COMMUNICATING NUTRITION-SENSITIVE AGRICULTURE IN ZAMBIA: THE CASE OF KANKUNKA AND MANENGO WOMEN'S NUTRITION CLUBS IN MUMBWA DISTRICT OF CENTRAL PROVINCE

By

CHRISTOPHER YOTAM KAKUNTA

A report submitted to the University of Zambia in Partial fulfillment of the Requirements of the Degree of MASTER OF COMMUNICATION FOR DEVELOPMENT

The University of Zambia

I, CHRISTOPHER YOTAM KAKUNTA, declare that this report:

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Name:	**Signed:**	**Date:**
MR. KENNY MAKUNGU	…….	…….

ABSTRACT

This study examined the opportunities and challenges faced by the SUN Project in the Ministry of Agriculture, in communicating nutrition-sensitive agricultural messages to the public. The study was conducted in Mumbwa District of the Central Province. The student was attached to the SUN Project, which has been promoting nutrition-sensitive interventions to the Kankunka and Manengo Women's clubs.

The aim of the study was to examine how the project provides extension and information services to rural farmers, in particular women; in order to reduce malnutrition levels in their communities using locally grown foods.

The study used triangulation method. Sampling was purposive. 24 questionnaires were distributed to the two clubs as follows; 13 questionnaires for Kankunka Women club members and 11 for Manengo Women club members. 13 questionnaires were also distributed to NAIS journalists. Two focus group discussions were conducted with the two women groups and five in-depth interviews with officers from the Ministry/ SUN project were also conducted.

The findings of the study were that despite the SUN Project having a well-designed Communications Strategy, it had not fully been implemented in reaching out to its targeted audiences. The study further revealed that mass communication channels were insufficiently utilised and that 63 percent of NAIS journalists confirmed that they were not involved in the sensitisation programmes despite being mandated to do so. The project's nutrition-sensitive messages were however, disseminated through the Camp Extension Officers.

It is recommended that the project establishes a full-time Communications Office to implement the communication strategy using an integrated communication approach. The project should also re-engage NAIS and find a common understanding in implementing the strategy. It should also design a feedback mechanism which will facilitate participation of all the players in the project implementation. The project should also consider use multi-media approaches in order to reach a wider audience.

The SUN Project has, however, achieved some major strides in helping reducing malnutrition among children, pregnant and lactating mothers in Mumbwa District.

DEDICATIONS

This report is dedicated to the following people: My wife Bupe, children Pupe, Mubonde, Chisanga and Wamithu for their unlimited support. Your sacrifices were not in vain.
I thank God.

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Sincere thanks also go to Ms. Annie Hakacha and Mr. Keagan Bweendo the Camp Extension Officers for Mumbwa Central and Nangoma respectively who helped in data collection and mobilizing the women clubs and also Ms. Tellah Hazinji and Ms. Ngibo Kampakasa for helping in data entry and transcribing and translating recordings respectively.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

ARD:	Agriculture Research and Development
CSO:	Central Statistical Office
CSPR:	Civil Society for Poverty Reduction
DA:	Department of Agriculture
DFID:	Department for International Development
DSC:	Development Support Communication
FAO:	Food and Agriculture Organisation
FDG:	Focus Group Discussion
First 1000 MCDP:	First 1000 Most Critical Days Programme
GDP:	Gross Domestic Product
GNR:	Global Nutrition Report
IEC:	Information, Education and Communication
IDA:	Iron Deficiency Anaemia
IFPRI:	International Food Policy Research Institute
MA:	Ministry of Agriculture
MAL:	Ministry of Agriculture and Livestock
MCDMCH:	Ministry of Community Development, Mother and Child Health
MDGs:	Millennium Development Goals
MMD:	Movement for Multiparty Democracy
MoE:	Ministry of Education
MoH:	Ministry of Health

NAIS:	National Agricultural Information Services
NDP:	National Development Plan
NFNC:	National Food and Nutrition Commission
NFNSP:	National Food and Nutrition Strategic Plan
SDGs:	Sustainable Development Goals
SUN:	Scaling up Nutrition
SPSS:	Statistical Package for Social Sciences
UNICEF:	United Nations Children Emergency Fund
UNIP:	United Nations Independence Party
UPND:	United Party for Nation Development
PF:	Patriotic Front
VAD:	Vitamin A Deficiency
VAS:	Vitamin A Supplementation
WFP:	World Food Programmes
ZDHS:	Zambia Demographic and Healthy Survey

CHAPTER 1: INTRODUCTION AND BACKGROUND

In Zambia, more than 70 percent of the population depends on agriculture and agriculture related activities for their livelihood. The agricultural sector is also the main source of income and raw materials for the industries in urban areas. However, agriculture and agriculture related information to the farmers remains very low despite its importance on people's livelihoods and poverty reduction in general.

Communicating agriculture is largely restricted to issues such as natural disasters, food shortages and rising food prices.

There is strong evidence, however, that information provision has a potentially broader role in raising the profile of agriculture and enabling farmers make independent decisions in uplifting their livelihoods. Information provision also enables decision-makers to develop appropriate policies that make farmers as well as the wider public become more productive.

The failure of agriculture to provide secure livelihoods is considered as a major factor contributing to rural poverty. In addition, rural areas suffer from deficiencies in access to basic amenities such as health services, safe water, quality education, and infrastructure that worsen the poverty situation.

Significantly and related to the foregoing, Zambia's rural areas have the highest malnutrition levels compared to urban areas.

This situation has been exacerbated by inadequate extension and communication services which are critical to creating awareness and educating individuals, families and communities.

Addressing under-nutrition is therefore essential to meeting all economic and development targets, attainment of SDGs and protecting the human rights for health and freedom from hunger.

Zambia is fully committed to improving the food and nutrition security of her population. In 2010, Zambia joined Scaling Up Nutrition (SUN)**,** a global movement that unites national leaders, civil society, bilateral and multilateral organizations, donors, businesses and

researchers in a collective effort to improve nutrition. UNICEF and DFID are the donor conveners for SUN in Zambia.

In the Ministry of Agriculture, the Department of Agriculture through the Nutrition Section is the focal point unit for SUN Project to which this intern undertook his attachment for the purpose of this report.

Through already established nutrition groups in Nangoma and Mumbwa central, about 90 and 140 kilometers from Zambia's Capital Lusaka respectively, this student undertook frequent field trips to observe, collect data and learn how the project is striving towards helping the group members overcome malnutrition in their families and communities.

The project has mobilised women groups, trained them in crop and livestock diversification, food utilisation, consumption and preservation, sanitation and hygiene for pregnant mothers and children in the first 1000 days of their life.

The first 1000 days is regarded as a period a mother conceives up to when a child is about two years old and this period is also considered as the most critical for the development of a child. Good nutrition for both the mother and child is critical at this stage.

The women groups are engaged in acquaculture and goat keeping, poultry farming, maize, beans and sweat potato growing and gardening.

They have also been trained through demonstrations how to prepare various receipes that are suitable for mothers and children as well as how to preserve the various locally available foods that are common in a particular season but unavailable in another season. The preservation aspect is important in maintaining a sustainable feeding regime when such foods are needed but not available during that period.

This study will enable the SUN project, as it is in its final phase, reflect on how effective its communication approaches have been in reaching out to the piloted project areas and what the project or the Ministry of Agriculture should do once up-scaled or replicated in other areas in order to help the country reduce malnutrition levels. The study will also provide responses from the project beneficiaries on some of the opportunities and challenges that have arisen as a result of the project interventions.

1.2. Profile of Zambia

1.2.1 Location

Zambia originated her name from the Zambezi River that rises from the corner of North-Western province in Ikelenge district. It is the longest river in Zambia passing through Angola to the west sharing a boundary with Zimbabwe on the southern Zambia border before passes through Mozambique to the Indian Ocean.

Geographically, the country is landlocked, situated between latitude 10 degrees and 18 degrees south and longitude 22 degrees and 33 degrees east.
It has an area covering about 752,614 square kilometres. It is surrounded by eight neighbours namely: Democratic Republic of Congo to the north and northwest, Tanzania to the northeast, Malawi to the east, Mozambique to the southeast, Zimbabwe to the south, Botswana and Namibia to the southwest and Angola to the west.

Figure 1: Map of Zambia

Source: http://en.wikipedia.org/wiki/Image:Za-map.png

1.2.2. The Climate

Although within the tropical latitudes of 10 to 18 degrees south of the equator with its altitude averaging 1,300m above sea level, Zambia has a moderate temperate climate with humidity normally below 40 degrees.
The country has three main seasons namely: Cool and dry – May to August; Hot and dry – September to November; Warm and wet – December to April.

The website on Zambia tourism notes that in the Zambezi and Luangwa, there is excessive heat, particularly in October and in the wet season, a high humidity.
In the warm wet season, heavy showers and thunderstorms occur, followed by spells of bright sunshine. It is understandable that during this season crops grow freely and rivers and streams get filled within a short time.

According to Fisher (1984), during the cool dry season, night frosts may occur in places sheltered from the wind. The countryside dries up gradually and bush fires usually follow this. Temperatures rise during the hot, dry season but new leaves appear on the trees before the rains begin.

The Wikipedia encyclopaedia also notes that the average rainfall, between November and April, is about 950mm. The summer temperatures range from 20 degrees to 32 degrees Celsius. Winter temperatures range from 10 degrees to about 26 degrees. Due to this kind of weather and climate, the country is prone to droughts from time to time.

1.2.3. Political Situation

Zambia gained independence in 1964 and Prime Minister Kenneth Kaunda, of the United National Independence Party (UNIP), became the first head of state. After two decades of single party rule, Zambia returned to multi-party elections in November 1991.

The newly formed MMD won the elections and replaced the UNIP as the dominant political party in the country. Since then, Zambia has held seven further general multi-party elections in 1996, 2001, 2006, 2008, 2011, a presidential by-election in 2015 and the 2016 general elections.

Since 1991, MMD has won all presidential elections and the majority of (elected and nominated) seats in the National Assembly. President Mwanawasa's unexpected death in 2008 brought about a by-election with Vice President Rupiah Banda elected to complete the presidential term with 40.09 percent of the vote.

In 2011, general elections were held and the MMD's lost its mandate to the patriotic front of Michael Chilufya Sata who unfortunately also died during his first tenure paving way for Edgar Changwa Lungu who was elected during a by-election to complete Honourable Sata's tenure.

In 2016, President Lungu was re-elected although the main opposition party, UPND has taken the matter to court and the outcome of this election petition is yet to be concluded.

One notable thing in these elections is that opposition parties have gradually increased their representation in the National Assembly and in city and district councils with the most prominent among these being the UPND with its leader Hakainde Hichilema gaining ground despite losing in the 2006, 2008, 2011 and 2016 elections where he emerged second from the elections that were conducted under a new constitution.

Among other provisions, the amended constitution demands that a candidate has a running mate and a win of more than 50 plus one percent.

1.2.4. Population

Zambia has a population of about 13 million. Geographically, Zambia is divided into nine provinces, each administered by an appointed minister. A total of 61 % of the population live in urban areas (mostly in Lusaka and Copperbelt provinces) and 39 % in rural areas.

This makes Zambia one of the most highly urbanised countries in sub-Saharan Africa.

The population consists of 73 ethnic groups. The largest of these groups are the Bemba, accounting for 33.6 % of the population, the Nyanja (18.2 %), the Tonga (16.8 %), the North

Western peoples (10.3 %), the Lozi/Barotse (7.8 %), the Mambwe (5.9 %), the Tumbuka (5.1 p%), and the Lamba (2 %).

The population is characterized by rapid growth of 3 % per annum. The country has a very youthful population below 15 years estimated at 45.5 percent of the total population according to Central Statistical Office (CSO) data for the year 2010. However, life expectancy is very low and has been declining from 46.9 percent in 1990 to 39 percent in 1999 and 36 in 2003. The HIV and AIDS prevalence is very high, standing at 16 percent of the total population aged between 15 and 59 as at 2002.

1.2.5. Economy

Zambia is facing its worst economic crisis in more than ten years, with falling copper prices, pressure on the government's operating and investment budget, and electricity-supply shortages affecting the real economy.

In 2015, urban growth continued at an estimated rate of 42% as people moved to towns in search of jobs and opportunities.

In 2015, the Zambian economy has also faced headwinds initially due to fast rising expenditures and a fiscal deficit that has more than doubled since 2013. Slowing demand from China had reduced copper prices to their lowest level in more than seven years.

The situation was exacerbated by low agriculture output and a growing electricity crisis. Real economic growth fell to its lowest in 15 years, with Gross Domestic Product (GDP) growth estimated to have slowed to 3.7% from 5.0% in 2014.

Maize output declined by 22% due to poor rains while copper prices declined by 28% although the mining output remained roughly the same as in 2014. Slow economic growth is projected for the medium term as the electricity-supply deficit continues and Zambia continues to import electricity from neighboring countries.

The 2016 agricultural season was expected to be very slow following El Niño weather effects but fortunately the country recorded considerable yields particularly maize and soya beans.

The electricity-supply deficit, which began in June 2015, has affected manufacturing and other businesses. It is estimated at 40-50% of base load, necessitating considerable daily load

shedding. This has increased operating costs as firms have had to invest in diesel generators, and the increase in costs has been passed on to consumers.

Combined with waning confidence in the economy, the Zambian kwacha (ZMW) depreciated by 42% against the United States dollar (USD), raising the 2016 annual inflation to 21%. The slowdown in the economy led to more than 9 000 job losses in the formal private sector.

In 2010, 60% of Zambians were living in rural areas. Official projections show that urbanisation will have risen to 45% by 2025. The greatest contributors to the country's domestic product are the capital city, Lusaka, and other major mining towns. Urbanisation is both a result of natural population growth and rural-to-urban migration.

The economy relies heavily on the country's mineral wealth, particularly copper and also cobalt and zinc. These account for the bulk of export earnings and provide essential raw materials for Zambia's manufacturing industry.

Agriculture and tourism are third and fourth respectively.

1.2.6. Poverty Levels

The 2015 living conditions monitoring survey has revealed that 40.8% of the country's population is living in extreme poverty. The survey has also revealed that 54.4% of the country's population is poor, while 13.6 percent of the population is moderately poor.

The survey indicates that 76.6 percent of the population in rural areas is poor, with only 23.4% of the urban population being poor. Western province has the highest population of the poor at 82.2% with Lusaka province having the lowest at 20.2%.

1.3. Background to the Report

This report is based on the experiences of this researcher's attachment at the SUN project in the Ministry of Agriculture from December 2016 to April 2017. The SUN project offices are situated on the 3rd Floor, Mulungushi house in Lusaka. Mulungushi house hosts about three government ministries - Lands, Agriculture and Energy.

The SUN project was created to provide nutrition-sensitive interventions on the escalating malnutrition levels that the country is struggling to contain despite massive gains in improving her social and economic conditions for her people.

A combination of prudent macroeconomic management, market liberalization and privatization efforts, and investments in the copper industry and related infrastructure has helped the country achieve an average annual Gross Domestic Product growth of about 6.4 percent during the last decade.

However, Zambia's economic growth has not translated into significant poverty reduction, with statistics indicating that over 60 percent of the population live below the poverty line, and 42 percent live in extreme poverty (World Bank, 2000).

Regional disparities are equally very strong, with 70 percent of the rural population living in poverty, compared to 22 percent in the Copperbelt and 34 percent in Lusaka. With a predominantly young and rural population, and 67 percent of the labour force engaged in agriculture, the World Bank (2009) notes that Zambia will need to focus on its largely untapped agricultural potential to improve the rural economy in order to accelerate growth and reduce poverty.

Zambia's food security challenges are exacerbated by high dependence on rain-fed agriculture and the lack of market incentives that would encourage a shift from subsistence farming to making agriculture a business and not a way of life. The number of people at risk of food insecurity rose from 63,000 in 2012 to about 209,000 in 2013 as a result of poor crop production caused by poor weather conditions.(In-depth Vulnerability Needs Assessment report, 2013).

The ZDHS (2007) report indicates that food insecurity and chronic undernutrition remain critical issues, with almost half of children under five years of age stunted. High morbidity, limited access to health services, poverty and food insecurity are the major determinants of undernutrition in children.

Although the 2007 ZDHS does not include data on micronutrient deficiencies, data from the 2003 report however, showed that anemia and subclinical vitamin A deficiency are highly prevalent, affecting at least 50 percent of children under five, while 30 percent of women of reproductive age are anemic (UNICEF, 2003).

Such widespread deficiencies are not unexpected, given that the average Zambian diet is mainly composed of maize and starchy roots and very little micronutrient-dense food such as

animal products, fruits and vegetables. Although rates of exclusive breastfeeding during early infancy have increased, only 37 percent of children between six and 23 months receive a minimum acceptable diet, which has a major impact on their growth and development.

