way approach to be done Poor feedback from participants/representatives
Recovery rates	Children recover quicker especially if one participates and follows instructions	Essential for improving the recovery rates Prevention of relapses.
Sustainability	Learn more on how to take care of beneficiaries. Reduced rates of relapses.	Need to encourage representatives to participate More activities and trainings need to be done
Addressing the programme objectives	Representatives learn more about the programme, its purpose and what is expected of them	More coverage (identification of new beneficiaries)
Decision making	Mostly done by the representatives appointed by the nutrition programme and the programme staff.	May take more time than necessary Bias as the less vocal representatives may not be involved
Resource mobilization	Most do not offer any resources The community representatives offer manpower	No resources are offered other than manpower form the two community representatives
Resepresentativeness	No representativeness due to the fact that there are no definite, defined and open criteria for choosing the representatives	Representatives are chosen to represent and talk on behalf of the beneficiaries.
Problem solving	Hear different experiences from other beneficiaries on how to solve a problem	Identification of problems that may be facing the beneficiaries and the community Identification of different alternatives to solve the problem
Recommendations	Ensure an open selection of community representatives Introduce a 2 way approach in addressing issues	Provide more avenues for beneficiaries to participate Invest in resources necessary to enable more broadly based coverage of the participatory approach

4.2.2 Characteristics of participants involved in community participation

4.2.2.1 Number of children represented per participant

Most (97%) of the participants represented only one child in the nutrition programme while only 3% represented two children. There were no representatives who had more than 2 children enrolled in the nutrition programme.

4.2.2.2Relationship of the participant to the child in the Rirutu FBP nutrition programme

Figure 4.3 shows that 87% of the participants in the nutrition programme were biological mothers. Other relations to the child were 6%; these were brothers, sisters, aunties, uncles and grandparents. Fathers accounted for 3% of the participants. Guardians representing some of the children in the programme accounted for 4% of the participants. The guardians represented the children who had been abandoned or orphaned.

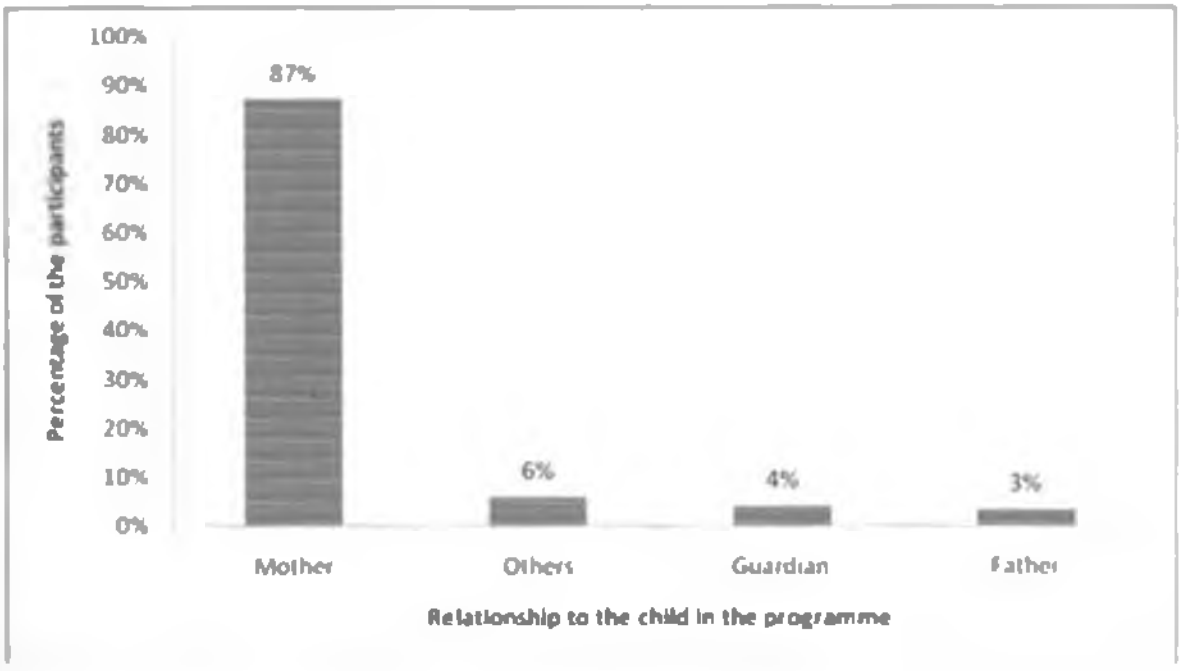

Figure 4.3 Relationship of the participant to the Child

4.2.2.3 Duration the participant/ child has been in the programme

Figure 4.4 shows that (40%) of the children had been beneficiaries in the programme for one month this means that 40% of the participants had been part of the programme for one month. It was observed that 3% of the participants had been part of the programme for more than six months which is longer than recommended duration that a child is required to be in the programme. The minimum duration a participant had been in the programme was one month while the maximum was nine months. The average length of stay as part of the nutrition programme with a child still receiving the LBP products was 2.26 (±1.575) months. A one sampled t-test showed that there was a significant difference (p-value 0.000 at 95% confidence interval with 120 df) within the length of stay by a participant in the nutrition programme.

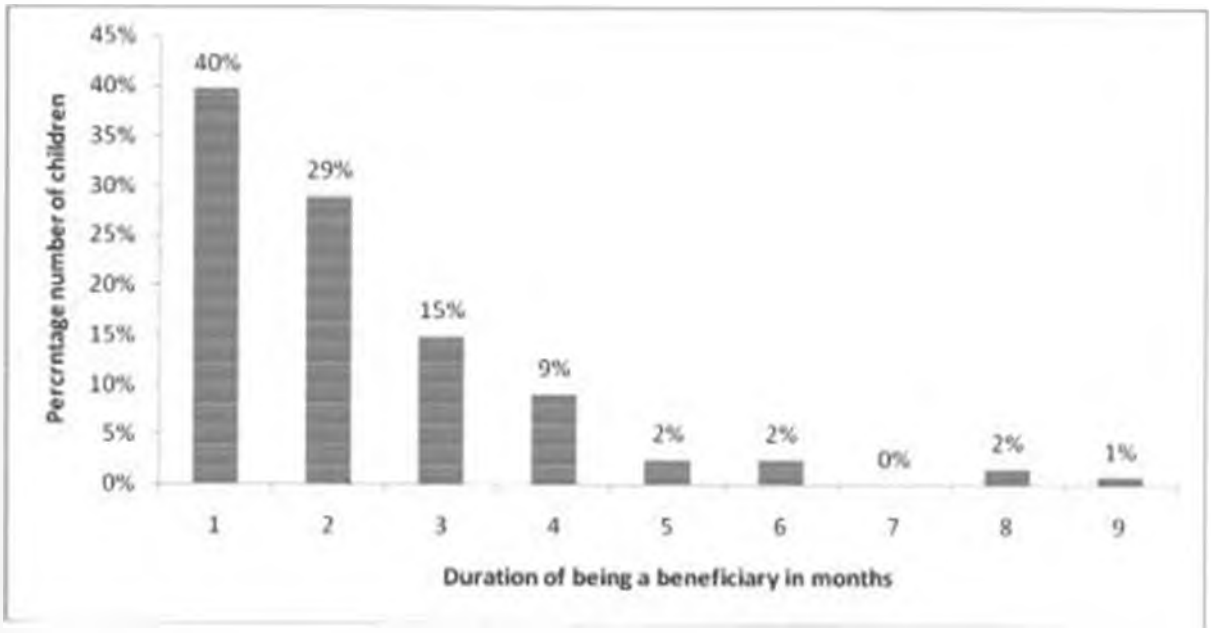

Figure 4.4 Duration of being a Beneficiary

4.2.2.4 Distribution of participants according to age and sex

Figure 4.5 shows that 96% of the participants were female while the males were only 4%. The age-group with the greatest percentage of participants (69%) was 20-29 years; 66% of them being female and 3% males. The least percentage of participants (2%) was 40-49 years. There was a significant difference (p=0.005 at 95% confidence interval) between the male and the

female participants in that the male were fewer than the females participating in the nutrition programme.

