

Assessing the Causes and Effects of Deficiency Diseases Among Children (0-5 Years) in Rural Communities (A Case Study of Two (2) Deficiency Diseases at Mabima, Mandu Chiefdom, Kailahun District

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Abstract:

Good child nutrition is dependent on adequate food, health and care. In rural areas much work support needs to be given to improving the linkages between agriculture and nutrition and to combating health related nutrition activities with agriculture, community development and education. Promoting high protein commercial foods is not a prerequisite for the reduction of malnutrition. Malnutrition of undesirable physical or disease conditions related to nutrition can be caused by eating too little, too much or an unbalanced diet that does not contain all the nutrients necessary for good nutritional status. In this study malnutrition is restricted to undernourishment or lack of adequate energy, protein and micro nutrients to meet basis requirements for body maintenance growth and development. An essential prerequisite to the prevention of malnutrition in a community is the availability of enough food to provide for the nutrient needs of all people. For adequate food to be available certainly there must be adequate food production of sufficient funds at the national, local or family level to purchase enough food. The major goal for this study is to investigate and report on the effects of deficiency diseases in rural communities. A case study of three (3) deficiency diseases at Mbaima, Mandu Chiefdom, Kailahun District, Eastern Sierra Leone. The sample comprised of 100 people distributed among: Farmers, Religious leaders, Traditional leaders, Women's group, Men's group, Teachers and Chiefs, the result shows that a lot of children's death in Mbaima, Mandu Chiefdom is 40 percent attributed to nutrition related illness, Infant deaths in Mandu Chiefdom are seriously attributed to underfeeding which is as a result of deficiency disease, the researcher recommended the following: That the Ministry of Agriculture and Forestry organize post-harvest activities training programme for farmers in the rural areas to minimize post harvests food wastage, that traditional secret society elders moderate their ceremonies so as to cut down on the expenditures involved in initiation ceremonies as well as the amount of basins per initiate. This will go a long to cut on wastage, that religious leaders should sensitize their congregation on food wastage during religious festivals such as Ramadan, Christmas Day and Easter celebrations, that the community and religious/leaders should join to sensitize community people on food wastage during homing and marriage ceremonies

INTRODUCTION

Background of the Study:

The main cause of under nutrition is poverty and inequity. Good child nutrition is dependent on adequate food, health and care. In rural areas much work support needs to be given to improving the linkages between agriculture and nutrition and to combating health related nutrition activities with agriculture, community development and education. Promoting high protein commercial foods is not a prerequisite for the reduction of malnutrition. Malnutrition of undesirable physical or disease conditions related to nutrition can be caused by eating too little, too much or an unbalanced diet that does not contain all the nutrients

necessary for good nutritional status. In this study malnutrition is restricted to undernourishment or lack of adequate energy, protein and micro nutrients to meet basis requirements for body maintenance growth and development. An essential prerequisite to the prevention of malnutrition in a community is the availability of enough food to provide for the nutrient needs of all people. For adequate food to be available certainly there must be adequate food production of sufficient funds at the national, local or family level to purchase enough food. Availability of food however is just point of the picture. It is now recognized that malnutrition is only the event sign or symptom of much deeper problems in society. Inadequate dietary intake and disease, particularly infections are immediate causes of malnutrition. It is obvious that each person must eat an adequate amount of good –quality and safe food throughout the year to meet all nutritional needs for body maintenance, work and recreation and for growth and development in children. Similarly, one must be able to digest, absorb and utilize the food and nutrients effectively. Poor diets and disease are often results of these factors.

Other factors can also contribute to unavailability or inadequacy of resources for afflicted families every rural community or society has certain natural or human resources as well as a certain potential for production. A host of factors influence what and how much food will be produced and how and by whom it will be consumed. Malnutrition may manifest itself as a health problem and health professional can provide some answers but they alone cannot solve the problem of malnutrition. Agriculturists and often agriculture professionals are required to ensure that enough foods, and the right kinds of food, are produced. Educators, both formal and non-formal are required to assist people, particularly women in achieving and ensuring good nutrition. Tackling malnutrition often requires the contribution of professionals in economics social development, politics, government, the labour movement and many other spheres. The International Conference on Nutrition developed nine common areas for action to promote and protect the nutritional welfare of the population:

- Improving household food security.
- Protecting consumers through improved food quality and safety
- Preventing specific micronutrient deficiencies
- Promoting breastfeeding.
- Promoting appropriate diet and healthy lifestyles
- Preventing and managing infectious diseases.
- Caring for the economically deprived and nutritionally vulnerable.
- Assessing analyzing and monitoring the nutrition situation.
- Incorporating nutrition objectives into development policies and programmes.

