



ADDIS ABABA UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCE

CENTER FOR FOOD SCIENCE AND NUTRITION COMMUNITY

NUTRITION PROGRAM

THESIS

ASSESSMENT OF THE IMPLEMENTATION OF SCHOOL
FEEDING PROGRAM AND NUTRITION STATUS OF
SCHOOL FED CHILDREN IN SELECTED GOVERNMENT
PRIMARY SCHOOLS IN ADDIS ABABA

BY

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11, JUNE 2020

ADDIS ABABA, ETHIOPIA

ASSESSMENT OF THE IMPLEMENTATION OF SCHOOL FEEDING PROGRAM
AND NUTRITION STATUS OF SCHOOL FED CHILDREN IN SELECTED
GOVERNMENT PRIMARY SCHOOLS IN ADDIS ABABA – A MIXED METHOD
STUDY



A Thesis Submitted to Center for Food Science and Nutrition Community
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to the Requirements for the Degree of Masters of Science in Community Nutrition

BY

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Thesis Approval

This is to certify that the thesis prepared by GIRMA GOSHIME, entitled: ‘Assessment of the Implementation of School Feeding Program and Nutrition Status of School Fed Children in Selected Government Primary Schools in Addis Ababa’ submitted to Addis Ababa University College of Natural and Computational Science Center For Food Science and Nutrition, Community Nutrition Program in partial fulfillment for the requirements of Master of science in community nutrition complied with the regulations of Addis Ababa University and meet the accepted standards with respect to originality and quality.

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Declaration

I, the undersigned, declare that the ‘Assessment of the Implementation of School Feeding Program and Nutrition Status of School Fed Children in Selected Government Primary Schools in Addis Ababa’ is my original work and has not been presented for a degree in any other university, and that all sorts of materials used for this thesis have been duly acknowledged.

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Acronyms

BMI	Body Mass Index
COHA	Cost of Hanger
CSA	Central Statistical Agency
CSB	Corn Soya Blend
EDHS	Ethiopian Demographic Health Survey
EPHI	Ethiopian Public Health Institute
ESFP	Emergency School Food Program
EQ	Evaluation Questions
FFE	Food for Education
FMOH	Federal Ministry of Health
HAZ	Height for Age Z-score
HFA	Height for Age
HGSFP	Home Grown School Feeding Program
MNP	Micronutrient Powder
MOE	Ministry of Education
MUAC	Middle Upper Arm Circumference
RNI	Recommended Nutrient Intake
SFP	School Food Program
SGTP	Sustainable Growth and Transformation Plan
SHN	School Health and Nutrition
SNNPR	Southern Nation Nationalities People Region
SPSS	Statistical Package for Social Science
SWASH	School Water Sanitation and Hygiene
WASH	Water Sanitation and Hygiene
WFP	World Food Program
WHO	World Health Organization

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Abstract

Introduction: Middle and low-income countries host about 90% of the world's children and adolescents, approximately 1.8 billion which make up about 27% of the population of those countries. However, little is known about the prevalence and consequences of malnutrition among these groups of population as compared to that of young children specially in Africa. Fortunately, SFP has been gaining much popularity across the world in addressing the nutrition problems of these schoolchildren. Ethiopia endorsed National School Health & Nutrition strategy (SHN) in October 2012. The present study attempted to evaluate the implementation of school feeding program and nutrition status of school fed children in selected government primary schools in Addis Ababa.

Objective: To evaluate the extent of implementation of SFP in selected primary schools as per the national SHN strategy and assess the nutrition status of the beneficiary students.

Methods: A descriptive-cross sectional-mixed method study. The evaluation of the SFP was done using content analysis, for which 19 purposively selected participants were interviewed, three-year documents were reviewed retrospectively and field observation were carried out and were triangulated. The assessment of the nutrition status of the school fed children was done by taking anthropometric measurements from 622 school fed children and their nutrition status was determined using WHO growth indices and z-scores standard deviations.