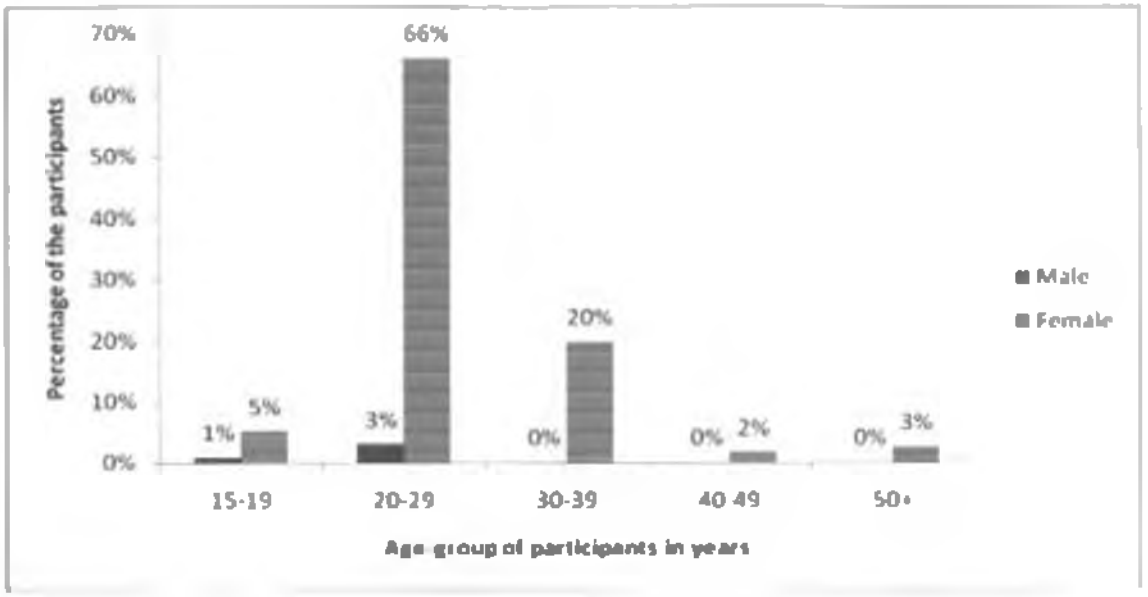

Figure 4.5 Distribution of participants by age-group and sex

4.2.2.5 Marital status of participants

Figure 4.6 shows that more than three quarters (78%) of the representatives were married. The single were 12% while 7% and 3% were separated and widowed respectively.

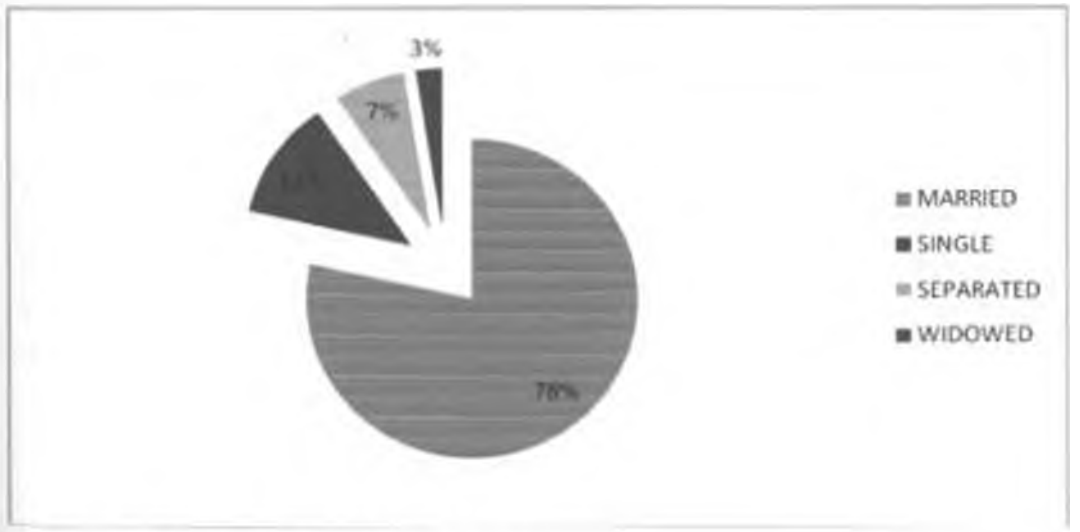

Figure 4.6 Marital status of participants

4.2.2.6 Level of education of participants

Figure 4.7 shows that almost half (46%) of the participants had only completed primary level of education. Only 17% had completed secondary level of education. Those who had dropped from secondary and primary school were 9% and 8% respectively. Those who had attained a college or university education among the participants constituted 10%. Another 9 % were illiterate in that they had no formal education whatsoever while 1% termed themselves as literate to mean that they had not attended class but they could read and write well.

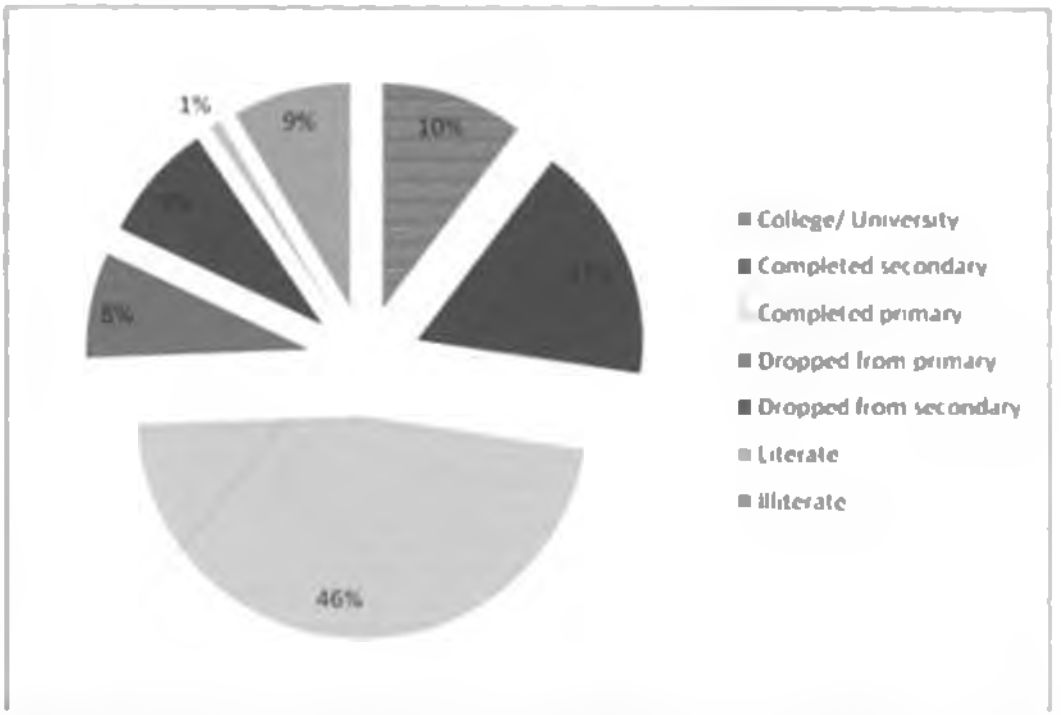

Figure 4.7 Distribution of participants by education level

4.2.2.7 Distribution of participants by main occupation

Table 4.8 shows that a majority of the representatives (40%) were unemployed. Housewives accounted for 25% of the participants, 21% were self employed, 11% were casual labourers and only 2% were salaried employees. Just 1% of the participants were farmers.

Table 4.8 Occupation of beneficiary representatives

Main occupation	Frequency (N=117)	Percentage
Unemployed	47	40
Housewife	30	25
Self employed	24	21
Casual labourer	13	11
Salaried employee	2	2
Farmer	1	1
Total	117	100

4.2.2.8 Main reason for participation

Table 4.9 shows that a majority of the participants at 66% participated so as to receive more material benefits, 39% participated so as to be able to learn more about how to take care of the participants, 13% hoped to be enrolled into more project activities and just 1% was participating so as to get more members of the community involved.