1.4. Statement of the Problem

According to the IFPRI (2014) Global Nutrition Report, failing to tackle malnutrition in a multifaceted approach can lead to failure in attaining the Sustainable Development Goals (SDGs) target of ending all forms of malnutrition by the year 2030.

The report also revealed that good nutrition signals the realization of peoples' rights to food and health. When people's nutrition status improves; it helps break the intergenerational cycle of poverty, generates broad-based economic growth and leads to a host of benefits for individuals, families, communities and the country.

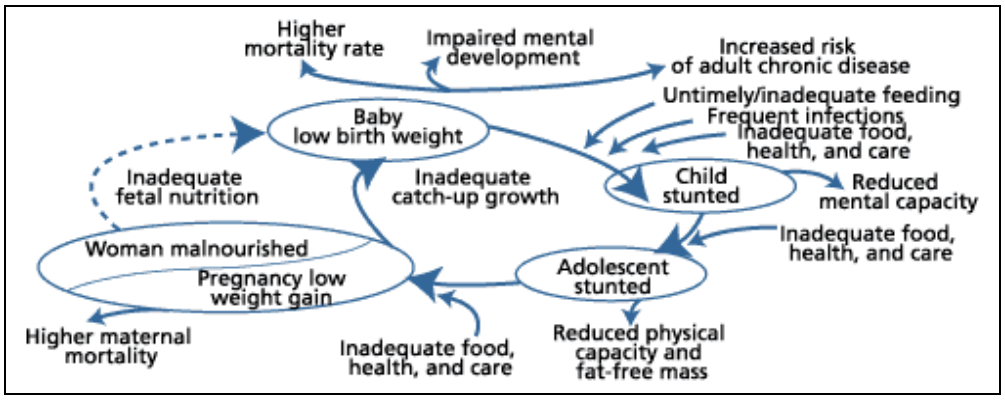
Good nutrition provides a foundation for human development and the steps needed to ensure it reaches its full potential.

Malnutrition takes many forms: children and adults who are emaciated and bony, children who do not develop properly mentally and physically, people who suffer because their diets are imbalanced; and people who are obese or suffer from nutrition-related non communicable diseases.

Malnutrition affects all countries and one in three people on the planet. Nearly half of all the countries face multiple serious burdens of malnutrition such as poor child growth, micronutrient deficiency, and adult overweight (GNR, 2015).

Good nutrition however, requires having enough of the right foods, access to affordable and adequate foods, care giving and hygiene practices as well as access to health, water and sanitation services. Nutrition security therefore depends on having access to healthy diet which provides all nutrients required for a health life, and being healthy so that the body can make optimal use of the nutrients for its different functions.

Figure 2: Poor Nutrition throughout the Life Cycle



Source: Adapted from the ACC/SCN-appointed Commission on the Nutrition Challenges of the 21st Century.

In Zambia, it is generally agreed that the majority of the food that is consumed is produced by small scale farmers who are mainly found in rural areas. Yet, the ZDHS (2013/14) report indicates that malnutrition levels are higher in rural compared to urban areas.

There seems to be an "unusual" relationship between high food productions, consumption and nutrition. Could effective communication or provision of extension services to the rural communities be the challenge that is hindering the rural people from growing the right types or combinations of food that can be consumed locally to reduce or combat malnutrition?

This study was the first of its kind to examine the relationship between communication and improved nutrition through the SUN Project's experiences in Mumbwa district of Central province.

Communicating nutrition-sensitive agriculture; a topic this researcher deliberately chose was an important topic because the relationships between information provision and nutrition as well as food consumption are like a three-legged pot which cannot stand on one or two legs but on all the three. This study was also aimed at exploring some of the information challenges and opportunities that exist in helping the rural people address issues of nutrition.

1.5. Justification for Attachment

Zambia's nutrition status, according to the Civil Society for Poverty Reduction and Scaling-up Nutrition (CSPR-SUN, 2015) project, is in dire state and worrying.

The ZDHS (2013/2014) report also show that 40 percent of the children under the age of five (5) were considered to be stunted. The report further reveals that stunting is worse in the rural areas than it is in the urban areas of Zambia.

This researcher was concerned about the poor relationship between high food productions, consumption and nutrition. The researcher further wanted to find out whether effective communication and extension services to the rural communities was the major challenge that was hindering the rural people from combating malnutrition.

This study is the first of its kind in Zambia, which is specifically looking at how communicating nutrition-sensitive agriculture messages could help reduce or combat malnutrition. This topic was deliberately chosen so as to establish the relationships between information provision, farmer productivity, good nutrition, consumption and combating malnutrition.

The attachment to the SUN project in the Ministry of Agriculture enabled the researcher to explore some of the information dynamics that exist in helping the rural people address issue of nutrition in the project area.

1.6. General Objective of the Attachment

The main objective of the attachment was to enable the student to examine and explore the opportunities and challenges faced by the Ministry of Agriculture's Scaling up Nutrition (SUN) Project in communicating nutrition-sensitive agricultural messages to the public in particular to the women clubs in Nangoma and Mumbwa central respectively.

1.6.1. Specific Objectives:

The specific objectives were:

a) To analyze the current organizational structure of the project and how it fosters communication among stakeholders including vulnerable women and children
b) To examine what type of nutritional information is disseminated to the rural populace or women clubs
c) To determine what type of responses the audiences or women clubs provide to the Ministry of Agriculture's Scaling up Nutrition (SUN) Project

d) To analyze communication problems in the light of communication theories and practices in respect of the SUN project

1.6.2. Research Questions

The major issues the study was trying to probe were centered on the following questions which formed the basis for the study findings:

a) How effective is the Ministry of Agriculture SUN Project on communicating nutrition sensitive agriculture?
b) How does the Ministry of Agriculture SUN Project provide nutrition information to the farmers?
c) What communications approaches does the Ministry of Agriculture SUN Project use to reach out to the public on matters of nutrition?
d) What role do the rural poor play in enhancing the communications policy on nutrition?
e) What media tools does the Ministry of Agriculture SUN Project use in reaching out to the public?
f) What challenges does the Ministry of Agriculture SUN Project experience in reaching out to the public?
g) What efforts are being made to overcome communications challenges in implementing the SUN Project?

1.7. Background to the Study Sites

The Ministry of Agriculture has been implementing the Scaling-Up Nutrition Project with support from the European Union (EU) in 14 districts including Mwinilunga, Mansa, Samfya, Mumbwa, Kalabo, Shangombo, Mongu, Lundazi, Chipata, Kaputa, Kasama, Mambwe, Zambezi, and Mbala since 2014.

This researcher purposively chose Mumbwa district in particular Manengo and Kankuka women nutrition clubs to carry out his study.

According to the 2010 Zambia population Census, Mumbwa district has a population of about 218, 328 people and a total land area of about 21, 103square kilometers.

Majority of the people in Mumbwa district depend on agriculture for their livelihoods. Crops gown include maize, cotton, groundnuts, tobacco, sunflower and beans. They also keep livestock which include cattle, goats and chickens.

The SUN Project seeks to improve small holder productivity, reduce stunting and malnutrition among young children below the age of two (2). The project also seeks to help pregnant and lactating women during the *Most Critical 1000 days* to have access to the right foods that will enable the mother and the child grow healthy.

The SUN project further aims at improving nutrition, reducing stunting and malnutrition through agricultural and livestock productivity, increased rural incomes, accelerated shared growth as well as poverty reduction among small holder farmers. This researcher selected to study activities of the SUN project in Mumbwa district of Central Province based on the communication approaches it had designed through the women groups in Nangoma (Kankunka Women's club) as well as Mumbwa central (Munengo women club).

Kankunka Women's Club was established in 2014 by women who saw the need to work together to help reduce food insecurity, malnutrition as well as stunting among children below two years in their area. The club consists of 26 members who include 23 women, three men and 15 children benefiting from nutritional activities.

The club recognizes that most rural poor households face dire consequences of food insecurity, leading to low incomes that reduce purchasing power, leaving them vulnerable to malnutrition. The women are working together with the project implementation team from the Ministry of Agriculture to address the root causes of food insecurity among their membership by embarking on activities that enhance productivity, foster increased consumption of nutritious foods available within their locality.

Kankunka Women's club is situated in Nangoma, some 100 kilometers from Lusaka and 40 kilometers from Mumbwa town respectively.

Munengo Women's club, on the other hand, is situated in the Central business area of Mumbwa town some 140 kilometers from Lusaka. The women's club is urban based and therefore most of its activities are limited to income generating initiatives such trading and backyard gardening, mushroom growing and poultry keeping.

The club has a membership of 23, consisting of 20 women, three men and eight children benefiting from nutrition activities.

Coordination of nutrition activities for these clubs is done at the Ministry of Agriculture's headquarters in Lusaka but the Mumbwa District Agricultural Coordinator's office remains the critical implementing agency at local level.

This student was attached at the Project's headquarters at Mulungushi house in Lusaka, for easy access to logistical resources and data that was critical to the exercise. The student however, undertook several trips to the study sites for familiarization and interaction. It was at these occasions that the student also carried out Focus Group Discussions with the group members as well as administered questionnaires. The student also had opportunities to interact with Camp Extension Officers.

1.8. Structure of the Report

The chapters that follow are structured in the following manner: Chapter two reviews past scholarly works and findings related to this study within Africa and the out-side world. Chapter three explains conceptual operational definitions of concepts. It also discusses main theories and how they apply to the study. Chapter four looks at the research methodology while Chapter five provides data analysis and analytical interpretations of the findings. Chapter six is the discussion of the findings while Chapter seven looks at recommendations and the conclusion.

CHAPTER 2: LITERATURE REVIEW

2.1. Literature Review

This chapter reviews past scholarly works and findings related to this study within Africa and the out-side world.

According to Shashi (2005) former United Nations Under-Secretary General for Communication and Public Information in his keynote speech at the Global Forum on Media for Development in Amman, Jordansaid: "*In the modern globalizing world, information sows the seeds of prosperity, and those without access to information are at a distinct disadvantage when it comes to building a better future for themselves and for their children*."

The goal of improved agriculture communication is a healthier agricultural sector. Time and again, it has been shown that the media can directly advance social and economic development.

A study of the media in India found that "states with higher levels of media development are more active in protecting vulnerable citizens" (Timothy Besley and Robin Burgess, Quarterly Journal of Economics, November 2002). "Media Matters," a report by Interviews and Global Forum on Media development, suggested that "just accessing media, is enough to have a significant effect"- exposing developing populations to information and resources that can transform their lives.

The IFPRI (2000) also notes that China is among the few countries in the World that have managed to combat poverty and reduce malnutrition through effective education of the grassroots. The report indicate that Chinese government's spending on rural education is having the largest impact on reducing rural poverty and regional inequality, while spending on Agricultural Research and Development (ARD) had the largest impact on agricultural production growth and the second largest impact on poverty reduction.

China also adopted a liberal attitude towards local experimentation and the transmission of the lessons learned from those experiments into state-sponsored research institutions. Some analysts note a 'learning by doing' approach to reform, adopting new measures through experimentation rather than following a predetermined blueprint as some of the reasons why China has succeeded in reducing malnutrition (IFPRI, 2002; pp 24).

The African Media Development Foundation Initiative, a study conducted by the British Broadcasting Corporation World Service Trust and published in 2006, also pointed out that "fostering a stronger media in Africa is an indispensable part of tracking poverty, improving development and enabling Africa to attain its development goals."

In rural development, it is common to talk about media categories which are taken to include broadcast (television and radio), group (video, tape-slides, sound film-strips, audio-cassettes, overhead projections, flip-charts, posters, pamphlets, and leaflets; as well, traditional folk media such as puppets and live-theatre may be included), print media (spreadsheets and tabloids) and Interpersonal channels (community leaders, contact farmers, extension workers).

Development Communication delivery strategies have been hierarchically ranked in terms of complexity, from interpersonal communication through radio and television, broadcasting, and group media, to multi-channel campaigns, including printables. This ranking also subsumes the notion that each strategy can be made more effective by incorporating that which precedes it.

Radio broadcasts, for example, have much more impact if they are backstopped with authoritative, village based interpersonal sources, and group media can benefit from both radio and interpersonal communication support. Well designed communication campaigns usually involve broadcasting; village based group media, and intensively trained field workers. The general rule of thumb is to use multiple media, wherever possible, so that each medium reinforces and multiplies the importance of the others in an integrated network.

While there is no proven formula for selecting media for rural development, certain guidelines have emerged from practice. For instance that radio is particularly good at reaching a mass audience, quickly, with simple messages; print media like posters, newspapers and pamphlets are good reminders or reinforcers of broadcasts, and interpersonal sources who provide opportunities for discussing information inputs and are most useful for adding credibility to media content, shifting attitudes and prompting behavioral practice changes.

Group media combinations have proven strikingly productive at the grassroots level. The advantage of this strategy is the establishment of a two-way flow of information with an

audience and the possibility for immediate feedback as the presentation unfolds. Important point's can be reemphasized, remedial information provided where needed, and discussions started with a view toward putting the recommended changes into practice. Particularly effective use has been made of small format recordings combined with simple, well illustrated pamphlets and field worker support for direct training of farmers and participatory community development (Fraser, 1987a; 1987b).

In the recent past, application of media and communication support has assumed an increasingly important role in many facets of rural development including agriculture. Much of it has been subsumed under the larger movement normally referred to as Development Support Communication (DSC), or more recently, Development Communication.

DC units are currently found in most international development agencies (although they may be subsumed under different titles), with spheres of project support ranging across agriculture, forestry, fisheries, health, nutrition and population activities, to women in development and functional literacy.

Coldevin, (1987) adds that the idea of using media to assist the poor to grow out of poverty is consistent with research findings, demonstrating that, focused receiver oriented communication strategies could play a significant role in accelerating the rate of technology transfer, whether it be process or product - or both. Thus, as communication technologies improve, became easier to use, and costs lowered, the media are increasingly harnessed to reach people at the local level.

Prior to this, the main vehicle for linking scientific advances in agriculture, health and nutrition between researchers and rural adopters was the extension worker. Historically, however, their singular efforts have been limited by the thin spread of front line agents available in relation to the volume of people requiring information and training. Transportation difficulties have also tended to impede their outreach. In addition, effective communication with predominantly illiterate farmers has been hampered by poor training in face-to-face communication techniques.

Against this background, the use of media or education could accelerate awareness of, and adoption rates towards recommended technologies through targeted information, motivational messages and training.

In tackling malnutrition for example, communication could unfold the various complexes that cause the condition and how they can be tackled. The immediate causes of malnutrition include lack of information and inadequate dietary intake and disease.

Underlying these causes at household and community levels include household food insecurity, inadequate care for women and children, unhealthy household environments and lack of health services, with income poverty underpinning all three.

Therefore, the eradication of extreme poverty and hunger, improving educational levels and maternal nutritional status, family planning and disease prevention among other factors, are inextricably linked to reducing undernutrition.

However, there has been very few studies if any that point to the role of information provision in infleuncing nutrition because most of the studies have focussed on the production aspect of food and not on storage, preservation and consumption of foods.

Long term improvements in food and nutrition security at various levels will come from sustained and robust economic growth, macroeconomic and structural policies that promote job creation, economic inclusion, social empowerment and improved investment in the key sectors (Health, Agriculture, Water and Sanitation, Education and Social Protection) as envisaged in the NDP.

If progress in reducing undernutrition is to be sustained, the underlying causes related to poverty, inequity, low maternal education and women's social status must be addressed. These deep-rooted and complex issues cut across sectors: agriculture, water and sanitation, education, gender and social protection.

Historically, the focus of agricultural development has been on increasing production, assuming that increased supply leads to increased access to food and better nutrition.

Insufficient attention was paid to improving the nexus between agriculture and nutrition. Agriculture is one of the sectors best placed to address the crucial underlying determinants of malnutrition and can positively affect food production, income and consumption of nutritious foods needed for healthy and active lives. Information provision in this case is important to changing the status-quo.

CHAPTER 3: CONCEPTUAL AND THEORETICAL FRAMEWORK

3.1. Conceptual and theoretical framework

This chapter looks at scientific definitions of terms to be used in this research. They are basically called conceptual definitions which are critical elements to the research process and involves scientifically defining specific concepts (also known as a variables), or construct, so that they can be systematically measured. The conceptual definition is considered to be scientific text book definition. Under the theoretical framework, Behavioral Change Communication theories whose models are targeted towards individuals, families and the communities have been cited.

3.2. Communication

A lot of attempts have risen regarding the term communication. However, these attempts by various scholars to define the term have not yielded in consensus as no single approach to the study of communication is more appreciated than others (Madondo, 2002: 36).

Some scholars have defined communication as a symbolic social process, which occurs when we have an idea in response to something we have seen or heard (Wimmer and Dominic, 1997: 134).