Statement of the Problem:

The present population of Sierra Leone is very close to 6,000,00 and the birth rate is between 25-30 per thousand. Three in every ten children die before they reach their fifth birthday. This problem is greater in rural areas where over 3,000,000 of the population live. The major cause of death, under-five children is malnutrition. It is realized that the present state of nutrition on Sierra Leone is not good. Survey reports from different studies show that the various causes of malnutrition include the following:

- Low intake of kilojoules in most rural community
- Low intake of protein
- Low intake of specific vitamin in specific localities
- Low intake of some minerals

The essential prerequisite for the prevention of malnutrition in a community is the availability of enough food to provide for the nutritional needs of all people. The questions yet to be answered are:

- a. Do the rural communities in Sierra Leone produce enough food for all the people?
- b. What are the causes of inadequate food production for all the people in the rural communities with food wastage in view?

Aims and Objectives:

The major aim for this study is to investigate and report on the effects of deficiency diseases in rural communities. A case study of three (3) deficiency diseases at Mbaima, Mandu Chiefdom, Kailahun District, Eastern Sierra Leone.

The objectives of this study are:

- To identify the ways food re consumed
- Identify the diseases caused by deficiency diseases
- Determine the effects of deficiency diseases
- Suggest ways and means to improve the nutritional habit of children.

Significance/ Justification of Study:

Deficiency disease in rural area in Sierra Leone is one of the threats to infants/children. A research in this field could catch the interest of many in the field of agricultural economics, education and many others. Specifically, this study report would be of great benefit to the following:

- First other researchers in the field of agricultural studies would use this research report to extract relevant literature for other related studies.
- Second, students of Nursing and Public Health to make in-depth investigations on deficiency diseases and to come out with ways of minimizing anemia and other diseases through education and project activities.
- Third, local tradition leaders would then report to orientate their subjects on how to adjust these cultural practices to minimize deficiency diseases.

Definition of Terms:

Deficiency	-	Lack of food nutrient in the diet
Malnutrition	-	a disease condition that is related to nutrition.
Undernutrition	-	Undemourished because they do not get enough Food – lack of balanced diet.
Food wastage	-	The act of leaving food or discarding valuable Food.
Nutrients	-	Chemical substances focused in food that makes us grow, give us energy and heat and prevents diseases.
Disease	-	Abnormal functioning of the body
Anemia	-	lack of Hemoglobin in the blood
Kwashiorkor	-	Disease caused by lack/inadequate of protein in The body.

LITERATURE REVIEW

Protein Energy Malnutrition (PEM) Vitamin A deficiency iodine Deficiency Disorders (IDD) and nutritional anemia – mainly resulting from iron deficiency or iron losses are the most common serious nutritional problems in almost all countries in Asia, Africa, Latin America and Hear East. International development global assessments prepared by FAO and WHO for the International Conference on Nutrition (ICN) revealed a global information on the prevalence of hunger and malnutrition and provided a global estimate for various regions of the world. FAO updated the estimates of the chronically undernourished population of the world for the sixth world food survey and in preparation for the World Food Summit in 1995. Figures suggest that one in every five persons in the developing world is chronically undernourished; 192 million suffer from PEM over 2,000 million experience micronutrient deficiencies. In adding diet related non communicable diseases such as obesity, cardio vascular disease, stroke, diabetes and some forms of cancer exist or are emerging as public health problems in many developing countries.