Table 4.9 Distribution of participants according to reasons for participation

Reason	Frequency (out of total study population) N=117	Percentage (out of total study population)
More material benefits	77	66
Learn more on how to look after beneficiaries	45	39
Enrollment into more project activities	11.1	13
To get more community members involved	13	1

4.2.3. Levels of community participation in the Riruta FBP nutrition programme

4.2.3.1 Distribution of participants by how they participate

Table 4.10 shows 91.5% of the study group participated through receiving material benefits from the nutrition programme. Those who attended scheduled meetings were 40.2% while 34.2% helped in the identification of community members that fit the admission criteria for the nutrition programme. Trainings were attended by 24.8% while only 19.7% participated in community activities organized by the nutrition programme. Resources that can be used by the programme that is mostly included manpower were provided by 17.2%, while 3.4% attended management meetings. In all the ways of participation other than receiving material benefits, there was a significant difference between what had been targeted and what was taking place. The targets had been set by the Riruta health centre's nutritionist and the community health workers. Their aim was to have at least half of the participants with children less than five years in FBP nutrition programme participating in the programme's activities. Nevertheless, it was expected that all the beneficiaries enrolled in the programme should be receiving material benefits from the programme. Almost all targets that had been set were not being achieved other than that of receiving material benefits. The residual represented the differences between the target and what was achieved.

Table 4.10 Distribution of participants by way through which they participate

Way of participation		Frequency within total population (N=117)	Target (%)	Target achieved (%)	Residual	Statistics	
						χ^2 Value	p-value
Receive material benefits	Yes	117	50	100	0		
	No	0					
Attends meetings for beneficiaries	Yes	47	50	40.2	-9.8	4.521	<0.005
	No	70					
Identify other beneficiaries in the community	Yes	40	50	34.2	-15.8	117.01	<0.005
	No	63					
Attends trainings	Yes	29	50	24.8	-25.2	29.725	<0.005
	No	88					
Participates in community activities	Yes	23	50	19.7	-30.3	43.085	<0.005
	No	94					
Provides resources	Yes	20	50	17.2	-32.8	50.675	<0.005
	No	97					
Attends management meetings	Yes	4	50	3.4	-46.6	101.547	<0.005
	No	113					

4.2.3.2 Scores in participation

Figure 4.8 shows that from the total scores obtained from the likert items half of participants had a total score of 2 for the level of community participation. The maximum score was 5 while the minimum was 1. The mean was 2.31(±0.913)

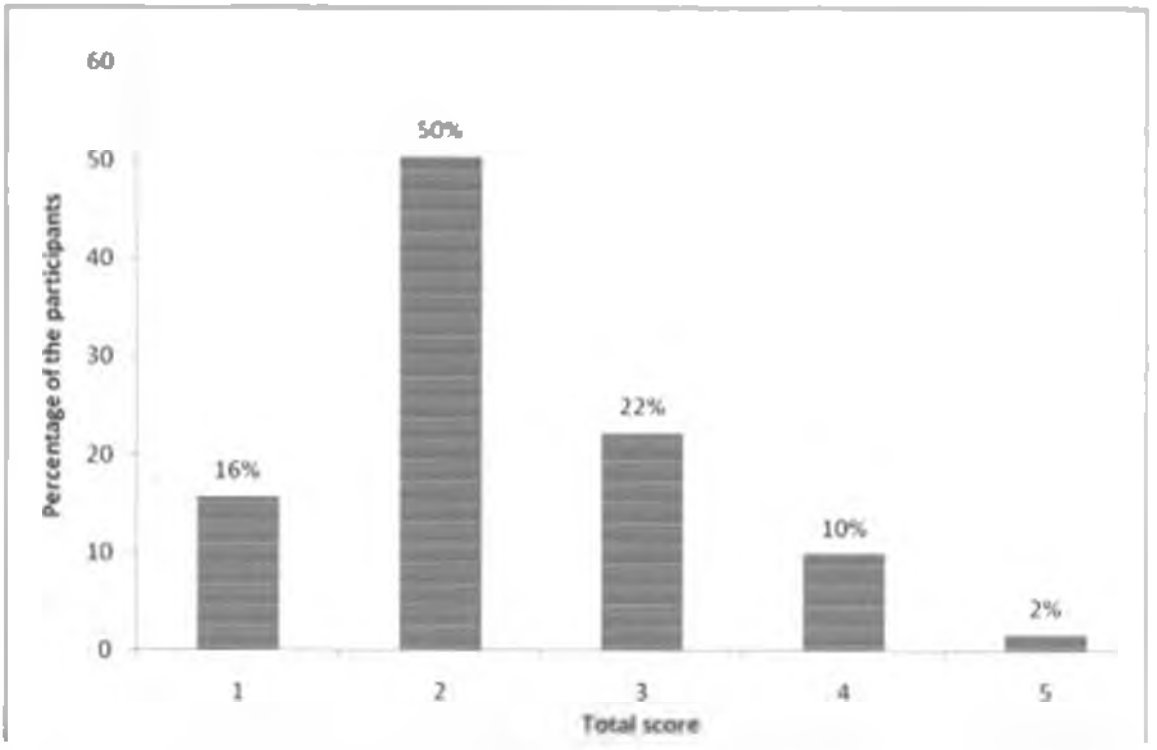

Figure 4.8 Scores in community participation

4.2.3.3 Levels of community participation as per the likert scale

Figure 4.9 shows that 67% of the total study population fell under low levels of community participation i.e. ≤2 on the two point likert scale while the rest of the representatives (33%) fell under high levels of community participation i.e. >3.

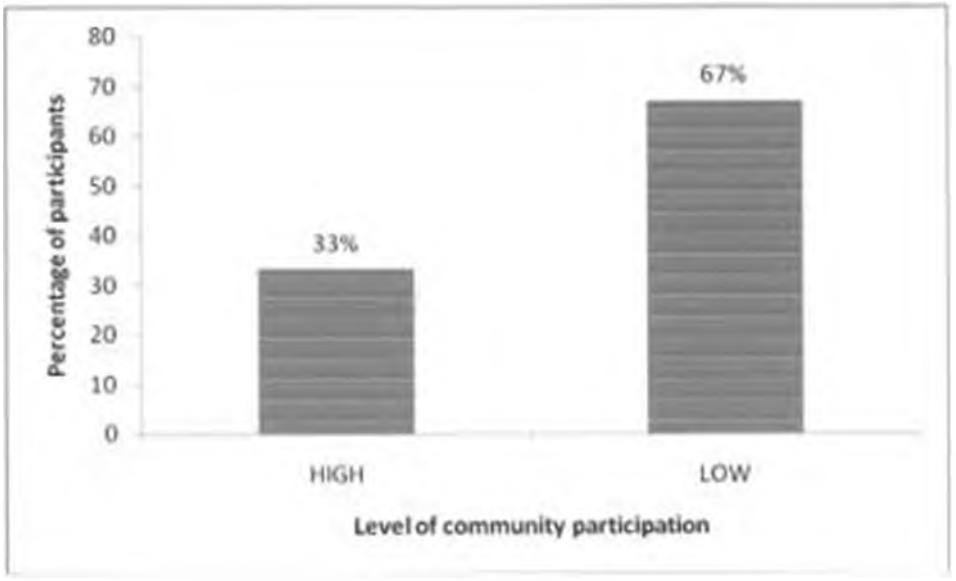

Figure 4.9 Distribution levels of participation

4.3. Nutritional status of the beneficiaries 6-59 months

Table 4.11 shows that the males enrolled in the programme were more than the females in the programme. Children in the age-group 12-17 months were the most (36%) in the programme while 48-59 months were the least (2%).

Table 4.11 Distribution of beneficiaries by age and sex

Sex of child	Age in months (N=121)							
	6-8	9-11	12-17	18-23	24-35	36-47	48-59	Total
Male	8 (7%)	14(12%)	23(19%)	10(8%)	9(7%)	1(1%)	2(1%)	67(55%)
Female	3(2%)	14(12%)	20(17%)	7(6%)	5(4%)	4(3%)	1(1%)	54(45%)
Total	11(9%)	28(24%)	43(36%)	17(14%)	14(11%)	5(4%)	3(2%)	121(100%)

A beneficiary is allowed to stay in the programme for three months after which they recover and are discharged from the FBP programme. If a beneficiary does not fully recover, they are allowed to stay on for another three months after which they are discharged as recovered or non-responsive. In case of other factors like Tuberculosis and HIV then the beneficiaries' time can be prolonged. Those beneficiaries who had been in the programme for at most three months were

84%. while those who had been in the programme for up to six months were 13%. There were beneficiaries who had been in the programme for more than three months (3%). The minimum period a child 6-59 months had been a beneficiary was one month while the maximum time was 9 months. The average duration was 2.26 (±1.575). The median duration was two months while the mode was one month.