Communication involves co-orientation and sharing of meaning. We share some of the meanings of the words or gestures because we speak the same language and belong to the same culture. Communication also occurs in a context and, as such, it is contextual. Communication in one context will have different characteristics from communication in another context. For instance, there is more feedback in family communication than in mass communication (Infante et al, 1997: 11).

Berelson (1964) notes that communication is the transmission of information, ideas, emotions, skills etc. by use of symbols like words, pictures, figures, graphs, etc.

McQail writes, “The term communication has many meanings and definitions but the central idea is of increased commonality or sharing between participants on the basis of sending and receiving messages” (1994: 492).

Lievrouw (1993) gives a good and comprehensive definition of communication as she writes: communication is the process of sharing ideas, information and messages with others in a particular time and space. Communication includes writing and talking, as well as non-verbal communication (such as facial expression, body language or gestures), visual communication (the use of images or pictures, such as painting, photos, video or film), and electronic communication (telephone calls, electronic mail, cable television, radio, or satellite broadcasts).

3.2.1 Types of Communication

In general, the most notable types of communication include:

a. Intra personal communication – this is the communication that takes place within oneself. It could be through meditation or deep thoughts before making a decision.
b. Interpersonal communication – is the communication between two individuals and a group. For example, face to face interaction or it can be mediated through the telephone. In this type of communication feedback is immediate.
c. Mass communication – this is the sending of messages from the source or originator to an audience which is large, heterogeneous and unorganized through a medium which could either be electronic or print. The former refers to television, radio and the internet while the latter points to newspapers, books, magazines, etc. In this mode of communication feedback is usually delayed.
d. Organizational communication – this is communication within an organisation or sometimes it may be between organisations.
e. Intercultural communication – this is the type of communication that occurs between people sharing information and human experiences from different cultural backgrounds (Infante 1997: 23).

3.2.2 Importance of Communication

According to Infante et al. (1997: 23), it is important to communicate because it helps us create cooperation and interaction with one another, acquire information and entertain ourselves. He adds that communication is important because without it development would not be possible. Even to be aware that development has occurred one should be able to communicate within self (intra personal) and with others.

3.3. Participation

Participation basically means to be involved or to take part. In order for any community to develop, participation by its members is vital because it cultivates a sense of responsibility and ownership. White (1994: 17) objectively distinguishes the two types of participation "Pseudo" and "Genuine". She categorizes Pseudo participation as domestication which is concerned with informing, therapy, and manipulation which include placation and consultation. Genuine participation was categorized as cooperation referring to partnership and delegation of power and citizen control which means empowerment. She recommends genuine participation as the panacea of any developmental activity (white 1994: 17).

3.4. Communication for Development

Liboudo (2002) defines communication for development as the use of a communication process, techniques and media to raise people's awareness of their own situation and of the options they have at their disposal for activities involving change, as well as helping to resolve social conflicts and working together to reach a consensus. In addition, it should assist people in planning activities involving change and sustainable development, so that they are aware of the knowledge and qualifications needed to improve their living conditions, and those of their community, and the effectiveness of local and national development.

Communication for development is also defined as the systematic design and use of participatory activities, communication approaches, methods and media to share information and knowledge among all stakeholders in development process in order to ensure mutual understanding and consensus leading to action. The aim is to facilitate people's participation at all levels of the development effort to identify and implement appropriate policies, programmes and technologies to prevent and reduce poverty in order to improve people's livelihood in a sustainable way (FAO, 2004: 16).

3.5. Definition of other key terms

- **Food:** is anything eaten or drunk in order to get energy and nutrients required by the body for survival, growth, development, maintenance, reproduction and production. Food serves as a vehicle that takes nutrients into the body.
- **Nutrients:** are substances found in the food that promote growth, protect the body against diseases, provide the body with energy and maintain the body processes.

- **Nutrition**: is a science that deals with how the body obtains and utilises nutrients for normal body processes and functions. It includes ingestion (process of getting food into the mouth), digestion (breaking down) of the food in the body to release nutrients, absorption (the process of uptake of nutrients from the blood stream to body tissues for use) and utilisation (the process of using the nutrients for various body functions such as growth, development, reproduction, walking, working). In simple terms, nutrition refers to the food that people eat and how it nourishes the body to sustain the various body processes and life.
- **Nutritional status:** reflects the nutritional adequacy in the body which is further reflected in the growth of an individual measured through anthropometric measurements such as height for age, weight for height, weight for age, mid-upper arm circumference (MUAC), birth weight and biological indicators.
- **Malnutrition:** a physiological condition that may be caused by a consistently low (Under nutrition) or excessive (Over nutrition) intake of nutrients that the body requires for its normal functions by an individual, relative to the individual's body requirements.
- **Nutritive-sensitive agriculture:** interventions that are aimed at mainstreaming nutrition messages in agriculture extensions.
- **Under nutrition:** is a physiological condition that reflects inadequate amount of nutrients (energy, protein, and/or of vitamins and minerals) that the body requires for its normal functions, relative to the individual's body requirements. Under nutrition is mainly characterized by wasting, stunting, underweight and low birth weight.
- **Stunting -** Low height-for-age (too short for age)
- **Wasting -** Low weight-for-height, (thin for height)
- **Underweight -** low weight-for-age (too light for age)

3.6. Theoretical Framework

This study was guided by Behavioral Change Communication theories whose models are targeted at individuals, families and the communities.

According to these models, an individual, for example a farmer, may hear about a new behavior or practice without necessarily translating it into behavioral change. There are obstacles or barriers that may prevent the individual from adopting the new behavior or

practice. He may be influenced by other family members, influential community and family leaders or may just have the fear of trying out a new thing he is not sure of.

Therefore, the individual needs support to move from one stage to the other. He has to be motivated and convinced about the benefits of the new practice.

Although providing people with information and teaching them how they should behave, does not lead to desirable change in their response or behavior but a supportive environment, alongside information dissemination, messages and teaching or training, is desirable to facilitate behavior change.

Behavior Change Communication therefore is an instructional intervention which encourages group or client oriented form of communication to bring about a desired change in the behavior of the target group or individual. It is influenced by culture.

In every community, there are norms, beliefs and cultural systems that guide people's behaviours and attitudes. According to the social and ecological model of behaviour change, a person's behaviour is influenced by the networks around him or her and the environment they grow which influences their values and attitudes.

The model looks at the following:

- It considers the complex interplay between the individual, his or her relationships or networks, the community and societal factors. It may also include the public policy.
- The model helps us to understand and address the factors that influence behavior and the change that the individuals may embrace.

The model is further re-enforced by the following theories:

3.6.1. The Knowledge Gap Theory

This theory asserts that infusion of mass media information into a social system increases in higher socio-economic status segments who tend to acquire this information faster than lower socioeconomic status population segments so that the gap in knowledge between the two tends to increase rather than decrease (Tichenor, 1970).

As a result of these segments of population, elite societies gain information faster and hence the wide gap increases in the lower economic status of the population.

This means that the poor lag behind in terms of technologies and innovations that are communicated via media and the knowledge gap also widens as the people of higher economic class gain the benefits more. If the Information services are not made equal for the entire society, this gap of information will increase and this could probably be the reason why in Zambia, for example, malnutrition levels are higher in rural areas where information provision is limited compared to urban areas.

Mumbwa district, which borders Lusaka and Chilanga districts to the south and west respectively, is very close to Lusaka city which has numerous radio and television stations including newspapers but its people have no access to media.

Radio and Television signals, like most rural areas of Zambia are not available while newspapers don't reach the communities.

This means that the communalities in these rural areas are not able to get information from other sources apart from the ones provided by local development agents such as NGOs and government institutions.

In addition to this, literacy levels are low in most rural parts of the country. This means reading or writing becomes a limitation to knowledge acquisition.

As Tichenor (1970) put it: "A person who receives more education, his communication skill increases and hence gathering information becomes easier for him. Along with this, reading, understanding and memory skills also become better and thus he understands the issues of various spheres better."

An educated person is exposed to much more topics than a less educated person and hence his awareness is more.

A person with more education has more social integration. This helps him to counter various perspectives and diverse stories which make his understanding of public issues better.

An educated person also knows well how to make optimum use of a medium while on the other hand a person with no knowledge is unlikely to know it. Hence he will be less aware of the issues around the world and less interested and may not also know of how it may affect him.

The influence of the media especially its targeting of markets is also another important factor. Accordingly, for every product, news or any commodity a certain segment is targeted and it is usually the higher strata of the society who is targeted and hence the lower strata remains unaware.

In order to reduce the knowledge gap, Tichenor (1975) notes that it is important to appreciate the following issues:

- Impact of local issues– It is seen that local issues that directly impact the people have aroused more of social concern than national issues that do not have such a great impact and hence in these issues widened gaps could be reduced.
- Level of social conflict surrounding the issue– Until a communication breakdown is minimized, issues with more perceived conflict tends to grab more attention and weakening the knowledge gap hypothesis.
- Homogeneity of the community– If it is a homogeneous community, the gap tends to be lesser than a wider heterogeneous community.

3.6.2. Health Belief Model

According to Rosenstock (1988), people are more likely to change when they are thought to be the ones who believe they are susceptible to a state risk which has potentially serious consequences when the solution offered is likely to decrease the susceptibility or severity of outcome and the anticipated costs or barriers to participation are outweighed by this benefit. Further those with high self-efficacy, such that they feel they can do what needs to be done to improve the situation, are more likely to change.

Under the SUN project, deliberate messages (pictorial or written) that depict the various forms of stunting are deliberately displayed and explained to the beneficiaries. This is important to the project beneficiaries so that they understand the gravity of malnutrition among their children and their families.

Equally, the project provides nutrition-sensitive interventions such as a variety of seed which the beneficiaries grew. These crops/livestock are used to teach the project beneficiaries, through demonstrations how to prepare and how best to utilize such foods.

This theory therefore is applicable to this study because deliberate messages are pointed out to the beneficiaries to emphasis that under nutrition is a major cause of child mortality in Zambia and that traditional belief such as witchcraft which is culturally understood to exist is not a major contributor to child-ill-health in Zambia.

3.6.3. Social Action Theory

According to Azjen and Fishbein (1980), the social action theory is based on the information processing premise. People are assumed to choose the alternatives which provide them with the most good outcomes and the fewest undesirable outcomes. It examines people's intentions to behave a certain way and assigns a probability of certain actions based on intentions and influence of others.

Parlato et al (1992) posited that without motivation to act on a specific message, information is useless. The information provider must find out what factors motivate people to change their health behaviors, provide information that will motivate them and deliver it in a context which promotes change.

In this study, the different trainings undertaken by the SUN project such as food production, preparation and utilization, preservation and storage are some form of motivation that have reinforced and given confidence to the project beneficiaries.

The theory is useful for explaining food-related behaviors over which people have control. The Women of Kankunka and Manengo groups have taken a board decision to come out of their situation by practically taking action about the various interventions that ought to be undertaken in order to reduce malnutrition.

CHAPTER 4: RESEARCH METHODOLOGY

4.1. Research Methodology

Research methodology is the systematic, theoretical analysis of the procedures applied to a field of study (Kothari 2004, p. 31). Methodology involves procedures of describing, explaining and predicting phenomena so as to solve a problem; it is the 'how'; the process, or techniques of conducting research. A Methodology does not set out to provide solutions but offers the theoretical underpinning for understanding which procedure, set of procedures can be applied to a specific case. Research methodology encompasses concepts such as research designs, target population, sample size and sampling procedure, data collection instruments and data analysis procedure.

This chapter discusses the methods that were used for the collection and analysis of data to answer the secondary and primary questions of research in the study. It gives an explanation of the research design, sampling techniques and methods used in data collection; and description of how data collected from the research was analyzed.

4.1. Research Design

Research design is a model or an action plan upon which the entire study is built; dictates the manner in which a study is conducted and provides the road map of a study in terms of the sample, data collection instruments and analysis procedure (Creswell 2003, p. 79). In other words, a research design is a plan, a roadmap and blueprint strategy of investigation conceived so as to obtain answers to research questions; it is the heart of any study (Kothari 2004, p. 31).

Descriptive and exploratory research designs were used to conduct this study. Descriptive research was devoted to the gathering of information about prevailing conditions or situations for the purpose of description and interpretation while exploratory research was used to gain an understanding of underlying reasons, opinions, and motivations.

4.2. Research Methods

In order to achieve the research objectives, both quantitative and qualitative research methods were used in carrying out this research.

Quantitative Research is used to quantify the problem by way of generating numerical data or data that can be transformed into useable statistics. It is used to quantify attitudes, opinions, behaviours, and other defined variables and generalize results from a larger sample population (Creswell 2003, p. 79).

Holloway and Wheeler (2002, p. 30) refer to qualitative research as "a form of social enquiry that focuses on the way people interpret and make sense of their experience and the world in which they live". Researchers use the qualitative approach to explore the behaviour, perspectives, experiences and feelings of people and emphasize the understanding of these elements. Qualitative Research is primarily exploratory research.

4.3. Data Collection Methods

In conducting the research, both primary and secondary data collection methods were used.

4.3.1. Primary Data Collection

The primary data are original and relevant to the topic of the research study so that the degree of accuracy is very high. In addition, primary data is current and it can better give a realistic view to the researcher about the topic under consideration (Sekaran & Bougie 2010, p. 181). Both qualitative and quantitative methods were used to collect primary data.

4.3.2. Qualitative Methods

Practical attachment is based on assumptions that communicators need training that integrates classroom experiences with actual field work. This particular exercise entailed being involved in the activities of the SUN project.

It also involved discussions and interviews with the stakeholders. Officials at the coordination office in the Ministry of Agriculture where the SUN project is based were

interviewed. These were the main sources of information in additional to various documents such as inception and annual reports that are within the organization.

Discussions and in-depth interviews were also held with nutrition groups and Camp Extension Officers in Nangoma and Mumbwa central.

The following qualitative methods of data collection were used:

4.3.2.1. In-depth Interviews

According to Ritchie & Lewis (2003, p. 36) individual in-depth interviews provide an opportunity for detailed investigation and an in-depth understanding of the research topic in particular on how these key Informants perceive the issue under investigation. This method is understood as a form of conversation.

Most researchers note that the primary strength of interviewing as a method is its "capacity to range over multiple perspectives on a given topic". The in-depth format thus permitted the researcher to explore fully all the factors that underpinned participants' answers: reasons, feelings, opinions and beliefs (Ritchie & Lewis 2003, p.141). It is a "vehicle for bringing out or extracting detailed information from the interviewee or informants' life world".

4.3.2.2 Focus Group Discussions (FGD)

This method was used to draw out women's' experiences in nutrition and agriculture. This FGD, which is a qualitative method of data collection, was intended to provide this student with a means for collecting data that can be used to construct a descriptive explanation of the phenomena being investigated" (Dollar & Merrigan, 2002, p. 6).

Qualitative approaches such as focus group discussions are particularly useful because they allow a student or a researcher to uncover people's subjective attitudes and experiences that are typically inaccessible through other means of research (Krueger & Casey, 2000).

For example, an individual might indicate on a survey that she experiences certain problems in their farming but the survey data does not provide information about why and in what ways the individual experiences those challenges.

According to Fink (2006), focus group discussions also tap into prejudiced experiences and are an efficient way to collect large amounts of data that describes, compares, or explains a social phenomenon because they allow participants to interact with one another and build on one another's comments, and they allow the facilitators to probe for details.

Focus group discussion tape-recordings were transcribed and went through several phases of analysis. A preliminary analysis was conducted in order to get a general sense of the data and reflect on its meaning. A further detailed analysis was preformed and data was divided into segments or units that reflected specific thoughts, attitudes, and experiences of participants.

At the end of this process of analysis, a list of topics was generated, and the topics were compiled into categories that were labelled as key findings. Data from across all FGDs was again analyzed so it could be organized into these categories. Then these categories or key findings were analyzed to determine the interconnectedness of issues and conditions that may have given rise to the categories.

Ultimately, a representation of women experiences in addressing malnutrition issues among their families emerged. Data from all women was analyzed into major themes, and data from each participant group was also analyzed separately to determine trends unique to each group.

Additionally, there were high levels of agreement about these issues and significant consistency in how the issues were talked about among groups and individual members. In instances where an issue was addressed by all groups but talked about differently by different groups, these differences in opinions are identified and explained.

For example, the various interventions that the SUN Project offers to the group members were discussed in nearly all FGDs by participants in both groups. The importance of this support particularly inputs such as vegetable seed which is given to group members by the project is an important input that makes a huge difference in achieving project objectives.
If the seed is not provided, for example, it is seen as a barrier in achieving the group and individual members' aspirations.

4.4. Sampling procedure for In-depth Interviews

Five (5) people listed in appendix III were interviewed. This was done in order to get detailed information on the SUN project. Each interview coupled with discussions lasted approximately an hour. Some of the contacts were made on more than one occasion. Thus in-depth interviews were conducted with the SUN Project staff using a prompt list designed for that purpose. The SUN project staff that participated in the in-depth interviews was selected on the basis of them having been part of the project from its inception.