While these numbers and trends are alarming progress has been made in reducing the prevalence of nutrition problems, and many countries have been remarkably successful in addressing the issues of hunger and malnutrition. For the developing countries as a whole theme has been a consistent decline since the early 1970s in the proportion and number of chronically undernourished, people. From 1969 to 1971 approximately 893 million people were chronically undernourished compared with 809 million from 1990 to 1992; these figures represent a drop from 36 to 20 percent of the population of these countries. The current and achievable challenge is to build upon and accelerate the progress that has been made. FAO and WHO data indicate improvement of the nutritional situation in Asia and Africa from 1980 to 1990 but deterioration in Sub-Sahara Africa. Although the prevalence of underweight children remained virtually unchanged in Sub Sahara Africa during that decade (increasing from 29 to 30 percent) the prevalence rates are much better than in South Asia where about 59 percent of children almost twice the prevalence in Africa – were underweight in 1990. In the same year, in total numbers, five times as many children were underweight in South Asia (110 million) as in Sub – Sahara (19.9 million). One of the most dramatic aspects of the global nutrition situation is the extent of famines, hunger and starvation. While good progress has been made in averting famines especially in Asia these horrifying condition persist throughout the world. The occurrence is commonly attributed to drought and other natural disasters but war, civil unrest and political instability have far greater importance. In the mid- 1990s hunger and malnutrition resulting from civil strife are serious problems in many parts of the world including Europe, Asia the far East and most extensively Africa. Tragically, civil strife often affects not only the countries in turmoil but also those that provide hospitality to the refugees who flee their homes in terror. In mid-1994, the United republic of Tanzania accepted about 500,000 refugees from Rwanda, most of them in less than one week. Their arrival home than doubled the population of the resource poor-region which welcomed them as best it could. The influx placed overwhelming pressure on local resources and necessitated a major international effort to prevent an increase in nutrition and health problems among the local people as well as to contain these problems among the refugees, multinational.

By shedding the sectoral perspective and adopting a multi-sectionary one, it is possible to see the causes of malnutrition in a different guise and so focus the development of solution less narrowly than in the past. Each case will be different of course or one area of expertise predominates will vary with the circumstances. However, six determinants of malnutrition are especially important although more is usually the only cause of malnutrition or the only discipline that made to be involved in nutrition strategies.

These strategies determinants are:

- a. Production, mainly agricultural and food production.
- b. Preservation of food from wastage and loss which includes the addition of economic value of food through processing.

- c. Population which refers both to child spacing in a family and also a population density in a local area or a country.
- d. Poverty, which suggests economic causes of malnutrition.
- e. Politics, as political ideology political choices and political actions influence nutrition.

Pathology which is the medical term for diseases, since disease especially infection adversely influence nutrition status. The production of food covers family from agriculture, most countries have a Ministry of Agriculture and different kinds of agricultural staff where contribution are very important to nutrition but adequate national agricultural and food production does not guarantee good nutritional status for all people. As described above, there has been remarkable development in agriculture in the past four decades. High yielding varieties of the important cereals (rice, wheat, and maize have been successfully developed and much progress has been made in increasing food yields per hectare of land. Some countries that are self-sufficient in their production of staple foods, however, still have the highest prevalence of malnutrition. Agriculturists and Agriculture Ministries have an absolutely vital role in improving nutritional status but they cannot in the battle against malnutrition without action from other ministries and without other expertise. Other areas such as food safety, food losses and food storage influence the availability of food. Consideration has to be given to food demand as well as food production. Despite the remarkable progress made in increasing food production at the global level, approximately half of the people of developing countries do not have access to an adequate food supply. A substantial point of the food produced is lost, for various reasons before it can be consumed. It has been estimated that about 25 percent of the gains produces are lost because of bad post-harvest handling, spoilage and pest infestation. Losses of easily perishable fruits, vegetables and roots have been estimated threats to be about 50 percent of what is grown. After food reaches the home about 10 percent is lost in the kitchen. Therefore, ensuring that appropriate measures are taken to prevent food losses during harvesting, transportation, storage processing and preservation should be in integral component of any programme for the prevention of malnutrition and the improvement of the population's access to food developing countries processing can also add nutritional and economic value to foods. Adequate measures for the provision of safe and quality food should also be taken. Poverty is often stated to be very root cause of malnutrition. Certainty in most countries it is mainly and sometimes only the poor where children suffer from severe or moderate pen or show evidence of vitamin A deficiency. In contract nutritional anaemia and job may not be confined to the poor. Economists are the professionals who study poverty and income and suggest economic solutions.