The male children had been in the programme for an average of 2.31 (±1.699) months while the female children had been in the programme for an average of 2.2 (±1.419) months. From the Mann-Whitney test there was no statistically significant difference between the male and the female median duration of being a beneficiary in the FBP programme (U= 1795, p 0.919 at 95% confidence interval).

All the children in the FBP programme were undernourished. Figure 4.10 the nutritional status of the children enrolled in the programme, 88% of the children in the programme were suffering from moderate underweight while the remaining 12% had severe underweight (l weight for age- WAZ). The figure also shows that the proportion of the children in the programme who were moderately stunted (height for age- HAZ) were 85% while the remaining 15% had severe stunting. 80% of the beneficiaries in the programme were moderately wasted (low weight for their height- WHZ) while the remaining 20% had severe wasting.

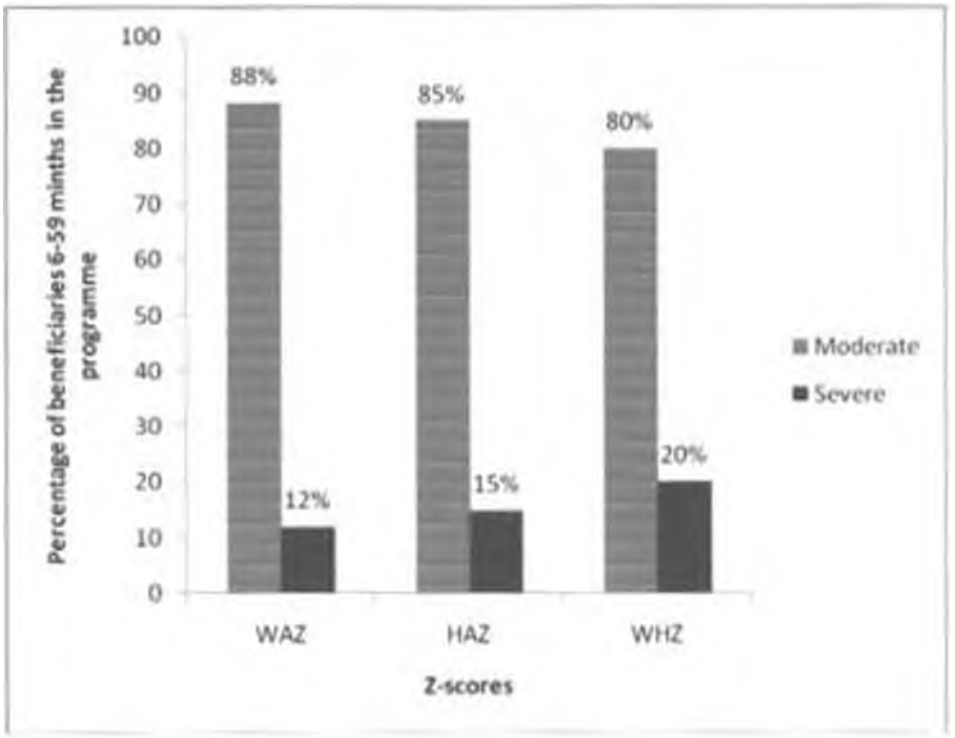

Figure 4.10 Malnutrition levels in the nutrition programme

4.4. Relationship between community participation and the nutritional status of the beneficiaries 6-59 months in the nutrition programme

4.4.1 Relationship between community participation and underweight

Chi-square analysis showed that at 95% confidence interval at 1df was $\chi = 0.144$, $p = 0.704$. This showed that there was no statistically significant association between the level of community participation and being underweight. The strength of association between community participation and underweight was weak (p- 0.704). This indicates that there is no relationship between the two.

Mann-Whitney U test showed that those with moderate underweight (mean rank=62.04) had higher levels of community participation as they had a higher mean rank than those with severe malnutrition (mean rank=53.04). There is no statistically significant difference between the moderately and severely underweight and the total scores in community participation ($U = 637.5$, $p = 0.329$).

Table 4.12 shows that 33% of the beneficiaries who were underweight had high levels of community participation while 67% had low levels of community participation. Odds ratios computed from table 4.12 and table 4.13 showed that the participants with children who were underweight were 1.268 times likely to participate in the programme's activities. Those moderately underweight were 1.027 times likely while the severely underweight were 0.810 times likely to engage in the programme's activities.

Table 4.12 Distribution of beneficiaries by underweight and level of community participation

Underweight level -WFA) (N=121)	Level of community participation (N=121)			
		High	Low	Total
	Moderate	36 (30%)	71(59%)	107(88%)
	Severe	4(3%)	10(8%)	14(12%)
	Total	40(33%)	81(67%)	121(100%)

Table 4.13 Odds ratio for beneficiaries by underweight and level of community participation

Odds Ratio		95%confidence interval	
	Value	Lower	Upper
Level of community participation (high / low)	1.268	0.372	4.323
Moderate underweight	1.027	0.900	1.171
Severe underweight	0.810	0.271	2.423
N of valid cases	121		

4.4.2 Relationship between community participation and stunting

Chi-square analysis indicated that at 95% confidence interval at 1df, $\chi = 0.001$, $p = 0.979$ showed that there is no statistically significant association between the level of community participation and stunting in the programme. The strength of association between community participation and stunting was weak (p=0.979). This indicates that there is no relationship between the two.

Mann-Whitney U test showed that those with moderate stunting (mean rank=61.66) had higher levels of community participation as they had a higher mean rank than those with severe stunting (mean rank=57.25). There is no statistically significant difference between the moderately and severely stunted and the total scores in community participation (U = 859.5, p = 0.595).

Table 4.14 shows that 33% of the beneficiaries who were stunted had high levels of community participation while 67% had low levels of community participation. Odds ratios computed from table 4.14 and table 4.15 showed that the participants with children who were stunted were 0.986 times likely to participate in the programme's activities. The moderately stunted were 0.998 times likely while those severely stunted were 1.012 times likely to engage in the programme's activities.

Table 4.14 Distribution of beneficiaries by stunting and level of community participation

Stunted level - HAZ (N=121)	Level of community participation (N=121)		
	High	Low	Total
Moderate	34(28%)	69(57%)	103(85%)
Severe	6(5%)	12(10%)	18(15%)
Total	40(33%)	81(67%)	121(100%)

Table 4.15 Odds ratio for beneficiaries by stunting and level of community participation

Odds Ratio	Value	95%confidence interval	
		Lower	Upper
Level of community participation (high / low)	0.986	0.341	2.852
Moderate stunting	0.998	0.851	1.169
Severe stunting	1.012	0.410	2.500
N of valid cases	121		

4.4.3 Relationship between community participation and Wasting

Chi-square analysis indicated that at 95% confidence interval at 1df, $\chi = 267$, $p = 0.605$ shows that there is no statistically significant association the level of community participation and wasting the programme. The strength of association between community participation and wasting was weak (p=0.605). This indicates that there is no relationship between the two.

Mann-Whitney U test showed that those with moderate wasting (mean rank=61.30) had higher levels of community participation as they had a higher mean rank than those with severe wasting (mean rank=59.79). There is no statistically significant difference between the moderately and severely wasted and the total scores in community participation (U = 11135, p = 0.839)

Table 4.16 shows that 33% of the beneficiaries who were wasted had high levels of community participation while 67% had low levels of community participation. Odds ratios computed from table 4.16 and table 4.17 showed that the participants with children who were wasted were 0.783 times likely to participate in the programme's activities. The moderately wasted were 0.951 times likely while the severely wasted were 1.215 times likely to engage in the programme's activities.

Table 4.16 Distribution of beneficiaries by wasting and level of community participation

	Level of community participation (N=121)			
Wasting levels - WHZ (N=121)		**High**	**Low**	**Total**
	Moderate	31(26%)	66(55%)	97(80%)
	Severe	9(7%)	15(12%)	24(20%)
	Total	40(33%)	81(67%)	121(100%)

Table 4.17 Odds ratio for beneficiaries by wasting and level of community participation

Odds Ratio	Value	95%confidence interval	
		Lower	Upper
Level of community participation (high / low)	0.783	0.309	1.984
Moderate wasting	0.951	0.781	1.158
Severe wasting	1.215	0.583	2.533
N of valid cases	121		

4.5 Highlights from the focus group discussions

Results from the focus group discussions showed that the representatives knew what the Riruta Health Centre's nutrition programme does to help improve the nutrition status of the target population. They also had accurate knowledge on the selection criteria that was used by the nutrition programme to enroll individuals into the food by prescription programme.