The following were the personnel that this researcher interviewed: Keren Chenda-Mukuka, Focal Point Person and also Chief Food and Nutrition Officer, Mrs. Rose Silyato and Mrs. Nalukui Mukubesa-Sakala. Other people interviewed included the two (2) Extension Officers for Nangoma and Mumbwa central.

4.5. Sampling Procedure for FGD

Focus group discussions were held on 3rd and 4th March 2017. A total of four focus group meetings were conducted. Groups ranged in size from 10 to 15 participants and each discussion lasted from about 30 to 60 minutes.

A total of 30 women and one male participated in these discussions. Each focus group discussion was homogenous in that it represented women and mothers. All mothers and grandmothers represented in this FGD were farmers and have experienced among their families some form of malnutrition.

Using an open-ended interview guide to direct the discussion, this student, with support from the local Extension Officer facilitated the FGD. Interview questions (See Appendix I) were developed with direction and input from the Extension Officer and were designed to cover a range of farming and nutritional issues and to address specific questions and issues raised in initial discussions.

All focus group discussions were tape-recorded with the permission of the participants. All the participants agreed to use their first names and did not shy away to be called by these

names even if they rarely used them in their traditional set up. The identities of participants and to illustrate how their statements are representative of many focus group participants were thus not concealed. The attendance list has been attached (Appendix II)

4.6. Extracts from Secondary Sources

Information was extracted from official records particularly those related to annual and quarterly reports as well as literature on nutrition extension methodologies for extension workers and farm groups.

Information was also obtained from documents produced by international organizations such as the Global Movement on Nutrition and United Nations Agencies.

These are very important documents because they provide expert information that contributed to impacting positively to the cause of the SUN project in Zambia.

The main advantages of secondary data are that it is faster to access. It provides a way to access the work of the scholars and gives a frame of mind to the researcher in which direction he/she should go for the specific research (Sekaran & Bougie 2010, p. 184).

4.7. Quantitative Method

An interview method using a structured questionnaire or face-to-face personal interviews using a structured questionnaire was used. An interview method using a questionnaire gives an opportunity to probe and there is instant feedback. Also the researcher needed to explain the importance of the study to the respondents due to high illiteracy levels in the area.

4.7.1. Sampling procedures for administered and self-administered questionnaires

The first 24 questionnaires were randomly distributed to the members of the two women clubs who were present during that meeting. Each of the two women groups received equal numbers of questionnaires.

Each member was requested to pick a folded piece of paper with a written number on it in a bowl. Each number on the piece of paper matched with the number on code for each questionnaire. Some pieces of paper however, did not have any numbers and those women who picked these numbers did not participate in the questionnaires.

This was done to provide equal opportunities for each member to participate as well as to avoid bias.

This researcher, with support from the respective camp extension officers administered the questionnaires. This was important because as you shall notice in the findings most of the women are not able to fully comprehend the English language. It was therefore important to translate the questions into local languages they are able to communicate. These languages included Chitonga, Ichibemba and Chinyanja, the mostly common spoken languages in the two study sites.

The questionnaires were meant to assess the various activities that the women are engaged in, participation to group and nutritional activities, their understanding of the SUN project and how they perceive it in their pursuit to ending malnutrition as well as assessing their knowledge, attitudes and practices in as far as combating malnutrition is concerned.

Another set of 13 Self-administered questionnaires were distributed to journalists that were found on that particular day at the National Agricultural Information Services (NAIS) offices Communications Centre at the National Headquarters, Ridgeway offices.

The Communications Centre hosts about 25 journalists who include 10 Radio producers, three Television Producers, four Reporters, two cameramen and three Information officers responsible for publications.

On this particular day, 13 journalists reported for work while others were either on leave, unavailable without any reasons or on official duties away from the station. All the 13 journalists that reported for work were given the questionnaires. Two respondents declined to participate and therefore only 11 responded favourably.

The purpose of these questionnaires was to determine the capacity of NAIS as an institution, on how effective the organization is in terms of human resource, professionalism, equipment and others, on disseminating nutrition-sensitive information to the public. NAIS' is a media unit in the Ministry of Agriculture responsible for provision of technical information to the public via mass media.

This is because the extension department, which provides extension services in the ministry, is understaffed and therefore, NAIS was created to compliment the extension service through radio, television and publications such as magazines and newsletters.

In the SUN project, NAIS is mandated and the sole implementer of the project's communications strategy.

4.8. Data Analysis for Quantitative Research Methods

The Data that was collected using questionnaires was first checked for uniformity, consistency and accuracy. The raw data was then subjected to coding for fast and efficient processing of data. In the process of data entry, coded questionnaires were entered into the computer using Statistical Packages for Social Sciences Software (SPSS) version 20. Data was later analyzed using descriptive statistics; this has been presented in form of tables - cross tabulations, frequencies and percentages whilst excel was used to design some charts.

4.9. Ethical Considerations

In terms of ethical considerations, prior informed consent was obtained from each participant in the study in order to ensure that they understood what they were doing and verified their willingness to participate. The respondents were assured of their rights including the right of consent, protection from disclosure of information, respect for their privacy and the right to refuse responding to the questions in the questionnaire at any stage when they wanted to do so.

Anonymity and confidentiality was promised and maintained. The information they provided will not be made available to anyone else who is not directly involved in the study and could not be traced back to the participants. The researcher also adhered to the institutional guidelines on conducting research.

4.10. Limitations of the Study

- The research was undertaken during the rainy season when most farmers are busy with field work. It was therefore very challenging for the researcher to mobilize and consistently meet the group members as most of them were busy with their farming activities.

- There is poor road access to the centre where the Kankunka group members meet. The road needs a four by four motor vehicle to reach and therefore, when it rained on a particular day, most of the time was lost due to getting stuck along the way.
- Administering individual questionnaires or surveys are difficult to conduct due to human complexity (some people may not be willing to talk to you).
- Language barriers were also a limitation in the sense that some members of the groups only communicated in certain languages such as Ndebele which is not very familiar to the researcher.
- Some respondents were not able to give clear answers to some questions and therefore resulted in these questions being invalid when analysed.

CHAPTER 5: FINDINGS AND DATA ANALYSIS

5.1. Findings and data analysis

This chapter presents the findings of this study. The findings were derived from the Focus Group Discussions using qualitative method, 23 questionnaires administered among the two women clubs, 11 Questionnaires for NAIS journalists and in-depth interviews from the SUN project team. The findings have been presented in form of narratives or descriptions, tables and charts using SPSS and Excel.

The data and the findings have also been categorized according to the study objectives using the following themes:

a) Organizational structure of the project and how it fosters communication among stakeholders including vulnerable women and children in addressing nutrition.
b) Dissemination of nutrition-sensitive information to the rural populace or women clubs
c) Role played by women in Scaling up Nutrition agriculture sensitive interventions
d) An analysis of communication challenges faced by the SUN project in the light of communication theories and practices.

5.2. Focus Group Discussion Findings and Data Analysis

This part of the report looks at the narrative analysis of FGD after translating and transcribing the recorded discussions.

5.2.1. Analysis of Focus Group Discussion Findings

Discussion of each key finding begins with a bulleted list of the major themes that were reflected in focus groups discussions about the key finding and a brief summary of the findings. This is followed by an expanded description of each woman's narratives about their perceptions and experiences. Excerpts from focus group discussions and the actual words used by participants are integrated into these narratives to provide the reader with a greater understanding and appreciation of the ways in which farming issues were experienced, understood, and talked about by participants.

It is important to note that when a direct quote from a focus group discussion member is used, it is not a random choice. Quotes that were selected represented the views expressed by most

of members present during the discussions. So, while focus group discussion members may have stated their experiences and views in different words, the quotation used to illustrate the point best represents the experiences expressed by many or all participants. The value of these excerpts and narratives in understanding the experiences of participants is underscored by Lindloff (1995) who explains that "if we want to know how something is done and what it means, we have to know how it is talked about" (p. 234).

The following are descriptive findings of this study:

5.2.2. Effectiveness of the SUN Project Extension and Information System

Members of the FGD were asked to first talk about how they came to know the SUN project and what it meant to them. All participants described how they were introduced to the project by the local Extension Worker and the lessons and demonstrations that they were exposed to, to help them begin to apply interventions to combat malnutrition among their families and communities.

All participants reflected highly on how they had enough foods within their households, but children and lactating mothers remained malnourished.

They said the project had supplied them with inputs such as seed for vegetables, village chickens and goats which they have continued to raise and consume. They described the various aspects of food preservations and processing as well as preparations of various recipes suitable for both pregnant women and children below three years.

One participant offered a statement that was representative of the comments of many focus group discussion members; this statement show how the group members are mobilised and communicated to by the project's institutional arrangement.

The SUN project came through the Extension Worker, they taught us about malnutrition and how it's caused. They taught us a lot of things which we never used to do. When I joined, I saw that it was good. They helped us make gardens and then we started planting vegetables like rape and everything else that generated money.

They taught us that the project looked at a child from 0 months until the baby is 1000 days. So they taught us how to care for the baby even before it is born. They taught us the food to eat which is good for both the mother and the unborn baby.

They teach us how to make a garden and plant variety of vegetables to prevent our children from malnutrition. I joined because they were great opportunities to improve my family. So now we feed our children what we plant so that they can grow healthy.

5.2.3. Community Mobilisation, Participation and empowerment

The Kankunka and Manengo Women's groups are solely supervised by Camp extension officers. The extension officers are trained in community mobilization and facilitation skills which are critical for success of community managed implementation interventions.

The women participants to the discussion were asked about their roles in their clubs and how they participate in fulfilling their ambitions.

They observed that they have been capacitated with basic skills and techniques required for simple and permanent combating of malnutrition using locally produced foods. The club members understand and appreciate the importance and benefits that result in community driven approach to development such as the synergies that can be harnessed, resources that are shared and the common problems that can be solved collectively.

There was very clear evidence of well organized functional community participation although gender representation in both clubs is a challenge. The success of the project however, could be attributed to the fact that in most traditions, pregnancy and child maintenance is a female-led responsibility- a critical issue that many organisations, including the FAO, also acknowledge.

The women at these two clubs are more responsive to issues of malnutrition because the problem poses a variety of threats to them. It weakens women's ability to survive childbirth, makes them more susceptible to infections, and leaves them with fewer reserves to recover from illness.

Additionally, HIV-infected mothers who are malnourished may be more likely to transmit the virus to their infants and to experience a more rapid transition from HIV to full-blown AIDS.

> *"Malnutrition undermines women's productivity, [their] capacity to generate income, and ability to care for their families.*
>
> *Addressing women's malnutrition has a range of positive effects because healthy women can fulfil their multiple roles — generating income, ensuring their families' nutrition, and having healthy children — more effectively and thereby help advance community led development.*
>
> *Women are also responsible for producing and preparing food for the household, so their knowledge — or lack thereof — about nutrition can affect the health and nutritional status of the entire family. Promoting greater gender equality, including increasing women's control over resources and their ability to make decisions, is crucial," observed Mr. Bweendo, Camp Extension Officer for Nangoma camp.*

These skills and demonstrations have translated into the two clubs having appropriate knowledge and skills to grow a variety of foods, preserve and process it for their daily needs. These skills positively impact and augment sustainability of this approach and gives confidence.

In the words of a participant the project has empowered them with the knowledge and skills that they did not have before the interventions.

We started this group so that we can learn how to care for our children and also to learn about nutrition and be able to prevent our children from malnutrition.

The other reason l joined this group is to share ideas because we used to plant and grow vegetables but didn't necessarily know how to use them. So sometimes you might find that your children are suffering from malnutrition even if food is available. Even adults used to suffer from malnutrition.

So after we created this group, we started teaching each other. That is when SUN Project came in to teach us about nutrition and other related issues.

For new born babies, we were taught how to produce milk from fresh groundnuts and soya beans if the mother has low milk productivity and if they can't afford to buy milk.

And for pregnant women, we were taught to cook and pound soya beans and give to them a pregnant woman to eat for production of excess breast milk.

We meet once in a week and apart from group gardens, we have personal gardens that take up other activities at home.

5.2.4. Challenges in Managing Malnutrition

The participating women were asked to explain how they perceived malnutrition and the challenges they were experiencing before the project interventions.

The two women's club have been struggling with malnutrition for many years. They acknowledge that combating malnutrition is a social, cultural and economic issue. It requires changes in mind set and behaviours.

In the midst of locally produced foods, their major challenge was lack of knowledge on how to process food to cater for the needs of individuals family members such as pregnant mothers and children.

In their own words, they did not know that certain recipes could be generated within their households to cater for individual needs.

When the project came, it only involved pregnant women and those with babies but now anyone willing can join.

What enabled us to start the club was to teach each other the way of life and to move forward and develop our lives because some of us are widows.

That is why we sat together so that we can help each other….so that what I don't know, I will know through this group and also teach others in the group what I know so that we can also develop our small group and be able to help and teach others.

Before the club the sort of life we used to live was challenging, because we were behind on a lot of things.

So when you are in a group you get to learn a lot of things. Not just things of this group but also how we should live in our homes.

For example we the young ones are behind on a lot of things. So when we sit together as a group, the older ones teach us how to live in our homes.

We were making gardens at the roadside in the rainy season and waited for the rain to end that's when we planted the vegetables.

We planted spinach, chibwabwa, bondwe. We were taught that these vegetables are healthy for pregnant women and those who have just given birth.

They taught us how to feed our children even without money. We plant vegetables in our gardens and cook them for our children. So all of us here have learnt and none of us are going hungry anymore because now we know how to grow our own food.

5.2.5. Monetary as well as non-monetary benefits to the beneficiaries

The participants were asked to explain what type of benefits they hard accrued from the time they became members of the group.

All the participants acknowledged that the project had helped them grow a variety of crops and keep small livestock which include village chickens and goats. These enterprises have helped them have access to improved nutrition as well as incomes among their families.

At individual level, one participant described how he is able to raise an average of K200 per day by growing and selling mushrooms, an enterprise he learned through the SUN project and the University of Zambia's School of Agricultural Sciences.

The diversification aspect has also broadened their menu and choices which are cardinal to combating malnutrition. The women members have also learnt on how to prepare different recipes suitable for pregnant mothers as well as children.

Additionally, the Kankunka women group has established a fish pond which will not only provide additional proteins but also income for the group members.

In their words, the women appreciate the various interventions the project has provided:

We were farmers except, we only planted vegetables like rape to sale to Soweto market but this time we have diversified. We now grow chibwabwa (pumpkin leaves), carrots, spinach, bombwe (Amarathus hybridus) and so on to help our children to grow healthy.

Back then even though we planted vegetables, we never used to pay attention to our children because we only grew specific vegetables. If its cabbage then it's just cabbage and if it rape, its rape throughout and nothing else all meant for sale in Lusaka.

If we planted chibwabwa, it was just for growing pumpkins in our fields and not for eating.

But now we plant and grow variety of vegetables. When vegetables like Chibwabwa are out of season, we preserve them by drying them. So that there is enough food for our children even if we do not have fresh foods.

The good part about this farming is that there is no need to buy fertilizer. We just use the common manure we get from our chickens and cattle waste. The vegetables grow well with this manure.

The SUN project also gives us seeds to plant so we don't spend any money at all. So no one can give an excuse that they don't have seeds. They give us seeds for all the vegetables including bondwe, rape and cabbage.

They also gave us chickens and goats so that we don't feed our children on vegetables alone.

If those chickens lay eggs we have to make sure that we give our children at least one egg in a week. And also get milk from the goats because it is healthy for children.

They also taught us how to prepare porridge with vegetables. We did not know that vegetables can be used to prepare porridge for the baby to eat.

> *We also did not know that babies can eat meat. We only used to give the sauce from meat to the children but now we know how to cook the meat very well and pound it then add it to baby porridge.*

The FGD with the two women club members provided an insight into the perceptions, personal feeling about the project, desires and aspirations of the women members. Suffice to say that a few of the members felt betrayed by the project's inability to provide them with additional training on mushroom growing as only one male member has managed to sustain the activity.

5.3. SUN Project Organizational Structure

As earlier indicated in this report, the SUN project is a project within the Ministry of Agriculture under the Department of Agriculture in the Women and Youths Section.
The Chief Food and Nutrition Officer is the Focal Point Person of the project. The officer is assisted by two principal officers who are in charge of food and nutrition activities respectively. As a project within the ministry, all projects in the ministry are a responsibility of the Permanent Secretary as a Controlling Officer for both administration and financial accountability.

The Permanent Secretary is therefore the Chief Administrator of the project but is represented within the system by the Director of Agriculture, who is assisted by the deputy Director of Agriculture- Advisory Services, and the Chief Food and Nutrition Officer and the two principals at the headquarters at Mulungushi house in Lusaka.