Poverty takes many forms and is expressed in many ways. Inadequate household income is one manifestation but poor communities and notions lack the wealth headed to build and support schools and training programmes to improve water supplies and sanitation and to provide needed health and social services. Food wasted is one of the determinate factors for food shortage in developing countries like Sierra Leone. There are different ways food is being wasted in rural communities

They include:

- Traditional ceremonies
- Post-harvest processing
- Storage facilities
- Food preservation

RESEARCH METHODOLOGY

Introduction:

The chapter deals with the methodology of this research. It includes data collection methods using different instruments, questionnaires, interview guides and observation methods shall be the instruments used to collect data. The data would be analysed and results obtained. The result would be discussed and conclusion drawn.

Research Area:

This study took place in Mbaima, Mandu Chiefdom Kailahun District. The population of the Chiefdom is 12,600 according to 2004 population census. The major occupations of the inhabitants include, mining, rice farming and petty trading. One of the problems children face is food deficiency diseases. These nutrition problems have had a devastating effect on the health of the children.

Sample Population:

The sample for this study was drawn from the Mbaima, Mandu Chiefdom population. According to 2004 census, Mandu Chiefdom comprises of 7,000 people. The sample comprised of 100 people distributed among:

Farmers	-	20
Religious leaders	-	10
Traditional leaders	-	10
Women's group	-	20
Men's group	-	20
Teachers	-	10
Chiefs	-	10

Data Collection Instruments:

Four data collection instruments were used to collect data for this research. They included the following:

a. Questionnaire:

A self-responding paper was developed including questions based on food wastage during post-harvest activities in rural areas, a factor contributing to malnutrition condition among children. The questionnaires were protected to refine them before they were distributed for completion by participants.

b. Interview Guide:

A guide to conduct a structured interview with participants who could not respond to questions or statements in writing. The guide was also protected to refine it and ascertain the time it takes to carry out one interview.

c. Non Participant Observation:

The researcher paid a number of visits to the project area to see for himself various ways foods are being wasted by the inhabitants.

3.5 Data Collection Methods:

Three data collection methods were used in this research: Questionnaire method, interview method and observation method.

a. Questionnaire Method:

The researcher meets the participants who could respond to questions or statements in groups according to localities within the project area. He briefed them on the purpose of the research and the way how to

complete the questionnaire. The data for the return the complete questionnaires to the focal persons were agreed upon and the time the focal persons would hand over the questionnaires in their possession to the researcher was also agreed. The researcher ensured to go to the focal persons on the agreed dates and collected the completed questionnaires.

b. Interview Method:

The researcher met the participants who could not respond to questions face to face to brief them about the proposed interview with them. The date and time for the interview for each participant were agreed upon. The researcher also assured the participants of the confidentiality of the information, he shall collect. On the day of the interview the researcher arrived ten minutes earlier exchanged greeting with the interview. He reminded him or her of the interview. The interview was conducted and at the end of the exercise the researcher extended words of thank you to the interview and took leave of the interview.

c. Observation Method:

The researcher made a number of visits to different areas of visits to different areas of present without making any appointment with the participants. He carried out observation on food wasted within the communities. In some instances, he held informal talks with the people.

d. Treatment of Data:

The data collected with field according to instrument. The findings were collected and presented in tabular forms and expressed using statistical techniques. The findings were analysed and finding discussed.