The community did not participate in identifying the needs of the target population. The programme was launched and the beneficiaries were recruited. Mostly of the beneficiaries claimed that the only participation that occurs in the nutrition programme involved receiving material benefits and following the instructions that had been issued on how to prepare and administer the food items provided by the programme. This indicates that community participation has not yet been integrated into the community's programme

The participants stated that the advantage of community participation would be to identify their needs. They were also convinced that community participation would help them understand the purpose of the nutrition programme better and enable them to take care of their children (beneficiaries) better.

The challenges noted from the focus group discussion included the top down approach type of leadership that the representatives of the beneficiaries said made it difficult to give honest feedback on the beneficiaries' progress or other need that they may have.

4.6 Specific highlights of the key informant interviews

No community participation trainings had taken place in the nutrition programme for the beneficiaries enrolled in the programme. Nevertheless, the community representatives were trained on the scope of the programme and the selection criteria for the beneficiaries. They were also sensitized on nutritional counseling techniques that they are to use in the field.

The provision that had been put in place to support community participation was the aspect of a community representative who was meant to act as a channel of communication from the community to the programme staff and from the programme staff to the target community. The benefits of community participation noted in the key informant interviews involved allowing the identification of beneficiaries straight from the community even in a situation where they did not attend the Riruta Health Centre Clinics.

The number of representatives from the community proved to be a challenge for community participation as only two community representatives represented the whole community and were not able to represent the whole community evenly. They were in charge of follow-up on those already in the programme (345 clients during the study period) and identifying new cases in the community (which has a population of 125,322). Another challenge was that community representatives were not factored into the programme's budget and therefore were not willing to work for free due to lack of motivation.

The following recommendations were given by the key informants: inclusion of more community representatives, providing an allowance for the representatives and increasing the community's sensitivity to the aspect of community participation and its benefits. The nutritionist specifically recommended the improvement of participation through introduction of a training curriculum for programme staff and for the beneficiaries as a way of improving the recovery rates.

4.7 Specific highlights of the SWOT analysis

Strengths of community participation

Representatives had been recruited by the elders from the target community. These representatives were then approved by the health centre and trained as community health workers to ensure that they have basic information on the nutrition programme, its functions and recruitment of beneficiaries.

Community participation was also said to allow for feedback from the community on the progress of the programme as it gives a platform for both the beneficiaries and the staff to voice their concerns and obtain feedback from each other. From the SWOT analysis, community participation was seen to provide a means of communication of information from the programme implementers to the community and from the community to the programme implementers. It also creates a channel for allowing the community to feel like part of the nutrition programme.

Weaknesses of community participation

Community representatives were few therefore do not represent the community adequately due to the fact that they were overwhelmed by the number of people that they have to follow-up. It was also seen that all those who participated in the programme activities expect to be given an incentive for their effort making it difficult for the programme to cater for participation activities. Community participation was also not factored in during budgeting for the programme thus the difficulty in providing incentives to the community health workers and the participants.

Opportunities of community participation

Community participation can be integrated into the existing programmes that are already in place and provided with an opportunity for sustainability. A portion of the programme budget could also be set aside to aid in integrating community participation into the programme activities and provide incentives and tokens for the community health workers.

Another opportunity for community participation was to set practical guidelines and a training manual for the implement community participation so as to make it more effective and efficient

Transparent procedures can be used in selecting community representatives to help them be accepted by the community more readily. Sensitization on the benefits and role of community participation can be done to improve community participation within the community.

Threats of community participation

The community's negative perception on community representatives may affect its efficacy and effectiveness as a tool being used to implement the programme's activities. Another threat to community participation was the authoritative leadership which prevents participants from being free to participate in the programme activities.

4.8 Summary of key findings

Only 32% of the beneficiaries' households had a stable income as they were employed and on a salary. Their living conditions were above average because they all had access to sanitation facilities; a flush toilet (16%) or a pit latrine (16%), safe water sources (92%) and atleast iron sheet roofs (96%).

From the study, the nutrition programme staff had a general understanding of community participation. The participants were not very conversant with community participation and they had a negative perception about it as they thought it was only for a selected few.

A majority of the participants had only one child (97%) enrolled as a beneficiary in the nutrition programme and most of them were mothers (87%). The most common reason for participating was for the purpose of receiving material benefits from the food by prescription programme.

It was also observed that levels of community participation were low (67%) in the nutrition programme. All the participants participated through receiving material benefits from the programme.

The study's hypothesis was rejected. The levels of community participation did not have any relationship with the nutritional status of the beneficiaries 6-59 months; underweight (p 0.704), stunting (p=0.979) and wasting (p .605).

CHAPTER 5

DISCUSSION

5.1 Characteristics of the beneficiaries

Some beneficiaries had been in the programme for upto 9 months meaning that the programme is not in line with the standards for the duration of stay in a nutrition feeding programme which are 3months within which the patient is expected to recover. If the patient is still at risk of malnutrition after the 3 months they are allowed to continue with the food by prescription products for another 3 months after which they are discharged either as cured (if they are cured of malnutrition) or non-responsive (if they are still malnourished) (Castleman, 2008)

Over half of the representatives were mothers. It is known that mothers tend to be the primary care givers of children 0-59 months. As in the KDHS 2008-09, a majority of the mothers fell in the 20-29 years age-group. A greater percentage of the representatives were married The KDHS 2008-09 states that 54% of Kenya's population is married It was observed by the nutritionist implementing the programme that the children from families with both parents tend to report a faster recovery rate Married persons also tend to be more stable and have a better support system which is thought to translate to a faster recovery for the children within the nutrition programme (Gawatkin et al, 2000).

The highest level of schooling was primary at 47.01% as compared to the KDHS 2008-09 which states that 26.9% of the Kenyan population had completed primary education. The average household size in the study population was 4.4 which is in line with the KDHS 2008-09 which is 4.2. This is a good indicator of health as larger households can lead to health problems due to crowding and the economic resources are more limited (Gawatkin et al, 2000).The data for household composition show that men head 85.47% of the households. A study conducted in Guatemala indicated that participation did not occur at random, and a variety of factors contributed to the participation of individual children, particularly literacy levels, child's age and family size (Carmichael et al, 1994) thus the need for the analysis of all these factors in the study. The literacy levels in the study population indicated that a great proportion had achieved formal education but this did not translate to elevated levels of community participation.

The main source of income was casual labour which implies that income may not be stable. This may be the main cause of the slow rates of recovery that lead to beneficiaries staying in the programme longer than required. Low income indicates a larger proportion of it is used for food in the household thus poorer quality and choice of foods ultimately compromising the effectiveness and efficacy of the prescribed food product. These poor households also tend to share the food products given to them by the nutrition programmes among household members (Castleman, 2008). This may also lead to the poor recovery rates and longer stays within the programmes as the beneficiary is not receiving the nutrients in the proportions required for recovery.

5.2 Nutritional status of the beneficiaries

All the children in the nutrition programme were malnourished as is expected of a feeding programme. This is so as to serve only those who are in need of the products distributed as a nutrition intervention. The programme had enrolled those moderately and severely wasted, underweight and stunted.

5.3 Perception of community participation among the programme staff and participants

The participants of the nutrition programme had a vague understanding of the concept of community participation especially on the recovery rates and increasing their competence in taking care of their children more effectively. They did not know about the other benefits of participation that play a role in identifying their needs, enabling them to actively contribute to the programme and their development.

Programme staff also had a general understanding of the benefits that community participation may have on the programme if applied fully. Nevertheless they did not have an understanding of critical concepts regarding community participation and therefore required more training on participation as tool for implementing programmes so as to make them more competent.

It is said that the models of participation that seek to enhance the agency of communities and individuals have also proved difficult to implement (Michener, 1998). Participants and

community workers expected incentives for participating in the programme's activities. The budget allocation for community participation was not present and therefore the programme staff viewed the community participation approach as quite cumbersome to implement due to the resources required to support any participation model. It was perceived to be quite expensive to incorporate the community into the programme implementation process.