At the province, the Provincial Agricultural Coordinator is the overseer of all agricultural projects in the ministry at provincial level and so is the SUN project.

The direct implementing officer at the provincial level is the Provincial Food and Nutrition Officer while at the district is the District Food and Nutrition Officer.
At local level(Camp level), the Block Supervisor is in charge of a Zone while a Camp Officer is the *Frontline Extension Officer* responsible for day to day mobilization, training and carrying out all activities of the Ministry of Agriculture in its totality. The extension officer is the key person in reaching out to the communities.

Within the terms of reference for the SUN project, coordination and implementation of the various programmes is carryout within the structures of the Ministry and in accordance with government procedures and processes.

The implementation structure therefore involves three officers at the National Headquarters, one at provincial and district levels and camp officers at the grassroots level.

5.3.1. Key Findings on the Organizational Structure

Although the SUN project is a five year pilot project (2012-2017 with a possibility of being scaled up to other areas. The project, apart from being implemented in Mumbwa, where this research was conducted is also in 13 other districts of Kalabo, Shangombo, Mongu, Lundazi, Chipata, Chinsali, Kaputa, Mansa, Samfya, Kasama, Zambezi, Mwinilunga and Mbala.

The undersized structure with basically about five specialized personnel undermines the importance of managing nutritional issues in Zambia for the following reasons:

a) Malnutrition is a bigger problem as seen in this report that cannot be left to be managed by only a few members of staff in the Ministry. Although the various departments in the ministry compliments each other in terms of achieving the overall goal of the Ministry of Agriculture, which is to achieve food and nutrition security, issues of nutrition are being managed by a section within the department of agriculture. With such an arrangement, it is means that nutritional issues are not prioritized but merely looked at as "women and youths issues."
b) The SUN Project depends on already overwhelmed Extension Officers to implement activities at local level. The current Extension Officer to farmer ratio is about 1 to 1000- meaning to reach every farmer in a particular community is a challenge and therefore other forms of communication are required. The extension officers are also not specialized in nutritional issues. Therefore, they treat nutrition issues like any other task at hand.
c) Because the project is within and operates within government procedures and processes, implementation of certain activities has not been optimum because of the bureaucratic nature of government.
d) Although the project in the study sites, has managed to mobilize and train women farmers in production of various crops and livestock, utilization and consumption as

well as preservation of these foods, this has mainly been due to already established government structures and personnel who have been motivated by the project's financial and material resources to implement specific interventions on nutrition. Whether this progress and momentum shall be maintained by the ministry after the project phases out or not shall largely depend on availability of resources by government to supervise, retrain and continue motivating beneficiaries.

e) When the project phases out, the resources provided by the project may not be available and therefore sustainability of the nutrition interventions will greatly be affected unless certain measures are put in place to facilitate sustainability of the impact of the interventions achieved so far.

f) The personnel have also been retrained and linked through various networks to other organizations, private and public, local and international that are also working towards reducing malnutrition in Zambia and elsewhere.

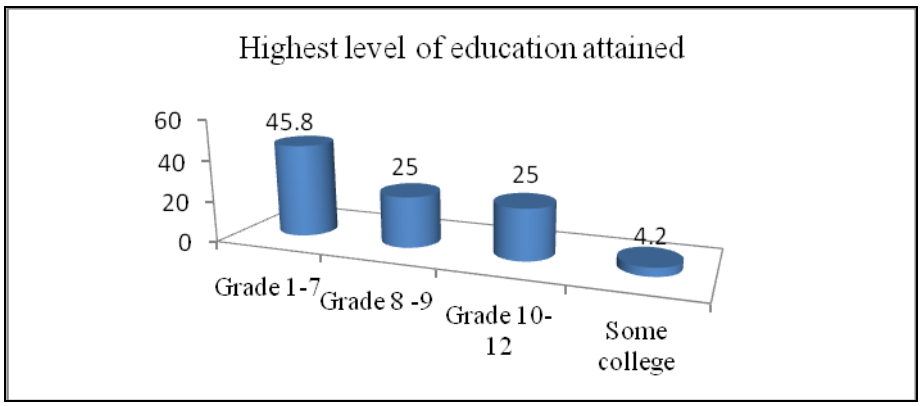
5.4. Data Analysis and Findings from Administered Questionnaires for Women Group Members

This section is a presentation of the data that was collected from the women groups of Manengo and Kankunka in Mumbwa district using questionnaires (See appendix I). The data was analysed using the SPSS and converted into excel. The total number of questionnaires administered consisted of 22 women and one male totaling 23.

5.4.1. Demographic Characteristics of the Sample

5.4.2. Respondents' Levels of Education Attained

Figure 3: Highest level of education attained

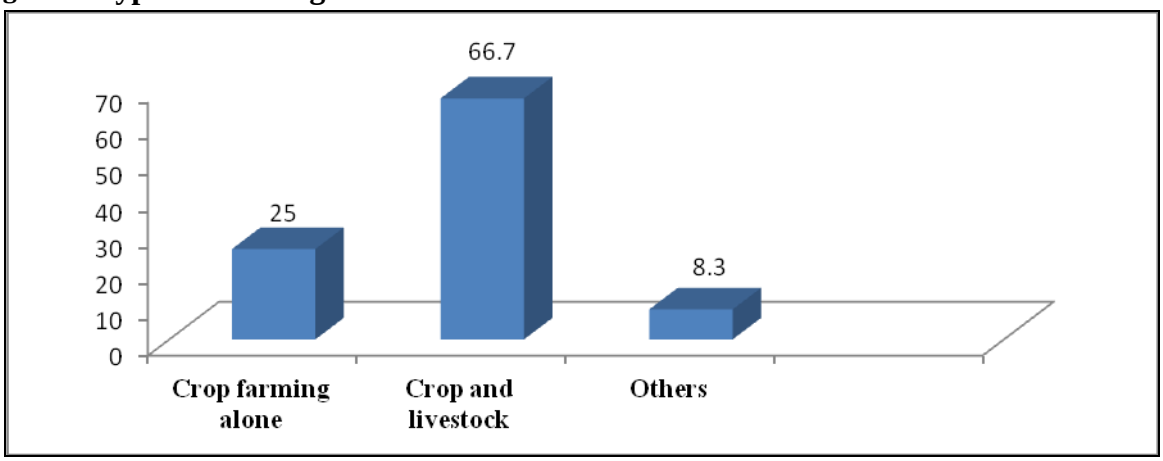


Source: Field study, February 2017

The study shows that 45.8 percent of the women under the SUN projects have only attained grade 1-7 while those who reached grade 9 is 25 percent. Only 4.2 percent may have reached some college education. This shows that education plays an important role in quickening adaptation to technology.

5.4.3. The Type of Farming Respondents are you Engaged in

Figure 4: Type of Farming

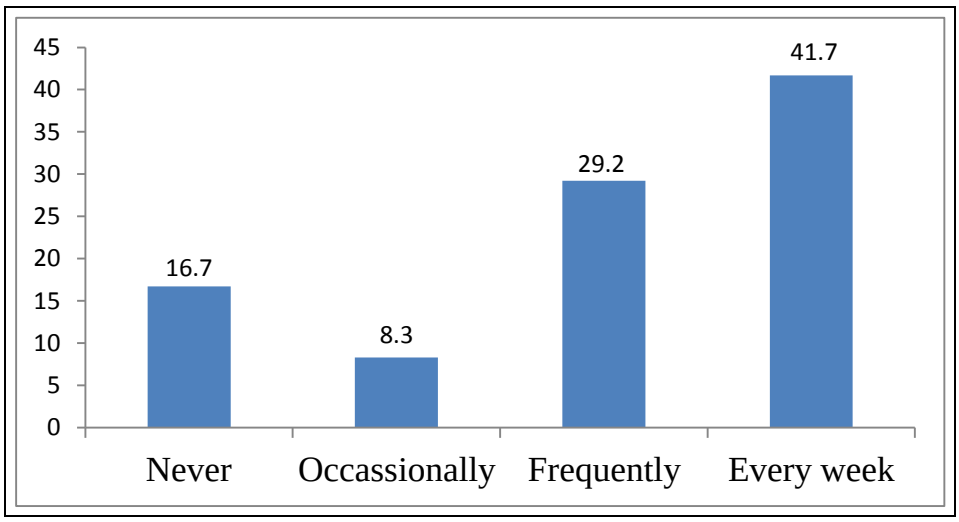


Source: Field data February 2017

In the above table, respondents were asked on what type of farming they were engaged in. 66.7 percent of the respondents are engaged in both livestock and crop production while 25 percent grow crops only. Only two are involved in other forms of agriculture. The researcher was interested in knowing how a diversified approach to farming could be a pre-requirement to good nutrition.

5.4.4. Frequency of Attending Club Meetings

Figure 5: Attending Club Meetings



Source: Field data, February 2017

From the above table, the respondents were asked on how often they attended club meetings. 41.7 percent of the respondents indicated that they attend club meetings on a weekly basis while 29.2 percent indicated that the frequently attend club meetings. Four of the respondents indicated that they never attended club meetings while two occasionally did so.

5.4.5. Chairing of Club Meetings

Table 1: Chairing of Club Meetings

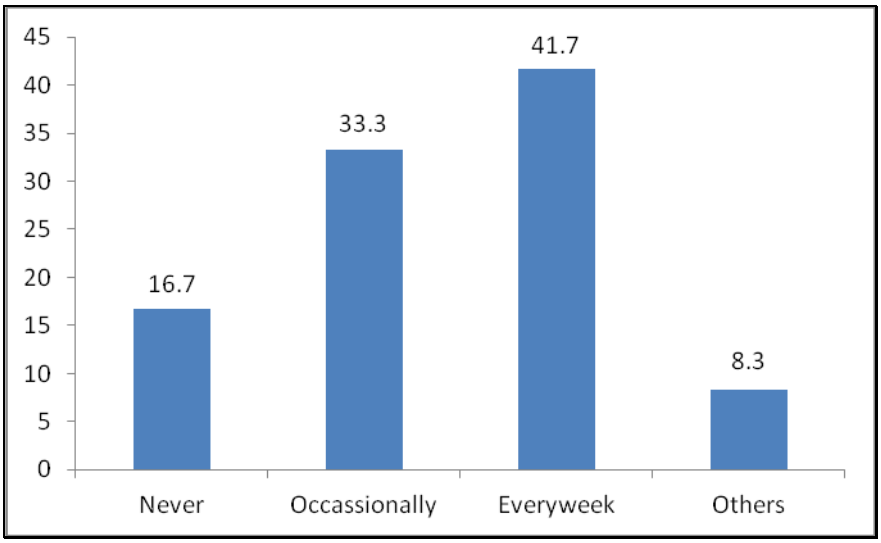
Who chairs the club meetings?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Club Chairperson	21	87.5	87.5	87.5
	Local Extension officer	3	12.5	12.5	100.0
	Total	24	100.0	100.0	

Source: Field data February 2017

The In the above table, the respondents were asked on who chaired the club meetings. 87.5 percent respondents indicated that club meetings were chaired by the club chairpersons while three (12.5) indicated that the local extension officer chaired the club meetings. This was important to the researcher as it demonstrated the women's club to adhering to governance structures as well as sustaining the operations of the clubs even in the absence of the local extension worker.

5.4.6. Availability of Extension Officer in Attending Club Meetings

Figure 6: Extension Officer in Attending Club Meetings

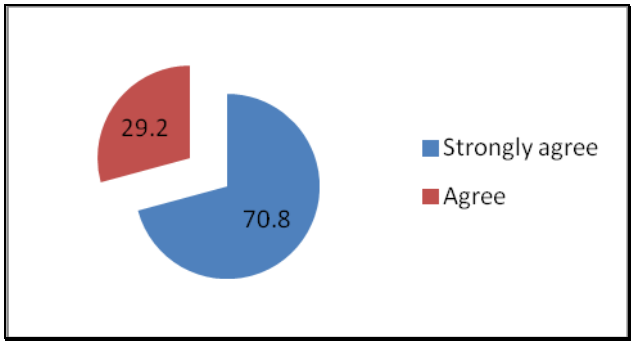


Source: Field data February 2017

In the figure above, 41.7 percent of the respondents confirmed that the extension officer attended club meetings weekly while 33.3 percent said he attends the meetings occasionally. Only 16.7 percent said the Extension worker did not attend meetings. Here, the researcher wanted to know the involvement of the Extension worker on club activities because this provides an opportunity for club members to ask questions as well as get feedback on issues that do not only affect them as individuals or club members but also as family and community members.

5.4.7. Respondents' Appreciation of Nutrition Lessons

Figure 7: **Appreciation of Nutrition Lessons**



Source: Field data February 2017

In the above figure, 70.8 percent of the respondents strongly agreed that they enjoyed the lessons on nutrition offered by the Ministry of Agriculture or the project. It was interesting to note that even the 29.2 other members also agree that they enjoyed the lessons offered by the project.

5.4.8. Respondents Knowledge of the Sun Project

Table 2: Knowledge of the Sun Project

NUMBER OF RESPONDENTS	FUNCTIONS OF THE SUN PROJECT ACCORDING TO THE RESPONDENTS	PERCENTAGE
13	Fight against malnutrition	**54.16%**
1	Helps women deliver healthy children	**4.16%**
3	Improving nutrition to children under 2 years	**12.5%**
1	It teaches us on how to store and preserve food	**4.16%**
4	Scaling up nutrition for pregnant mothers and children	**16.66%**
2	Sensitization on nutrition in our communities to finish malnutrition	**8.36%**

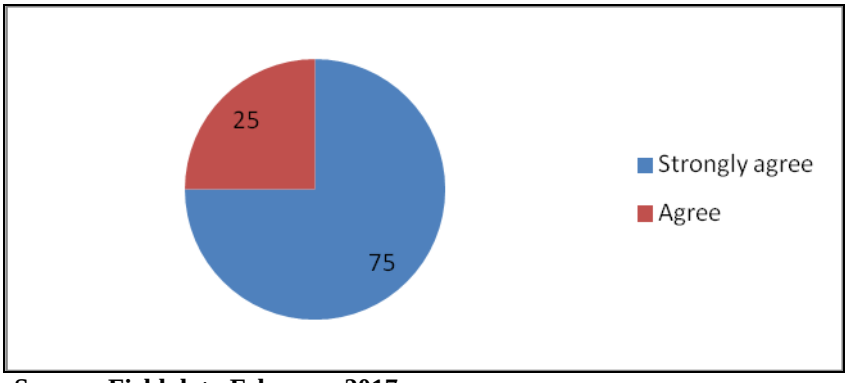
Source: Field data February 2017

In the above table, 54.16% of the respondents said the SUN project's main function was to fight against malnutrition while 16.66 % indicated that the project was all about scaling up nutrition activities for pregnant mothers and children. 12.5 percent indicated that the project function was to improve nutrition for children less than two years. 8.36 percent indicated that the project's functions were to sensitise the communities on how they can end malnutrition. Only 4.16 percent indicated that the project's function was to help women deliver healthy children.

The researcher was interested in knowing how the respondents understand the primary functions of the project.

5.4.9. Application of Lessons Learnt About Cooking/Preserving Food in their Daily Lives

Figure 8: Lessons Learnt About Cooking/Preserving Food



Source: Field data February 2017

In the chart above 75 percent of all the group members strongly agree that they apply lessons learnt about cooking or preserving food in the daily life. 25 percent of the members only agree. The researcher wanted to find out whether the lessons that the project teaches the club members have an impact and are applicable to their daily lives

5.4.10. Eating a Variety of Foods is good for Your Body

Table 3: Eating a Variety of Foods is good for Your Body

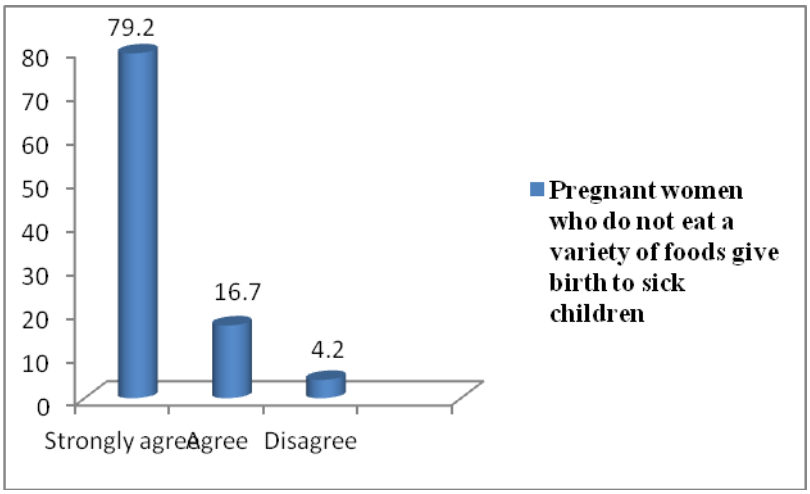
Eating a variety of foods is good for your body					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	19	79.2	79.2	79.2
	Agree	5	20.8	20.8	100.0
	Total	24	100.0	100.0	

Source: Field data February 2017

From the above table, 79.2 percent of the women strongly agree that eating a variety of foods is good for the body while 20 percent simply agree. The researcher wanted to find out from the respondents perception levels of diversification and consumption of various foods.