PRESENTATION OF DATA AND DISCUSSION OF FINDINGS

Table One: Demographic Characteristics of Participants

Characteristics	Frequency	Percentage (%)
Age		
20- 30	25	25
31- 40	25	25
51- 60	25	25
Total	100	100

Characteristics	Frequency	Percentage (%)
Gender	-	-
Male	60	60
Female	40	40
Total	100	100

Characteristics	Frequency	Percentage (%)
Education	-	-
Graduate	06	06
Tertiary	10	10
Secondary	30	30
Primary	24	24
Illiterate	30	30

Total	100	100
Characteristics	Frequency	Percentage (%)
Knowledge of Malnutrition	-	-
Excellent	05	05
Very Good	06	06
Good	25	25
Poor	64	64
Total	100	100

This research targeted 120 participants but 100 actually participated. The demographic characteristics investigated include the age of participants. Under this characteristic, the age of the participants was discovered to range thus: 25 participants between 20-30 years, 25 between the ages 31-40, 25 between the ages, 41- 50 and 25 between the ages 50-60 years. The second demography characteristics have to do with gender of the 100 participants 60 were male and 40 females. The third characteristics had to do with educational background of the participants. Out of 100 participants 06 attained university degrees, 10 Tertiary Education, 30 Secondary Education, 24 Primary Education and 30 did not do formal education. The last demographic characteristics dealt with knowledge of malnutrition. The study revealed that 05 participants showed excellent knowledge, 06 showed very good knowledge, 25 showed good knowledge and 64 participants (64%) showed no knowledge malnutrition, its causes and effects.

Table Two: (100) summary of participants’ responses to food wastage as a Factor responsible for deficiency disease/malnutrition in rural children. Traditional initiation ceremonies Poro and Bondo:

Participants	Frequency	Percentage (%)
Adult men	06	06
Adult women	25	25
Teachers	30	30
Lactating mothers	09	09
Religious leaders	20	20
Pregnant women	10	10
Total	100	100

The study investigated how tradition initiation ceremonies factor is a cause of malnutrition or underfeeding. 100 participants answered questions on this aspect. Out of the participants, 06(06%) adult men agreed with these statements. 25 adult women (25%), 30 teachers (30%), 09 lactating mothers (09%), 20 religious leaders (20%) and 10 pregnant women (10%). The three (3) summary of participants’ responses to food wastage as a factor responsible for deficiency diseases in rural children.

Table Three: Religious Festivals (Ramadan/Christian):

Participants	Frequency	Percentage (%)
Adult men	10	12.5
Adult women	10	12.5
Teachers	25	31.2
Lactating mothers	-	-
Religious leaders	20	25.0
Pregnant women	15	18.5
Total	80	99.7

Religious festivals were examined to ascertain whether it is a factor responsible for food wastage. Early participants responded to this question. Out of that number, 10 adult men (farmers) 12.5% and 10 adult women farmers (12.5%) agreed these festivals do waste food. In addition, 25 teachers (31.2%) confirmed that Ramadan and Christmas festivals do waste food and subsequently cause underfeeding in children especially during the raining season. The study revealed that all religious leaders do not consider these festivals as food wastage enterprise. However, 20 pregnant women (25.0) agreed that the festivals involve some element of food wasting which causes underfeeding in children. Finally, 15 lactating mothers (15.5) confirmed that there is some element of food wastage during religious festival celebrations such as Christmas day and Ramadan/Pray day.

Table Four: Summary of participants’ responses to food wastage as a factor responsible for malnutrition/ deficiency disease.

Participants	Frequency	Percentage (%)
Farmers	20	21
Miners	15	15
Teachers	33	33
Lactating mothers	10	10
Religious leaders	-	-
Pregnant women	18	18
Total	95	97

The fourth variable that was tested for food wastage as a factor in malnutrition or underfeeding was socio-cultural festivals homing ceremony and marriage ceremony. The following were the outcome of participant’s responses: First 20 participants 21% out 95 respondent farmers agreed that the above mentioned socio-cultural festivals do involve food wastage. In addition, 15 miners (15%) accepted that homing and marriage ceremonies do exhibit wastage of food. Out of 95 participants 32 (33%) agreed that there is wastage of food in homing and marriage ceremonies. However, the study revealed that all religious leaders did not agreed to the fact that homing and marriage ceremonies have any elements of food wastage. Finally, 18 pregnant women (18%) do agreed that marriage and homing ceremonies manifest some food wastage. Table five (5) summary of participant’s responses to food wastage as a factor responsible for underfeeding in rural children.

Post-Harvest Activities: (Poor harvesting Techniques, Transportation of harvested food, food storage facilities, food preservation methods and extravagant eating habits).