Active relationships between the programme staff and the participants also seemed to be lacking and therefore hindered the participants from developing confidence in the programme. A two way communication which is essential for the progress of the programme and also monitoring and evaluation is essential for sustainability and relevance of the intervention. A study by University of Westminster in 2007 demonstrated that community participation can enhance the uptake and response to health interventions, their scalability and sustainability, but that the process by which these programmes are implemented is crucial. This proves that it is essential to create an environment whereby the community feels free to interact with each other and with the programme staff.

5.4 Levels of community participation

The levels of community participation were low. This is likely to antagonize the benefits that community participation is to have on a nutrition project. Boosting the levels of community may open an avenue for the advantages of community participation to be observed within the nutrition programme.

In order for the gains of a nutrition programme to be realized it is vital to couple the strategies in place (food supplementation and nutrition counseling) with a participatory approach for follow-up and feedback. Participation is an essential component in the implementation of programmes to ensure that a programme's objectives are met The low recovery rates may be the consequences of the low levels of participation of the community in the programme implementation process. Food supplementation and nutrition counseling may only go to a certain level in improving the nutritional status of the children enrolled as beneficiaries in the programme Beyond this there is a need to integrate participation in the nutrition programme.

The low levels of community participation may be attributed to the one way communication that seems to be the way the programme is run. Participants who represent the beneficiaries may not feel free or valued enough to contribute or give any form of genuine feedback to the programme staff. A healthy relationship does not exist between the programme staff and the beneficiaries Both sides need to participate to allow for optimum participation. The one way communication also created a sense that the beneficiaries are only meant to get the material benefits and follow the instructions given only. This should not be the case as community participation involves both information feed forward and active feedback from the participants.

There was also limited understanding of participation as a tool for implementing nutrition programmes. The participants viewed participation as only for the chosen few in the programme. There was no level playing field for all the participants to feel equally important for the progress and sustainability of the programme.

The problems of community participation like lack of co-ordination measures to ensure that participation is organized and that participants have times that they can freely participate have not been put in place. There was also no set method to control participation and prevent it from being dominated by the most vocal participants within the community.

Lack of representativeness also proved a problem contributing to the low participation levels and therefore the members of the community do not feel as though their problems, needs and ideas are being brought forward to the programme

There have been unrealistic assumptions about the abilities of the poor and marginalized to participate (Brett, 2003) and ignoring wider social and political realities (Carpenter, 2007). This may be a contributing factor to the low levels of community and investment in the community participation approach within the programme.

5.5 Ways through which the community participated

The ways through which the community participated (based on the likert scale items) included: receiving the material benefits that are provided by the programme, attending meetings scheduled for beneficiaries regularly, attending management/ decision making meetings, attending trainings organized by the nutrition programme, identifying other members of the community in need of assistance by the nutrition programme, attending community activities organized by the nutrition programme and providing resources e g. manpower when needed by the nutrition programme.

The most observed way of participating was receiving of material a benefit which is done by all the beneficiaries in the nutrition programme. There was a significant difference on all the other modes of participation in that less than half the beneficiaries are involved in them. This implies that the strengths community participation offers in the implementation of a nutrition programme are not being fully achieved. It is important for the representatives to participate in more than one way so as to ensure that the benefits of participating through one mode spill over to the other modes therefore complementing and supplementing each other.

By not attending meetings, not attending trainings and not even participating in community activities less information about the programme can be conveyed to the beneficiaries. This also compromises the sustainability of the programme and the effort to make the beneficiaries and their households more self reliant.

Sharing of experiences and situations is also important in finding new solutions to deal with problems. Since the beneficiaries were not in contact then the benefits accrued from sharing of experiences and encouraging each other which is especially essential for the immuno-compromised enrolled in the nutrition programme.

The results indicated that the levels of participation in the programme are generally low. A greater percentage of the representatives fell under the lower levels of community participation

therefore compromising the benefits community participation may have on the rates of recovery and relapses experienced in the programme.

Reasons for participation as observed from the study showed that a majority participate purely to get more material benefits. This is a problem as it interferes with achieving sustainability and prevention of relapses. For reasons such as learning how to look after the beneficiaries, enrollment into other project activities and getting more community members involved in the programme are more sustainable ways of preventing relapses and ensuring sustainability within the programme More emphasis should be done on more sustainable approaches to dealing with the malnutrition cases. It also allows for a platform for generation of feedback.

Since a majority of the beneficiaries have been referred to the nutrition programme, they tend to think of it as a form of medication therefore participation may not be important to them Participation may be mainly aimed at easing resource constraints, through involvement in the implementation of health activities (De Kadt, 1982). The results from the study showed that only 17.2% of the participants provide resources to the nutrition programme. This implies that resources may be inadequate to cater for all the needs of the nutrition programme or other extra activities that may help in enhancing the effectiveness and efficiency of the programme

A study by De Kadt in 1982 showed that Participation in decision-making has been even more limited, with the exception of some small-scale NGO projects. Only 3.4% of the participants from the community in this study took part in managerial meetings indicating that there is minimal involvement of participants in decision-making in the programme implementation. This result is in agreement with Kadt's study. This may be due to the structure of the community, and the socio-political context in which it exists, in that only specific individuals from the community are viewed as capable of playing a role in decision making in programmes that target the community as a whole.

Through ensuring that the nutrition programmes have a strong support system that can improve the ways through which the community contributes, community participation will be able to

contribute to 'the eradication of extreme poverty and hunger' as a millennium development goal will be achieved through target 2(reduce by half the proportion of people who suffer from hunger). This is because participation will aid in the improvement of the food choices of the community as a whole.

5.6 Community participation in relation to the beneficiaries nutritional status

There was no direct relationship between community participation and the nutritional status of the beneficiaries. As Hossain et al (2004) have pointed out, it remains difficult to show a direct link between community development and health outcomes and a challenge remains in delineating the characteristics of different types of community participation and their impact on health, including the process by which interventions are implemented.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The perception that the community has on community participation as a tool used in implementing nutrition programmes is not encouraging enough to make it work as well as if they had a positive perception and understood the benefits of positive community participation. The benefits of community participation will be realized if the target community embraces the tool and is ready to use it. The role participation plays in a nutrition programme is also not well understood by the participants thus the negative perception. The programme staff who understand the importance of incorporating the structures that ensure participation is included in the programme's activities and the benefits of encouraging the participants to openly and freely engage in the programme's implementation advocate for the tool.

There were low levels of community participation in the nutrition programme in the study indicated by the poor scores on the likert scale. The participants are involved only through receiving material benefits which is not a sustainable way of ensuring the beneficiary does not relapse. All the beneficiaries in the nutrition programme were receiving material benefits and a majority stated that as the only reason as to why they were participating in the nutrition programme. All the participants are passive that is they are told what is going to happen, or participate by answering questions only.

There is no relationship observed between community participation and the nutrition status of the beneficiaries 6-59 months enrolled in the programme. The hypothesis was therefore rejected.

6.2 Recommendations

A higher level of community participation needs to be encouraged within the nutrition programmes. Time and resources that can be used to facilitate and support community participation should be allocated during the programme planning process. It provides a platform through which participation is made necessary and essential during programme implementation.

The perception of community participation can be improved through the emphasis of community participation trainings for both the staff and the target population should be done. Nutrition programmes can encourage a participatory democracy in which everyone recognizes that they have a stake and a part to play. The programme staff should also design means of engaging the community in their activities without necessarily paying them to participate.

Clear, comprehensive and transparent mechanisms for recruiting representatives should be established. This will aid in boosting representativeness and help in improving the confidence the target population have in the representatives and increase the low levels of community participation. Programme objectives can also be easily met when people feel more fairly treated and more valued when the activities being carried out and the decisions are in co-operation with the diverse communities in the target population.