5.4.11. Women who do not eat a Variety of Foods give Birth to Sick Children

Figure 9: Not eating a Variety of Foods



Source: Field data February 2017

In the above table and figure, 79.2% of the respondents strongly agree that women who do not eat a variety of foods give birth to sick children. Only 16.7 agree and 4.2 disagree that women who do not eat a variety of foods give birth to sick children.

5.4.12. Witchcraft is the Major Cause of Child Mortality in your Area

Table 4: Major Cause of Child Mortality

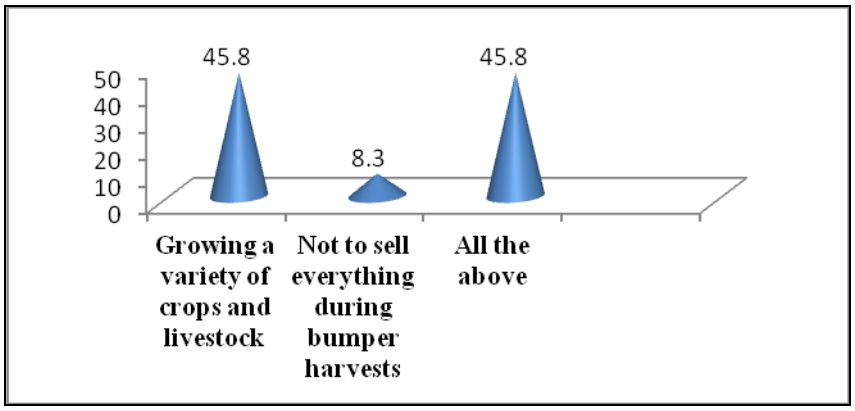
Witchcraft is the major cause of child mortality in your area					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	3	12.5	12.5	12.5
	Disagree	10	41.7	41.7	54.2
	Strongly disagree	11	45.8	45.8	100.0
	Total	24	100.0	100.0	

Source: Field data February 2017

In the above table 45.8% of the respondents strongly disagreed and 41.7% disagreed that witchcraft was the major cause of child mortality in their areas. However, 12.5percent of the respondents agreed that witchcraft was the major cause of child mortality in their areas. This statistic was important to understand how deep rooted traditional beliefs and culture were still an important factor in changing attitudes and perceptions.

5.4.13. Activities Considered Important to Attaining good Nutrition

Figure 10: Activities Considered Important to attaining good Nutrition

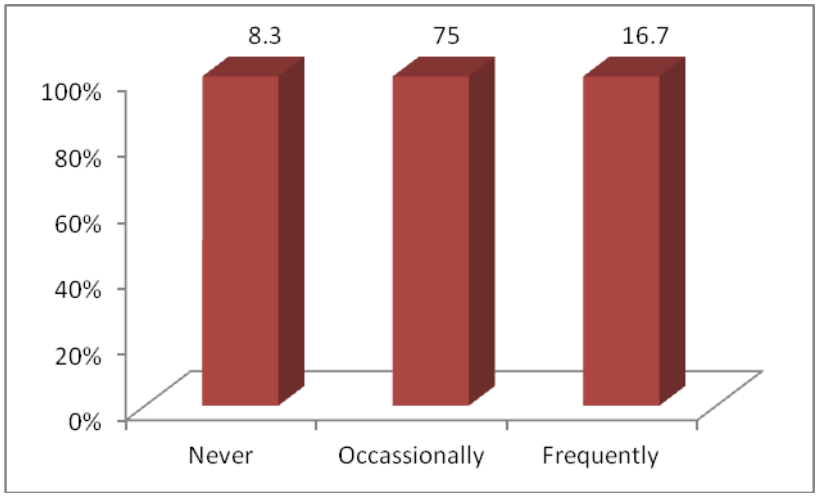


Source: Field data February 2017

In the above Figure 10, all respondents confirm that growing a variety of crops and livestock and not selling everything during bumper harvests are important to attaining good nutrition.

5.4.14. How much the Respondents use Publications, Radio and TV Programmes from the Ministry of Agriculture

Figure 11: Use of Publications, Radio and TV Programmes

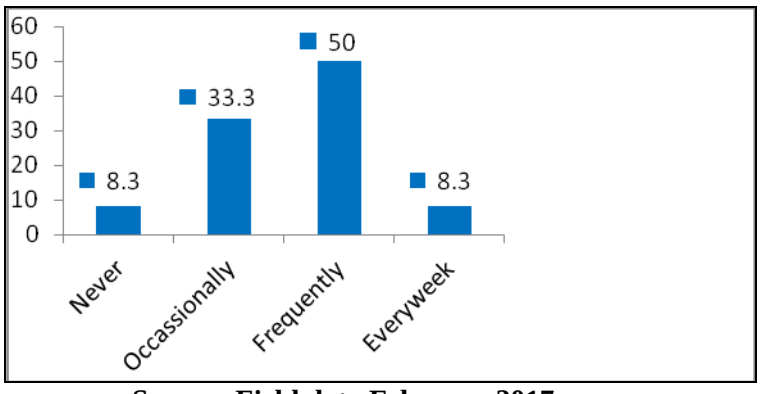


Source: Field data February 2017

In the above figure, 75 percent of the respondents said the occasionally use publications produced by the ministry while 16.7 said they frequently us the publication. 8.3 percent of the respondents however, said they never use the publications.

5.4.15. How often Respondents Share Information on Nutrition with other Members

Figure 12: Share of Information on Nutrition

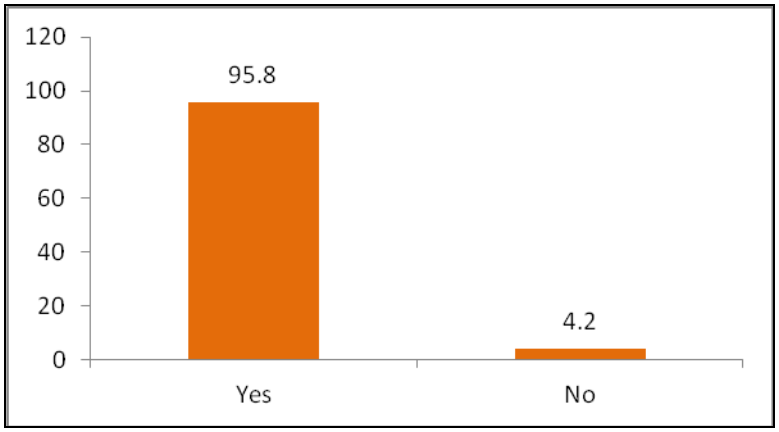


Source: Field data February 2017

In the figure 12, 50 % of the respondents said the frequently share information with other club members and 33.3 percent said they occasionally share information with others. 8.3 percent said they share information on a weekly basis while another 8.3 percent said they do not share information at all.

5.4.16. Respondents' Awareness on Malnutrition

Figure 13: Awareness on Malnutrition

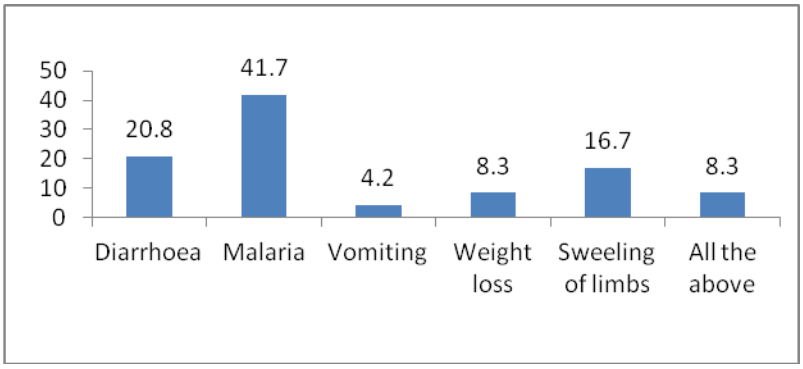


Source: Field data February 2017

In figure above, 95.8 percent of the respondents said they are aware of malnutrition. Only 4.2 percent of the respondents said they did not know much about malnutrition.

5.4.17. Common Illnesses that the Ministry of Health Personnel talk about in the Area

Figure 14: Health Personnel talk



Source: Field data February 2017

In the above figure, 41.7 percent of the respondents said the most common disease talked about in the area is malaria while 20.8 % said it was diarrhoea. 16.7 percent said it was swellings. Weight loss and other illness recorded 8.3 while 4.2 percent of the respondents said vomiting was the major health challenge.

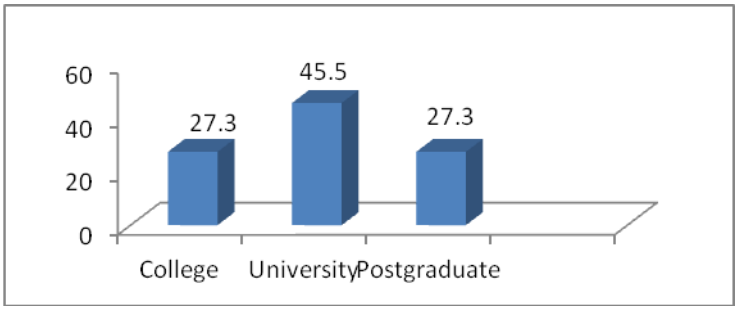
5.5. Data Analysis and Findings from Administered Questionnaires for Journalists at NAIS

This part of the analysis is a presentation of the data that was collected from journalists working for the NAIS in Lusaka. The objective of this particular data collection was to ascertain the capacity of the SUN Project to effectively communicate nutritional issues to the project beneficiaries. NAIS is mandated and responsible for dissemination of information in the Ministry of Agriculture to the public.

The data was analysed using the SPSS and converted into excel in order to get the desired tables and charts. The total number of questionnaires administered was 13. However, two journalists decline to participate in the survey.

5.5.1. The Respondent's Highest Level of Education Attained

Figure 15: Highest Level of Education Attained



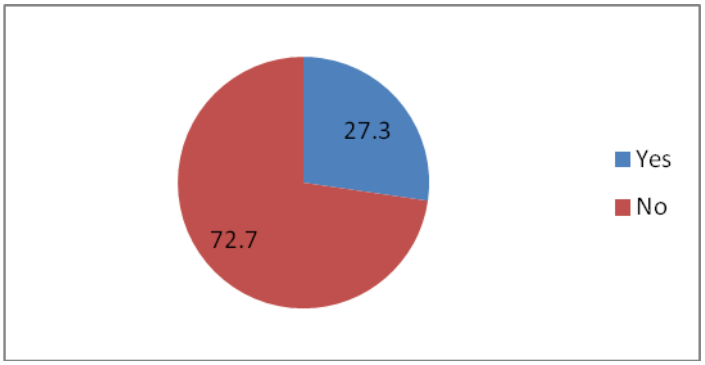
Source: Field data February 2017

In the above figure, 45.4 percent of the respondents said they had attained some university education and an additional 27.3 percent said they had reached postgraduate level. The other 27.3 percent of the respondents said they had attained some college education.

The is an important factor in determining the capacity of NAIS in professionally handling nutrtional issues in the project.

5.5.2. What the Respondents Think About the Performance of the Sun Project

Figure 16: Performance of the Sun Project

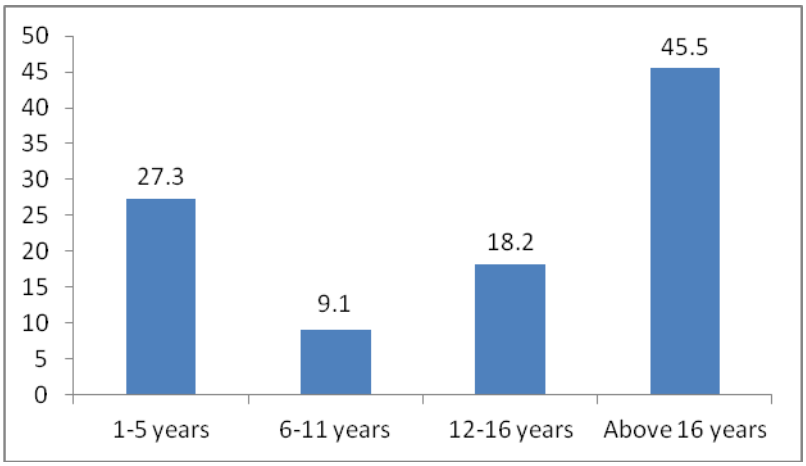


Source: Field data February 2017

In the above figure, 72.7 percent of the respondents thought the project had not performed well while 27.3 thought the project had performed well in relation to implementation of the communication strategy.

5.5.3. Number of Years the Respondent has worked with NAIS

Figure 17: Respondent worked with NAIS

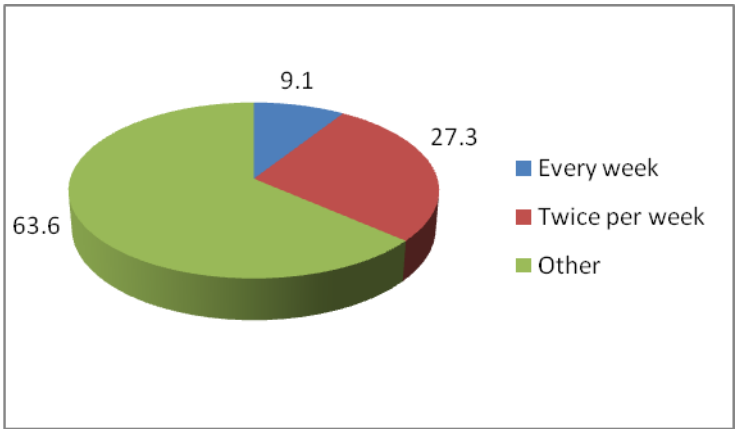


Source: Field data February 2017

In the above figure, 45.5 percent of the respondents said they had worked for NAIS for over 16 years while 18.2 percent of the respondents said they had worked for NAIS between 12 and 16 years. 27.3 percent of the respondents indicated that they had worked for NAIS between a year and five while the 9.1 percent said they had worked for NAIS for a period ranging from 6 to 11 years. From the above, we can also deduce that most of the employees at NAIS have the necessary experience to disseminate agricultural information to the public.

5.5.4. Frequency of the Respondents in Disseminating Information on Nutrition

Figure 18: Disseminating Information on Nutrition

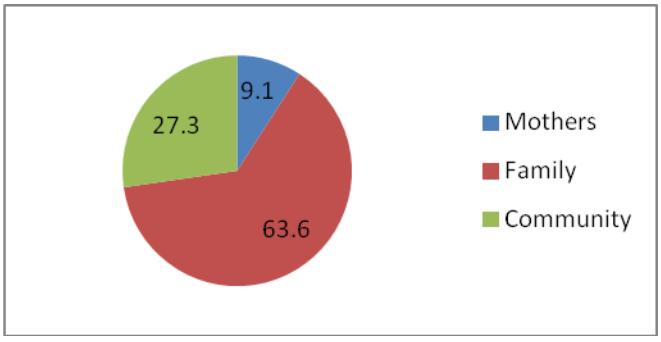


Source: Field data February 2017

In the above chart, only 9.1 percent of the respondents said the disseminate information on nutrition on a weekly basis while 27.3 percent said the disseminate information twice per week. The majority 63.6 percent do not know or cannot remember when they last disseminated information on nutrition. This means that majority of the NAIS journalists rarely disseminate information on nutrition to the public.

5.5.5. The Respondent's Target when Disseminating Information on Nutrition

Figure 19: Target when Disseminating Information on Nutrition

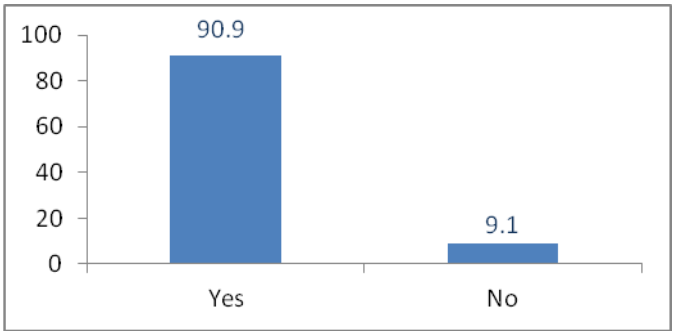


Source: Field data February 2017

In the above chart, the respondents were asked to indicate who they target when disseminating nutrition sensitive information to the public. 63.6 percent of the respondents said they targeted the family while 27.3 percent said they targeted the community. 9.1 percent of the respondents said the targeted the mothers. Malnutrition is a complex condition that should encompass everyone in the family.