Table Five:

Participants	Frequency	Percentage (%)
Farmers	16	16.0
Miners	20	20.0
Teachers	10	10.0
Lactating mothers	17	17.0
Religious leaders	15	15.0
Pregnant women	21	21.0
Total	100	100

The last variable that was tested in this research involved post-harvest activities as a factor responsible for underfeeding in rural children. A total of 100 persons from several works of life participated. Out of this number 66 farmer (16%) did agreed that food was wasted during post-harvest activities. These activities

included poor harvesting techniques that is collecting the rice pinnacle by pinnacle using the knife. Another post-harvest activity in which food is wasted has to do with transporting the harvested rice in open containers through which the rice is wasted. Poor storage facilities were another variable responsible for food wastage. Food preservation was variable responsible food wastage. Extravagant use of food during harvest season- giving away food to outsiders who come to help in the harvesting, food is also wasted by the farmers themselves during harvest season. The quantity of food the farmers eat is doubled during the harvest seasons. Finally, food is also wasted by the women farmers. The women sell processed rice to business or exchange rice for business items such as clothing, cooking utensils and footwear.

Table Six: Deficiency Diseases Among Children in the Study Area:

DISEASE	RESPONSE	%
Anaemia	80	80%
Kwashiorkor	20	20%
Total	100	100%

Diseases prevalence in the study area were anaemia and kwashiorkor. * responded that anaemia is caused by deficiency disease which makes 80%; and 20 responded that kwashiorkor is caused by deficiency disease which is 20%.

Effects of deficiency disease:

1. Children become weak and eventually lose weight
2. Deficiency disease can lead to untimely death
3. Physiological disorder and dysfunction of the body systems.
4. Victim becomes stunted and retarded in growth
5. Thin and emaciated children are mentally and socially maladjusted.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary:

This study was carried out in Mbaima, Mandu Chiefdom, Kailahun District. Data for this study was collected using interview, questionnaire and observation methods. The results revealed that the farmers in Mbaima, Mandu Chiefdom suffer huge loss in their proceeds by way of wastage. Food wastage in rural communities' cases underfeeding which result to malnutrition mostly in children. A lot of children's death in Mbaima, Mandu Chiefdom is 40 percent attributed to nutrition related illness. The research identified a number of ways food is being wasted in Mbaima, Mandu Chiefdom. The ways include the following:

- ✓ Initiation ceremonies by traditional secret societies.
- ✓ Socio-cultural homing and marriage ceremonies
- ✓ Post-harvest activities
- ✓ Religious festivals such as Ramadan, Christmas, Easter celebration.

Conclusion:

According to the results of this study which entirely agree to the fact that there is a massive food wastage in Mbaima, Mandu Chiefdom which is to a greater respect responsible for malnutrition diseases among the under five children. Malnutrition accounts for 40 percent infant deaths. The ways foods are being wasted include the following activities the people of Mbaima undertake at different times of the year such as tradition Secret Society Ceremonies, Religious festivals, socio – cultural activities and post-harvest activities. Deficiency diseases are predominant in Mandu Chiefdom this study. The ways foods are wasted according to this study also, are money and varied. Infant deaths in Mandu Chiefdom are seriously attributed to underfeeding which is as a result of deficiency disease. Unit the use of food wastage is addressed in

Mandu Chiefdom the problem of malnutrition and infant deaths will persist. Anaemia and kwashiorkor are the main deficiency diseases in the study area.

Recommendations:

- i. That the Ministry of Agriculture and Forestry organize post-harvest activities training programme for farmers in the rural areas to minimize post harvests food wastage.
- ii. That traditional secret society elders moderate their ceremonies so as to cut down on the expenditures involved in initiation ceremonies as well as the amount of basins per initiate. This will go a long to cut on wastage.
- iii. That religious leaders should sensitize their congregation on food wastage during religious festivals such as Ramadan, Christmas Day and Easter celebrations.
- iv. That the community and religious/leaders should join to sensitize community people on food wastage during homing and marriage ceremonies.
- v. The Ministry of Agriculture and Forestry should help rural people with food security and food preservation methods.

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