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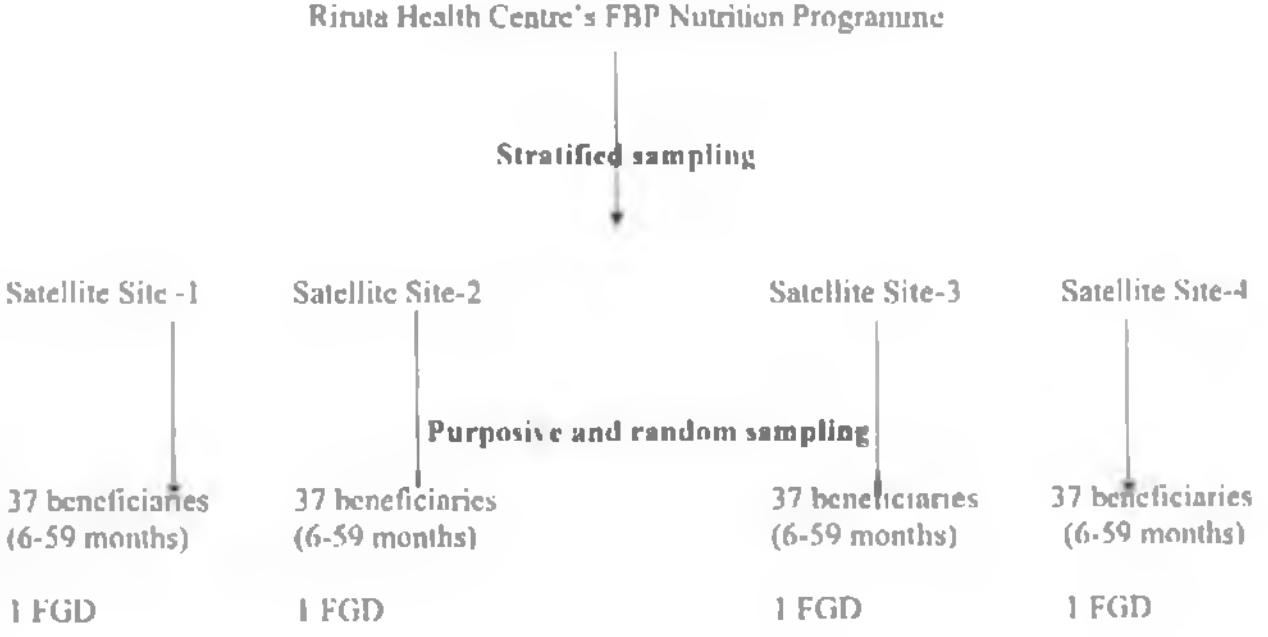
APPENDICES

Appendix 1: Overview of sampling for the respondents for the semi-structured questionnaire and FGD sessions



Appendix 2: Cover letter

RE: REQUEST THAT YOU HELP FILL OUT THE QUESTIONNAIRE

A study is being conducted by Emma Apo a student at the University of Nairobi pursuing a Masters Degree in Human Nutrition. The research is on community participation. We have a few questions to ask and would also like to take some measurements of height, weight and MUAC of the child between 6-59 months who is enrolled in the programme. The session will take around 10 minutes of your time.

The information you provide will be treated with utmost confidentiality. However, findings will be availed upon your request.

Thank you for the help you will give.

Yours faithfully,

Emma Apo

Human Nutrition MSc. Degree Student

Appendix 3: Questionnaire for the beneficiaries (children 6-59 months enrolled in the nutrition programme)

IDENTIFICATION

County:.....District:..... Location:.....

Name of Interviewer..... Date of interview...../...../2011

Respondent's name..... Sex: Male ☐ Female ☐

SECTION A: DEMOGRAPHIC CHARACTERISTICS OF BENEFICIARY'S/ BENEFICIARIES REPRESENTATIVE (Ask the beneficiary's/ beneficiaries' representative in the programme)

1. How many children do you represent in the programme: |_ |_|

   Namely:

   a) _____

   b) _____

   c) _____

   d) _____

   e) _____

2. For how long has the child been a beneficiary of the programme?

   a) _____ |_|_|_| months

   b) _____ |_|_|_| months

   c) _____ |_|_|_| months

   d) _____ |_|_|_| months

   e) _____ |_|_|_| months

3. What is your relationship to the child/ children in the programme? ☐

   1=Father 2=Mother 3=Brother

4=Sister 5=Guardian

6=Others ..... (Specify)

i) **Age of respondent (representative of the child/ children)** ☐ years

ii) **Sex of respondent (representative of the child/ children):**

Male ☐ Female ☐

iii) **Marital status of respondent (representative of the child/ children):** ☐

1=married 2=separated 3=widowed 4=single 5=divorced

iv) **Level of education of respondent (representative of the child/ children):** ☐

1=college/university 2=completed secondary 3=completed primary

4=Dropped from primary 5=in primary 6=in secondary

7=literate e.g. adult education 8=illiterate

v) **Occupation/ profession of respondent (representative of the child/ children):** ☐

1=salaried employee 2=farmer 3=self employment/business

4=casual labourer 5=student 6=housewife

7 = unemployed 8 =others (specify).....

4. How many members are in your household? |_|_|

Males: |_|_|

Females: |_|_|

5. Who is the head of the household?

Male ☐ Female ☐

SECTION B: SOCIO-ECONOMIC STATUS OF THE BENEFICIARY'S/ BENAFICIARIES HOUSEHOLD

Household Characteristics	
Source of drinking water	1) Tap water 2) Water pump (outside) 3) Protected well 4) Unprotected well 5) Rain water 6) Pond/Lake 7) River stream 8) Other .....
Roof materials	1) Concrete 2) Roofing tiles 3) Leaves 4) Grass thatched roof 5) Iron sheet 6) Wood 7) Other.....
Cooking Fuel	1) Electricity 2) Gas cooker 3) Fire wood 4) Maize straw 5) Other .....
Wall material	1) Concrete/cement 2) Brick 3) Stone 4) Wood 5) Iron sheet 6) Earth 7) Other ----------
Animals	1) Cows 2) Goats 3) Sheep 4) Chicken 5) Ducks 6) Donkey 7) None 8) Other.....
Sanitation facility	1) Flush toilet 2) Pit latrine 3) Bushes 4) Handmade shed pit 5) Other .....

Size of Land	1) No land 2) 0.25 hectare land 3) 0.5 hectare land 4) 1 to 2 hectare land 5) to 5 hectare land 6) > 5 hectare land

Household durables	
Radio	1 = Yes 2 = No
Mobile phone	1 = Yes 2 = No
Bicycle	1 = Yes 2 = No
Sofa set	1 = Yes 2 = No
Water tank	1 = Yes 2 = No
Television	1 = Yes 2 = No
Mosquito net	1=Yes 2=No

SECTION C: DIETARY DIVERSITY

Twenty four-hour recall for food consumption in the households and for the child/ children listed as beneficiaries: The interviewer should establish whether the previous day and night was usual or normal for the households. If unusual- feasts, funerals or most members absent, another day is selected.

Food group consumed: What foods groups did members of the household consume in the past 24 hours (from this time yesterday to now)? Include any snacks consumed	Did a member of your household consume food from any these food groups in the last 24 hours? *1 = Yes 0 = No*	Did the child (youngest beneficiary) consume food from any these food groups in the last 24 hours? *1 = Yes 0 = No*
Type of food	**Household's DD**	**Child's DD**
Cereals and cereal products *(e.g. maize, spaghetti, rice, bread)*?		
Milk and milk products *(e.g. goat/cow fermented milk, milk powder)?*		
Sugar and honey?		
Oils/fats *(e.g. cooking fat or oil, coconut milk ,butter ghee, margarine)?*		
Meat, poultry, offal *(e.g. goat, beef; chicken or their products)?*		
Pulses legumes, nuts *(e.g. beans, lentils, green grams, cowpeas; peanut,)*?		
Roots and tubers *(e.g. sweet potatoes, . cassava arrowroot Irish potatoes)?*		
Vegetables *(e.g. green or leafy vegetables, tomatoes, carrots, onions)?*		
Fruits *(e.g. water melons, mangoes, grapes, bananas, leman)?*		
Eggs?		
Fish and sea foods *(e.g. fried/boiled/roasted fish, lobsters)?*		
Miscellaneous *(e.g. spices, chocolates, sweets, beverages, etc)?*		
Total		

SECTION D: LIKERT SCALE

1. In what ways do you participate in the programme's activities? (Tick as many checkboxes as possible)

   1) Receive the material benefits that are provided by the programme ☐
   2) Attend meetings scheduled for beneficiaries regularly ☐
   3) Attend management/ decision making meetings ☐
   4) Attend trainings organized by the nutrition programme ☐
   5) Identify other members of the community in need of assistance by the nutrition programme ☐
   6) Attend community activities organized by the nutrition programme ☐
   7) Provide resources e.g. manpower when needed by the nutrition programme ☐

   Total: ☐

2. Why do you participate in the programmes activities?

   1) To get more material benefits ☐
   2) To get enrolled in more of the programmes ☐
   3) To learn more about how to look after the beneficiary/ beneficiaries (children in the programme) ☐
   4) To help more members of the community by getting them enrolled the community ☐

3. Were you involved in determining the selection criteria?

Yes ☐ No ☐

If yes, how?