5.5.6. Respondent's Knowledge about the Sun Project

Figure 20: Knowledge about the Sun Project

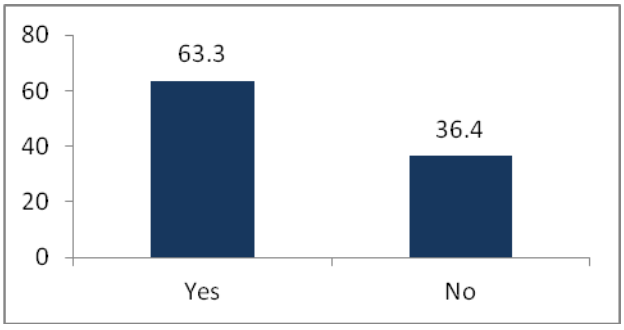


Source: Field data February 2017

In the above figure, the respondents were asked on whether they were aware of the SUN project or not. 90.9 percent of the respondents said they were aware of the project and 9.1 percent of the respondents said they were not aware of the project. Knowledge of the project was an important factor in determining how the respondent could influence information dissemination from an informed point of view.

5.5.7. Whether the Respondents have been Involved in the Sun Communication Programming and Message Development or not

Figure 21: Sun Communication Programming and Message Development

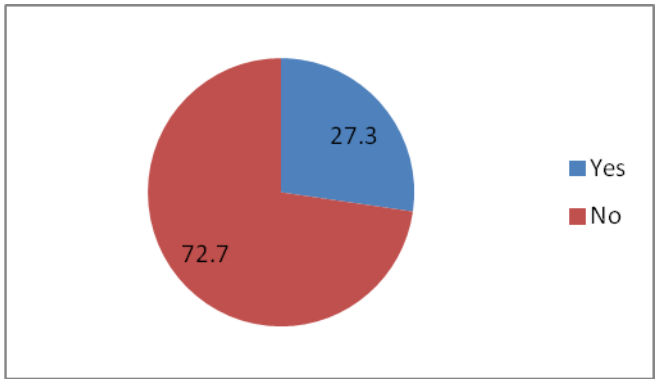


Source: Field data February 2017

In the above table, the respondents were asked whether they have been involved in the project communication programming and message development or not. 63.3 percent of the respondents said they were involved in the project communication programming and message development while 36.7 indicated that they were not involved.

5.5.8. Do the Respondents think the Project is doing enough to Address Nutritional Issues in Targeted Areas

Figure 22: Address Nutritional Issues in Targeted Areas

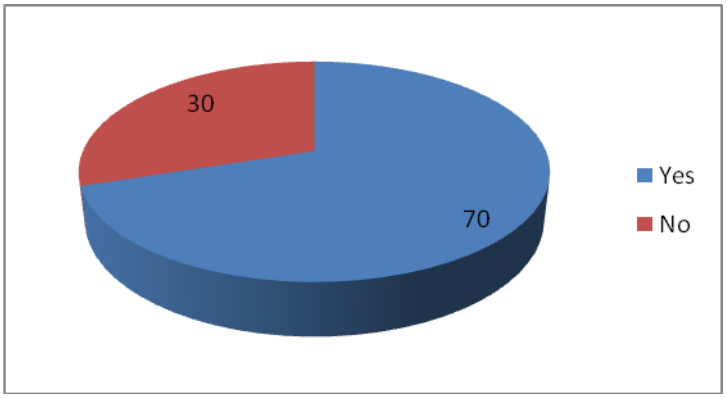


Source: Field data February 2017

In the above figure, the respondents were asked whether the project was doing enough to address nutritional issues in targeted areas or not. 27.3 percent of the respondents said yes while majority 72.7 percent of the respondents said no. This is against the background that most of the respondents were involved in the communication programming and message development, a factor which should have triggered the respondents to effectively reach out to the project beneficiaries via the media platform they have at NAIS.

5.5.9. Whether the Respondents' are Aware that only 4 Percent of Media Coverage is dedicated to Agricultural Issues in Zambia

Figure 23: Coverage on Agricultural Issues in Zambia



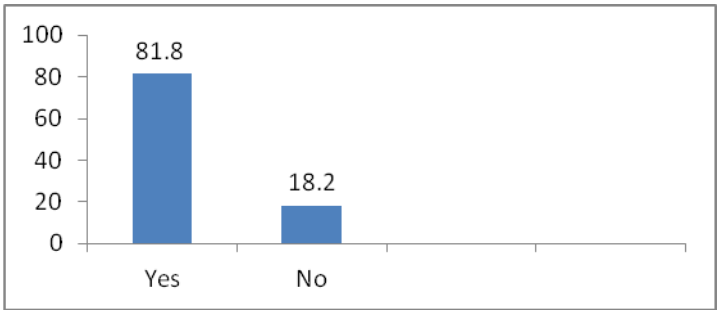
Source: Field data February 2017

In the above chart, the respondents were asked whether they were aware that only 4 percent of media coverage is dedicated to agricultural issues in Zambia or not. 70 percent of the respondents said they were aware while 30 percent of the respondents said they were not

aware of the statistic. This was an important statistic because the journalists are the ones that can change the situation for the better. Nutrition-sensitive agriculture is an area that needs support from journalists if the situation is to be contained.

5.5.10. Whether the Respondents are Aware that almost 46 Percent of Children below the Age of Five in Zambia are undernourished.

Figure 24: Children below the Age of five undernourished.

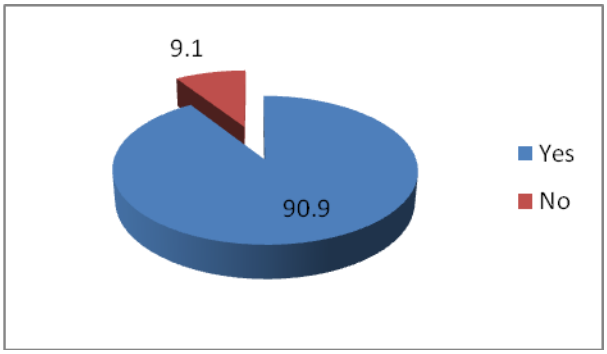


Source: Field data February 2017

In the above table, the respondents were asked whether they were aware that almost 46 percent of children below the age of five in Zambia were undernourished. 81.8 percent of the respondents said they were aware of the situation while 18.2 percent said they were not aware that 46 percent of children below the age of five in Zambia are undernourished

5.5.11. Whether the Respondents think NAIS has the Institutional Capacity to Disseminate Information on Nutritive Sensitive Agriculture

Figure 25: Information on Nutritive Sensitive Agriculture



Source: Field data February 2017

In the above chart, the respondents were asked whether NAIS has the institutional capacity to disseminate information on nutritive sensitive agriculture or not. 90.9 percent of the respondents said yes while 9.1 percent said NAIS did not have the institutional capacity to disseminate information on nutritive sensitive agriculture.

5.6. In-depth Interviews

In-depth interviews were conducted with four stakeholders in the project. These included the Project Coordination unit comprising of three members of staff and the two camp extension workers. In-depth interviews attempted to answer the following concerns.

i). Communication between the project and the beneficiaries

ii).Institutional setbacks in terms of staffing and project implementation

iii). Feedback mechanisms

The interviews revealed that the project uses a two –way communication format to reach out to the project beneficiaries through the established government structure. The structure involves the extension worker as the link between the project beneficiary and the project at grassroots level. The message is the forwarded to the Block supervisor through monthly and other reports. The Block supervisor consolidates all the reports from the camps and forwards it to the subject matter specialist at district level. Where the district has a Nutrition Officer, the information is sent to the province. At the provincial level, the information is sent to the Ministerial headquarters which is the apex decision making organ.

Once a decision on a particular issue has been made the process returns using the top-down format until it reaches the project beneficiaries.

As a result of this bureaucratic structure and inadequate staffing levels both in terms of experts as well as the number of extension workers, feedback from the project beneficiaries and project implementers is often delayed.

The project beneficiaries do not have an alternative platform in which they can air their views in terms of the project participation and performance, a gap which could have easily been narrowed had NAIS been proactive in implementing the communication strategy.

Participation of the project beneficiaries in identifying problems and seeking solutions is an important aspect of control and sustainability of the project activities in the long-run.

CHAPTER 6: DISCUSSION OF THE FINDINGS

6.1. Discussions and findings

This Chapter discusses the key findings from the data that was collected and analysed. It also gives a reflection of this student's experiences whilst on attachment to the project. After finding, a recommendation is proposed to ensure that the findings and the recommendations, if any, blend appropriately.

The practical attachment to the SUN project provided challenges and opportunities. There were challenges offered to deal with problems in the organizational structure of the project. There were also opportunities to blend theory with practice in various aspects regarding nutrition communication.

Contributing to the problem-solving process is one of the main challenges and opportunities accorded to students on attachment. They are not regarded as *empty vessels that need to be filled with knowledge* but as people who have contributions to make towards finding solutions to organizational and/or community problems based on their academic and personal experiences.

The student tackled particular problems that they have been assigned to deal with. They may also observe and experience certain problems and shortcomings in the organization and/or community. When such a thing happens, students undertake the challenges as part of the requirements of the practical attachment and take appropriate action.

Practical attachment is not only about problem-solving. The student also contributes towards developing the capacity of the organization, to deal with the activities for which it was established. They also evaluate the organizational programmes against the aims and set objectives; and recommend courses of action to deal with the deviations.

During this attachment, the following were the specific roles played by the attaché in contributing to the process of problem-solving and in the development of the organization of attachment:

a) Kankunka women's club was worried of excessive rain which would have over flooded their fish pond thereby leading to a loss of their fingerings. The student

helped the women group by informing the Department of Fisheries and Livestock to take appropriate measures to save the pond which they did.

b) Discussing and offering suggestions to the SUN project on how to deal with administrative and operational problems. These were during consultations with individual members of staff.

c) Carrying out specific assignments aimed at resolving particular problems. This was done in order to seek independent and expert advice from the attaché.

d) Handling cases and requests made by people and organizations concerning nutrition issues. The attaché was able to provide advice and/or carry out an assessment to determine what type of help such as receiving extra seed especially for new young mothers who have just joined the clubs.

e) Making suggestions and recommendations on how to promote a sustainable communication system that fosters effective dialogue and participation. This contribution was significant in that the student was dealing with long-term concerns that would promote participatory communication.

6.2. An Analysis of the Sun Project Communication System- Theory and Practice

The period 1970-1980 was characterized in the field of development as a search for another development model. This was an effort to move from the old paradigm of the North-South trickle- effect, where development was associated with modernity which had taken place in the North and had to trickle down to countries of the South.

In the same vein communication was shaped on the ideals and principles of the North. Communication was viewed as having principles which could be universally applied. The North did not take into account the developments taking place in the South in field of communication.

Communication channels like the use of drums, songs, dances and folktales were sneered at and were regarded as backward. Missionaries, for example, did not allow the use of drums in churches. Drums were associated with African spiritualism. They were regarded as channels used to communicate with ancestors and *ancestral spirits.*

A search for another communication was also inevitable. It was a search for meaning and appropriateness in communication. This is a dynamic and continuous process being applied in communication for development. During the attachment, the search for appropriate communication was central. This was cardinal because the effectiveness of nutritional sensitive agricultural messages depends on meaningful communication. Any flaws in communication would perpetrate already high levels of stunting among children.

Discussions with project stakeholders were held aimed at developing an effective communication process. The attaché regarded the search for an appropriate communication as a major contribution. In a bid to find an effective communication system, the attaché suggested the appointment of a full-time Communication Officer considering the need to continuously implement the communication strategy which has not fully been executed by NAIS as can been seen from study that most of the journalists felt that they were not fully involved in the project.

This move would ensure participation and remove inertia that tends to characterize government ministries which responds to queries bureaucratically. This would also improve networking between the project and key players in management of agriculture and nutritional issues.

Mezzana (1996:183) in his article *Grass-roots Communication in West Africa* discusses three themes necessary for grass-roots communication.

a) Today's societies have a number of communication linkages.

b) Social networks with the grass-roots are considered a powerful force for communication.

c) Grass-roots communication linkages are invisible and are more wide-spread than is often thought.

In the above themes, Mezzana recognizes the need to take into account various communication systems. He intentionally considers the importance of grass-roots communication because these are culturally designed.

The SUN project is being advised, in this report, to consider developing very close ties with the project beneficiaries not just through the government structures. Mass media has the ability to communicate with the grass-roots directly and obtain feedback instantly. These communities have communication linkages which have been developed over a period of time

and have been used to communicate within the community and with the external environment. The use and development of such linkages is one way of ensuring appropriateness in communication.

Broad-based consultation is yet another important aspect towards an effective communication process. Consultation should not be done on an ad-hoc basis; they should be part of the whole process of dealing with nutrition communication. Consultation should not only be at super-scale level between the project managers, provincial and district coordinators, it should include the vulnerable as well. The communication process that ignores them will not lead to an effective communication.

6.3. Communication and Information flow between the Ministry of Agriculture and the Farmers

Information gathering and dissemination was noted as a problem experienced by the SUN project. As an input in trying to solve this problem, the project was advised to establish a desk to be responsible for research. Relevant data needed to be gathered, processed and disseminated so that the operations of the project are based on researched data. In this regard a recommendation is being made in this report to have a Monitoring and Evaluation officer who should work closely with the communication officer.

Gathering information through research is not an end in itself. It must be relevant to the developmental needs of society. The information must also be disseminated to the right audiences, in the right form, at the right time and using appropriate channels. This important and central role of the SUN project has not been seriously attended to. Like indicated earlier, there is no officer responsible for communication. The project needs a communications expert who should be able to design messages, produce communication products, develop and use appropriate communication channels including grass-roots communication.

The SUN project depends on NAIS in executing its communication strategy but this has not been very effective. NAIS, revealed in this study, as is well positioned to communicate nutrition sensitive messages to the beneficiaries. This is evidenced in this study where majority of the journalists have either attained a degree or postgraduate degree with an average of 10 years working experience as journalists but they feel they have not been fully engaged by the project and that NAIS has its own shortcomings.

Some of these challenges include:

a) Limited funding from the national treasury. NAIS is unable to research, gather, process and disseminate nutritional sensitive agricultural messages due to *perceived* lack of funding.

b) Like all departments in Ministry of Agriculture, NAIS has not fully embraced the nutritional programmes and as such issues related to nutrition are not appropriately ranked but merely treated as women and youths activities.

c) A critical examination of NAIS broadcast schedule and actual programmes revealed that almost all the local languages did not broadcast any nutrition progammes in the last two months. This is also confirmed by NAIS journalists who indicated in the study that they could not remember when they last broadcast a programme related to nutrition. It is therefore a fact that nutritional issues are not mainstreamed into day to day programming of NAIS. Additionally, most of the personnel journalists at NAIS do not adequately produce programs on nutrition nor do they report the issue in depth. This makes them treat nutritional issues as a by-the-way subject in their programme despite its severity.

d) The nutritional section in the Ministry of Agriculture is not considered as a vital component in improving livelihoods of the people as concentration of the ministry's activities are concentrated on food production and not processing, preservation and above all consumption.

e) There is no deliberate communication policy that facilitates the various departments including NAIS to take appropriate measures to encourage consumption of balanced dietary foods.

As a result of this, communication about nutrition sensitive agriculture outside the project jurisdiction is limited. In order to help reduce malnutrition levels, information provision is important. The failure in managing malnutrition can be attributed to flaws in communication flow.

Communication for development is an integral part of any well-meant development programme. It is one way of making sure that the information the rural communities receive is relevant to their development needs.

Information on agriculture and nutrition should be well researched, gathered, processed, stored and disseminated appropriately. These important aspects in communication need to be assigned to specific offices within the Ministry of Agriculture's nutrition section.

These recommendations are important issues which if taken into account would improve the information flow within and outside the Ministry of Agriculture. The Ministry of Agriculture should be the major custodian of information on nutrition in Zambia.

6.4. Nutrition-Sensitive Agriculture Messages Disseminated to the Women Clubs

According to Moldy (1991), the use of multi-media and multi-media presentations spells better chances of the messages being received and understood. Very few messages will impact targeted audiences if only a single channel carries them.

The media are an important resource for managing situations. They can be used to disseminate information according to the prevailing situations. For example, when there is a problem, people turn to mass media for information.

The SUN project, deals with a cross-section of the Zambian society. Therefore, no single medium can be said to be appropriate to cover every situation. A multi-media approach is necessary for the SUN project to effectively reach the intended audiences. The project is being implored to use a multimedia approach. This should involve the use of radio, television, newspapers and other printables in addition to the already existing farmer-extension methods, this approach can be very effective when communicating to uncertain and diverse audiences.

For example, farmers can be informed of inadequate rainfall in a particular season and be advised to plant early maturing or drought tolerant crops. They can also be informed and educated to domesticate small livestock like goats and chickens to cope up with the would-be hunger situation.

Using mass media to promote good nutrition and reduce vulnerability to malnutrition is inevitable but not all people may own radios or have access to newspapers. The project should therefore diversify and open up to different communications channels including traditional ones.

While appreciating other mass media and what it can do, it is important to appreciate that traditional communication channels are equally wide-spread, understood and

acknowledged by local people. They have been tested and used for centuries and the local people consider them as vital to their communication process.

The SUN project therefore, needs to document the rich wisdom available within the local people if their interventions are to be appreciated beyond the pilot project. There is need to fuse between old and new methods of sending and receiving messages. The use of traditional media such as drums, songs and dance warn people of some dangers of certain diseases like HIV and AIDS and music though through hidden meanings, provide a platform for information sharing. These channels of communication being used by the local people are being emphasized by this student in order to help the project consider various options available at their disposal to reach out to everyone.

Another important type of communication that needs to be consolidated and promoted in the promotional of good nutrition is interpersonal communication. This is centered on personal contacts between the extension workers and the women club members and communication within the group members. Interpersonal communication is very effective when dealing with people who are unable to change their attitudes within the shortest possible time (laggards).

Interpersonal communication would bring confidence in such people. Solutions to problems caused by poor nutrition are best achieved from within. The SUN project needs to use its communication linkages to reach such communities which have resigned themselves to the fate. Communities should be helped to develop confidence in them.

This student recommends the introduction of a newsletter on communicating nutrition sensitive agricultural messages not only to the group members but also those that may want information outside the project implementation areas. This newsletter, where possible should be translated into local languages so that a cross section of the Zambia society can understand broadly issues of nutrition.

Information, Education and Communications (IEC) materials are considered vital instruments to reaching out to the project beneficiaries. These include modules of what methodologies and messages the extension officers are supposed to teach the project beneficiaries. These materials are also supposed to be translated into various local languages but unfortunately, a number of IEC materials are yet to be printed and distributed to the farming community.

Most of them, except the recipe book, which is being used for cooking demonstrations, are yet to be finalized.

This attaché feels that most of the time is lost in consensus building on content that would be suitable to tackle the problem of malnutrition. Involvement of too many stakeholders in decision making who may have some knowledge in issues of nutrition but limited in communication skills was seen by the student as a setback because the project has been in existence for the last four years and no publications have been distributed to the targeted audience.

6.5. Feedback Mechanisms the Women Clubs Provide to the Sun Project

As pointed out earlier, the project's feedback mechanism is too bureaucratic and does not enhance and encourage community participation.

Community participation according to Oakley and Marseden (1987) is a 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.

In the context of development, community participation refers to an active process whereby beneficiaries influence the direction and execution of development. The foundation of community –based development initiatives is the active involvement of members of a defined community in at least some aspects of project design and implementation (Mansuri & Rao, 2004).

The community development approach highlights self-help, the democratic process, and local leadership in community revitalization. Most community development work involves the participation of the communities or beneficiaries involved (Smith, 1998). Thus, community participation is an important component of community development and reflects a grass root or bottom-up approach to problem solving. In social work, community participation refers to the active voluntary engagement of individuals and groups to change difficult conditions and to influence policies and programs that affect the quality of their lives or the lives of others (Gamble & Weil, 1995).

Although there is interaction among members of the nutrition clubs as evidenced by their responses on information sharing, there is little interaction with other non-club members.

This attaché was concerned about the decision making processes at the two women's clubs. Most of the activities that have been embraced by the group members are those that the project has designed. There is very little innovation and dynamism that the women have brought in the project.

Without the SUN Project, they argue that they could not have achieved what they have attained so far despite a wealth of both traditional and other knowledge that they have in combating malnutrition. This rich traditional knowledge has not been shared with the project in order to enhance diversity in the manner in which nutritional issues can be handled.

The support in terms of training and inputs provision should have spurred the group members to add to what they already know and to better their families. Sustainability of the project activities will largely depend on how the beneficiaries through active participation use the lesson learnt in the project to enhance their livelihoods.

As Harrison (1995), points out through citizen participation, a broad cross-section of the community is encouraged to identify and articulate their own goals, design their own method of change, and pool their resources in the problem solving process.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

7.1. Conclusions and recommendations

It cannot be disputed that the SUN Project has achieved some major landscapes in helping reduce malnutrition among children and pregnant mothers among the Kankunka and Manengo women's clubs in Mumbwa district of Central province by offering strong extension services and providing basic seed and livestock products that are cardinal to the fight against malnutrition.

Both positive and negative results have been witnessed and recorded in the delivery of extension or communication messages to the project beneficiaries.

One of the most important responsibilities of the SUN Project is to influence change and help communities build positive attitudes towards nutritional issues particularly among children and lactating mothers.

In this study, this student wanted to examine the opportunities and challenges faced by the SUN Project in communicating nutrition-sensitive agricultural messages to the public.

The study showed that the project used a single Extension officer-farmer (interpersonal communication) mode of communication despite having a well-defined communication strategy that calls for a multi-media approach. The study further revealed that the project did not fully engage the NAIS in reaching out to the public despite NAIS having the institutional and technical capacity as well as the experience and expertise to disseminate nutrition-sensitive agricultural messages to the public.

The impact of the project interventions could have been widely shared not just in the project implementation areas but also in other areas outside the project areas because of the ability of mass media to reach a wider audience.

Increased knowledge about nutrition would empower people and widen participation consequently bringing in the paradigm shift in the approach of development from top-down to bottom up and horizontal (participatory communication).

The study also revealed that for the SUN project to be effective with regards to information dissemination, a new approach must be developed with primarily re-engaging NAIS or employing a full time Communications Officer to deal with day to day communications needs of the project. This new approach would help the project renew its mandate and engage the public, using lessons learnt in the project area so far to spur the necessary change in

people's attitudes regarding issues of nutrition. Since the project in being piloted in 14 districts across the country, the use of mass media would help the project establish itself well once it is up-scaled to other areas.

Below are some recommendations for the SUN Project to consider as it continues to intervene on this vital task of educating and informing the farming community and the public at large about nutrition.

7.2. Recommendations for the SUN Project

After the attaché collected, analysed and discussed the information, the following recommendations are made.

a) The SUN Project should as a matter of urgency, engage NAIS and develop a workable communications plan that will help implement the communications strategy. In the long-run, the project should also engage a full time Communications Officer to help deal with communications needs of the project.

b) The project should also consider employing a Research Officer who shall also be responsible for monitoring and evaluation of the project. This is an important activity that will help the monitor its progress and well as make deviations when need arises.

c) The SUN project should consider the use of other communications channels to widen the scope of their reach and encourage citizens to participate in the development process so that citizens are not viewed as mere beneficiaries but key partners in the development process.

d) The nutrition section in the Department of Agriculture should be delinked from the main department so that its status can be up-graded to that of a department. In this way, there would be an improvement in the organizational structure of the nutrition component because of the heavy responsibility that the few personnel have in dealing with malnutrition in the country.

e) The IEC materials that are yet to be compiled and distributed to the project beneficiaries must also be translated into local languages to cater for a wider audience.

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APPENDICES

APPENDIX I: Questionnaire for Nutrition Club Members

The University of Zambia,

Postgraduate Studies

Department of Mass Communication,

Lusaka.

Topic: Communicating Nutrition-sensitive Agriculture: *The Case of Kankunka and Manengo Nutrition Clubs in Mumbwa district of Central Province.*

Dear Respondent,

I am a Postgraduate Student at the University of Zambia (UNZA) conducting a research on the above topic.

I am pleased to inform you that you have been randomly selected to be a respondent in this research. However, you are free to withdraw or decline from participating if you wish. Be assured that all information you will offer will be treated with high confidentiality and will be used for academic purposes only.

Your name will not be recorded. Therefore, be objective as much as you can. Your cooperation will highly be appreciated.

Yours sincerely,

Christopher Y. Kakunta
MCD Student No. 2015078920

QUESTIONAIRE FOR NUTRITION CLUB MEMBERS

Identification #.....

1. Sex
   1). Male ☐
   2). Female ☐
2. Please tell us about your educational background?
   1). Grade 1—7 ☐
   2). Grade 8—9 ☐
   3). Grade 10—12 ☐
   4). College graduate ☐
   5). University graduate ☐

3. Age at your last birthday?
   ---
4. What type of farming are you engaged in?
   1). Crop farming only ☐
   2). Livestock farming only ☐
   3). Crop and livestock ☐
   4). Not a farmer ☐
   5). Others (Specify)……..
5. Before joining the club, what were your sources of livelihoods?
   1). Farming alone ☐
   2). Belonging to a cooperative ☐
   3). Business ☐
   4). Others (Specify)……
6. What was your main source of income?
   1). Crops ☐
   2). Livestock (cattle, sheep, goat, chickens, pigs) ☐
   3). Business ☐
   4). Others (Specify)……..
7. Place a circle on all the crops/ livestock that you grow and keep?

CROPS	LIVESTOCK
1. Groundnuts	12. Cattle
2. Soya beans	13. Goats
3. Sunflower	14. Sheep
4. Tomatoes	15. Chickens
5. Onions	16. Ducks
6. Cabbages	17. Guinea fowls
7. Sweet potatoes	18. Rabbits
8. Guavas	
9. Oranges	
10. Lemons	
11. Maize	

8. From the above crops and livestock, which ones do you normally eat in your homes?

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9. Why do you eat those crops/ livestock?

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10. Which of the above food stuffs do you give your children only?

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11. Which food stuffs are for women only?

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12. Which of the food stuffs are for men only?

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13. Which of the crops/ livestock do you keep for sale only?

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14. Which of the crops/ livestock do you keep for home consumption only?

---

15. How many times per week do you eat the following foods? (Place a circle on crops and livestock)
    1). Nshima
    2). Chicken
    3). Vegetables with groundnuts
    4). Vegetables only
    5). Meat and vegetables
    6). Meat only
    7). Okra only
    8). Okra with others
    9). Milk
    10). Eggs
    11). Fish
    12). Caterpillars

16. Which periods of the year do you have enough food?
    1). Jan --- March
    2). April ---June
    3). July ---September
    4). Oct --- December

17. Which of the following months would you consider the toughest months which you do not have enough food?
    1). Jan --- March

2). April --- June
3). July --- September
4). Oct --- December

18. What do you commonly eat during months without plenty of foods?

---

19. How often do you attend club meetings?
    1). Once a week ☐
    2). Twice in a month ☐
    3). Three times in a month ☐
    4). Other (Specify) ……

20. Who chairs the club meetings?
    1). Club Chairperson ☐
    2). Local Extension Officer ☐
    3). Village headman ☐
    4). Club Secretary ☐
    5). Other (Specify)……

21. How often does your local extension worker attend these meetings?
    1). Once a week ☐
    2). Twice in a month ☐
    3). Three times in a month ☐
    4). Other (Specify)……

B. Please indicate how strongly you agree or disagree with the following statement

1. *I enjoy lessons on nutrition offered by the Ministry/ Project*

1	2	3	4	5
Strongly agree	Agree	Neutral	disagree	Strongly disagree

2. *I feel I benefit personally from reading articles about nutrition and agriculture.*

1	2	3	4	5
Strongly agree	Agree	Neutral	disagree	Strongly disagree

3. *I often apply what I learn about cooking/ preserving food in my daily life.*

1	2	3	4	5
Strongly agree	Agree	Neutral	disagree	Strongly disagree

4. Eating a variety of foods is good for your body.

1	2	3	4	5
Strongly agree	Agree	Neutral	disagree	Strongly disagree

5. Pregnant women who do not eat a variety of foods give birth to sick children.

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

6. Witchcraft is the major cause of child mortality in your area.

1	2	3	4	5
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

7. Which of the following are your major sources of information? (Place a circle)
   1). Radio
   2). Television
   3). Newspaper
   4). Books and pamphlets
   5). Extension workers
   6). Others (Specify)……

22. Are you aware of the Scaling up Nutrition (SUN) Project?
   1). No ☐
   2). Yes ☐

23. If the answer to 22 is yes, what is it all about?

---

24. Which of the following activities do you consider important to attaining good nutrition?
   1). Growing a variety of crops and livestock ☐
   2). Storing and preserving food properly ☐
   3). Not to sell everything during bumper harvests ☐
   4). All the above ☐

25. How often do you take your child to the clinic?
   1). Once a week ☐
   2). Twice a month ☐
   3). Three times a month ☐
   4). Others (Specify)……...

26. What are the common illnesses that the Doctor at the clinic tells you about your child?
   1). Diarrhoea ☐
   2). Malaria ☐
   3). Vomiting ☐
   4). Weight loss ☐
   ☐

5). Swelling of limbs
6). Other (Specify)……

27. Please indicate how much you use publications such as booklets, pamphlets, brochures, video and radio from the Ministry of Agriculture.
    1). Never ☐
    2). Occasionally ☐
    3). Frequently ☐
    4). Everyday ☐
28. How often do you share something you have read on nutrition to club members?
    1). Never ☐
    2). Occasionally ☐
    3). Frequently ☐
    4). Everyday ☐
29. Have you ever heard of Malnutrition?
    1). Yes ☐
    2). No ☐

Thank you!

APPENDIX II: Questionnaire for NAIS Journalists

1. Please tell us about your education background?
    1). High school
    2). College
    3). University degree
    4). A Master's degree
2. How many years have you worked with NAIS/ media industry?
    ---
3. In what field is your specialization?
    1). General Agriculture
    2). Journalism/ Communication
    3). General Agriculture and Journalism
    4). Mass Communication
    5). Others
4. If your answer in 3 is 5 (others), indicate which area of specialization is the highest level of your training.
    ---
5. How often do you disseminate information on nutrition?
    1). Every week
    2). Twice per month
    3). Three times per month
    4). None of the above
    5). Other
6. If your answer to 5 is other, please indicate
    ……
    …….
7. When did you last disseminate information on nutrition?
    1). Never
    2). Last week
    3). A fortnight ago
    4). Three weeks ago
    5). A month ago
8. Who do you target when disseminating information on nutrition?
    1). Mothers
    2). Mothers and fathers
    3). Family
    4). Community

5). Clubs

9. Are you aware of the SUN Project?
    1). No
    2). Yes
10. If the answer to 9 is yes, what does the project do?

---

11. Have you ever been involved in the SUN communication programming and message development?
    1). No
    2). Yes
12. If the answer to 11 is yes, to what extent?

---

13. In what areas do you think you can work together with SUN?

---

14. Do you think the SUN project is doing enough to address nutritional issues in the targeted areas?
    1). No
    2). Yes
15. If the answer to 14 is yes, which areas? Explain.

---

16. Do you think NAIS has the institutional capacity to disseminate information on nutritive-sensitive agriculture? Please explain.

---

17. Are you aware that almost 46 percent of children below the age of five in Zambia are under-nourished?
    1). No
    2). Yes
18. If your answer to question 17 is YES, what role do you think the media can play to reduce the current nutritional levels?

    ---
19. Are you aware that only about 4 percent of media content in Africa and Zambia included is apportioned to agriculture, nutrition inclusive?
    1). No
    2).Yes
20. If your answer to question 19 is YES, what can be done to increase coverage of agriculture/nutrition issues in Zambia?

    ……
    ……
    ……
    ……
    ……
    ……
    ……

Thank you!

APPENDIX III: Data Collection Instruments

Focus Group Discussions Prompt list

- When was your nutrition group formed?
- Why was it established?
- What are some of problems that you were trying to solve by establishing your group?
    - Type activities
    - Communications (structure, chair secretary,)
- Do you still have some members who are still experiencing the same problems you were trying to solve at the formation of your group?
- What are these problems?
- Who constitutes your group?
- What activities are you engaged in as a group?
- Why do you carryout these activities?
- How do you share the benefits?
- Are they helpful to your individual families?
- Do get support from outsiders such as the Ministry of Agriculture?
- What are your main sources of information regarding the day to day activities of your group?
- What have been some of your achievements?
- What have been some of your challenges?
- How have you overcome some of these challenges?
- If you had an opportunity to make changes to the operations of the group, what would you recommend to change?

APPENDIX IV: In-Depth Interview Guide

- What role does your institution play in disseminating nutritive sensitive agriculture information?
- Does your organization have the ***capacity*** to promote good nutrition?
    - Personnel
    - Knowledge
    - Attitudes
    - practice
    - Education
    - Resources (transport, money, capital,)
- Do you think Zambia; through your institution can have a reduction in malnutrition cases?
- How do you reach out to the most affected families or communities?
- What media tools do you use to reach out to the affected?
- How do you obtain feedback from the effected families?
- Who are your main partners in the fight against malnutrition?
- Why has it taken so long to address the issue of nutritive sensitive agriculture?
- Do you think the media can play a significant role in reaching out to the affected families on nutrition and dietary needs?
- Sources
- Messages
- Channels of communications