   1) Screening ☐
   2) Referrals ☐
   3) Others (specify) ☐

4. When there is a problem, concerning the child as a beneficiary, who do you report to?

   1) Programme representative in the community ☐
   2) Programme staff ☐
   3) I do not report ☐
   4) Others (specify) ☐

   _____

   _____

   _____

5. After reporting do you receive feedback?

   1) Yes ☐
   2) No ☐
   3) Sometimes ☐

SECTION E: FEEDING AND IMMUNISATION STATUS OF CHILDREN AGED 6 - 59 MONTHS IN THE HOUSEHOLD

1. FEEDING

FIRST NAME	Q3 Date of birth	Q4 Is the child (use the name)still breastfeeding? (if yes, skip to Q9) *1=Yes 2=No*	Q5 If breast feeding, how many times/day? *1=<3 times 2=3-6 3=On demand*	Q6 If not breastfeeding, how old was the child when you stopped breastfeeding? *1=Less than 6 months 2=6-11 months 3=12 – 18 months 4=18 months or more 5= Never breastfed*	Q7 At what age was child given water/ foods other than breast milk? *1=0-3 months 2=4-5 months 3=6 months or more*	Q8 How many times do you feed the child in a day? *1= Once 2= Twice 3= 3-4 times 4= 5 or more times*	Q9 Has the child been provided with Vitamin A provided in the last 6 months ?*(show sample) 1=Yes 2=No*

2. IMMUNIZATION

Serial No	Name of child	Q10 BGG @ birth 1=Yes 2=No	Q11 DPT 1=Yes 2=No			Q12 OPV 1=Yes 2=No				Q13 Measles 1=Yes 2=No	Q14 Fully immunized 1=Yes 2=No
			DPT1	DPT2	DPT3	OPV0	OPV1	OPV2	OPV3		

SECTION F: ANTHROPOMETRY:

Should be filled only for children 6-59 months

Child birth order	Childs Name	Sex 1=M 2=F	Date of birth DD/MT/YR	Age (in mths)	Edema 1=Yes 2=No	Weight (0.1Kg)	Height (0.1cm)	MUAC (0.1mm)

Thank you very much for participating in the study!!!

Appendix 4: Focus group discussion guide

1) What do you know about the Riruta FBP programme in terms of:
    a) What they do
    b) Who they take care of
    c) How they select the beneficiaries/ their selection criteria
2) How is community participation used to identify the needs and the beneficiaries'?
3) How is community participation supported by the implementers of the nutrition programme?
4) How has community participation been integrated into the community's activities?
5) What are the advantages of community participation to the beneficiaries and target community as a whole?
6) What are the challenges that face community participation to the beneficiaries and target community as a whole?

Thank you very much for participating in the study!!!

Appendix 5: Key informant guide

1. Is the community given trainings on community participation? Yes ☐ No ☐

   If yes, which one/s?

2. What are the provisions that are in place to support community participation in the programme?

3. How is community participation incorporated into the community's activities?

4. What are the challenges facing community participation?

5. What are the benefits of employing community participation in implementing the projects goals?

6. What do you recommend should be done to improve community participation as a tool for implementing programme objectives?

7. Any other comments:

Thank you very much for participating in the study!!!

Appendix 6: Strengths weaknesses opportunities and threats analysis

a) STRENGTHS:

What are the perceived strengths of community participation that build competitive advantages over other methodologies of programme implementation?

_____

_____

_____

_____

b) WEAKNESSES:

What are the perceived weaknesses of community participation that make it difficult for it to be used single-handedly? Please include Weaknesses derived from your own operation analysis.

_____

_____

_____

_____

c) OPPORTUNITIES

What are the external environmental factors that may provide an additional venue to increase the benefits of community participation? They may be normal unknown factors and only based on certain assumptions.

_____

_____

_____

_____

THREATS:

What are the external environmental factors that can hinder community participation?

_____

_____

_____

_____

_____

Thank you very much for participating in the study!!!

Appendix 7: Study team training programme

August 2nd-3rd 2011

DAY ONE				
Time	**Activity/ Subject matter**	**Teaching method**	**Teaching aids**	**Facilitator**
8.30-9.00	Opening remarks and introduction	Lecture	Rehearsed speech	Principal investigator
9.00-9.30	Logistics and house keeping	Brainstorming	Flip charts and markers	Principal investigator
9.30-10.00	Title, aim, purpose and objectives of the study	Lecture	Projector, laptop, flash disk with a copy of the PowerPoint slides	Principal investigator
Tea Break				
10.30-12.00	Discussion of the semi-structured questionnaire and translation	Discussion	Copies of the questionnaires Projector laptop	Principal investigator
Lunch				
1.30-3.30	Discussion of the semi-structured questionnaire and translation	Demonstrations and role play	Copies of the questionnaires	Principal investigator
Tea Break				
4.00-4.30	FGD guide: questions, coding and recoding	Lecture Question and answer Discussion	Copies of FGD guide Projector laptop	Principal investigator
DAY TWO				
Time	**Activity/ Subject matter**	**Teaching method**	**Teaching aids**	**Facilitator**
8.30-10.30	Key informant guide: questions, coding and recoding	Lecture Question and answer Discussion	Copies of key informant guide Projector laptop	Principal investigator
Tea Break				
11.00-12.00	Sampling	Practical exercise	handout	Principal investigator
12.00-1.00	Entry process and creating	Brainstorming Question and	Handout Previous	Principal investigator

	rapport Ethics and confidentiality	answer Discussion	experiences	
Lunch				
2.00-5.00	Pretesting tools	Field exercise	Tools and materials	All
Tea Break				
5.30-6.00	Debrief and corrections	Brain storming Discussions Question and answer	Pretested tools Field experience	All
6.00-6.30	Formation and allocation of survey teams	Discussion	Pretested tools	Principal investigator

Appendix 8: Translation of objectives into variables, activities and the data collection tools

Variables Indicators	Activities-Methods/Techniques	Equipment/ Data collection tool
S. Objective 1: To determine the socio-economic status of the study population		
Level of education	Interview	Questionnaire
Main source of income	Interview	Questionnaire
Household characteristics and durables	Interview	Questionnaire
S. Objective 2: To establish the perception of community participation among the staff and participants.		
Challenges	F.G.D	FGD guide Tape recorder
Benefits of C.P	F.G.D	FGD guide Tape recorder
Recommendations	F.G.D	FGD guide Tape recorder
Feedback from participants	Interview	Questionnaire
Feedback from programme staff	Interview	Questionnaire
S. Objective 3: To determine the corder of participants involved in community participation		
Length of stay in the programme	Interview	Questionnaire
Number of children represented in the programme by participant	Interview	Questionnaire
Relationship to child in the programme	Interview	Questionnaire
Age	Interview	Questionnaire
Marital status of participant	Interview	Questionnaire
Occupation	Interview	Questionnaire
Sex	Interview	Questionnaire
Education level	Interview	Questionnaire
Way through which they participate	Interview	Questionnaire
Reason for participation	Interview	Questionnaire

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S. Objective 4: To determine the levels of community participation in the nutrition programme		
Scores in community participation	Likert item sheet	Check-list attached to the semi-structured questionnaire
Level of community participation	Likert scale	Check-list attached to the semi-structured questionnaire
S. Objective5: To assess the nutritional status of the beneficiaries 6-59 months.		
Weight for Height	Record sheet	Stadiometer, Weighing scale
Height for age	Record sheet	Stadiometer
Weight for Age	Record sheet	Weighing scale
MUAC	Measure and record mid-upper arm circumference	MUAC tapes Record sheet attached to the semi-structured Questionnaire
Oedema	Check and record for oedema	Record sheet attached to the semi-structured Questionnaire
S.Objective 6: To establish whether there is a link between community participation and the nutritional status of children 0-59 months in the target population.		
Level of community participation	Likert scale	Check-list attached to the semi-structured questionnaire
Determination of nutritional status	Measure and record height and weight Determine and record birth date Record sex of child	Salter weighing scales, height boards Record sheet attached to the questionnaire

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