Findings: The findings on the evaluation of the SFP revealed that there was knowledge gap about the national SHN strategy among SFP coordinators at different levels. The SFP particularly, the school meal service was found to be relevant in alleviating school hunger. However, the foods were found to be static & monotonous. There were school meal service discrepancies between schools. Nevertheless, the school meal service has high acceptance by users with percentages of users, dropouts & non-users of the service being 92%, 6.76% & 1.66% respectively. SFP were not being implemented comprehensively and the overall accomplishments was found to be low 42.9%, with some services like disease prevention & control and MNS was not implemented at all. The SFP has faced many challenges & problems like: - poor and dispiriting working infrastructures, weak inter-sectoral collaboration, lack of human & material resources, lack of clear ownership, and lack of transparent & accountable management system. The overall prevalence of malnutrition (underweight, stunting & overweight) among study participants age 7 to 14 year-old (n=621) was found to be 23.5% ,29.2% & 0.3% respectively.

Conclusion: The implementation of SFP lacked comprehensiveness and much emphasis was given only to school meal services. There was sub-standard monitoring & evaluation of the SFP for instance, the beneficiary students were not screened for malnutrition, which is one of the monitoring indicators stated in the school health program Framework. These findings put the SFP questionable in addressing the national SHN strategic objectives. However, with all its limitations, the SFP is a very important and practical way for solving food and nutrition insecurity of the schoolchildren economically, and it should be continued, supported, encouraged & strengthen through community participation & ownership and stakeholders enhanced involvement. **Recommendation:** Schools & other stakeholders acting on SFP should follow the national SHN strategy & the Ethiopia school health program framework as stated in the recommendation section of this study.

Key words: School Health & Nutrition Strategy, School Fed Children, School Feeding Program.

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Organization of the Paper

The paper contains five chapters with different sections and sub-sections. CHAPTER ONE- Deals with the background of the study, purpose (objective) of the study, research questions, justification of the study, scope of the study, operational definitions and statement of the problem. CHAPTER TWO- Deals with review of related literatures, CHAPTER THREE Deals with methodology & methods of the study. CHAPTER FOUR- Deals with findings and results. CHAPTER FIVE- Deals with discussions of the study CHAPTER SIX Deals with implication, conclusion & recommendations, limitation & strength of the study.

CHAPTER ONE

Introduction

1.1. Background of the study

According to the world bank report (2015) middle and low-income countries hosted about 90% (1.8 billion) of the world's children and adolescents. These children & adolescents constitute 27% of the population of those countries. However, little is known about the prevalence and consequences of malnutrition among these groups of population ⁽¹⁾. In contrast, Children and adolescents 5–19 years of age have a high need of optimal nutrition because of their rapid physical growth, this is particularly true for adolescents (10–19 years of age) whose growth can be as rapid as that of infants. In addition, adolescent boys and girls have higher calorie and nutrient needs than any other age group, but attaining these needs are challenging particularly in poor and food insecure countries⁽²⁾.

This is particularly true for Africa, where school age children gained less attention. Edward Saltzman & et al (2017) argued that until recently, primary schoolchildren in Africa has received relatively little attention as compared to that of younger children ⁽³⁾.

Fortunately, school feeding programmes has been gaining much popularity across the world in addressing the nutrition problems of school age children. Currently, almost every country in the world has a national school feeding program which provide daily meals to school-attending children and adolescents⁽¹⁾. There is also a growing global consensus that school feeding programmes produce a lasting impact that can shape the future of young generation and thus a nation ⁽⁴⁾. Nowadays it is a worldwide practice to combat malnutrition to school age children through a nutritious school meal service, micronutrient supplementations and other health promoting activities ⁽⁵⁾.

School feeding program in Ethiopia is a recent phenomenon, the country started SFP in 1994 with the support of WFP. It was started as pilot project in 40 primary schools in Amhara, Tigray, Afar and Oromia regions. In 2002 the program further expanded to SNNPR and Somali regions, covering the country's nine regional states⁽⁶⁾.

In October 2012, the Federal Democratic Republic of Ethiopia- Ministry of education launched a ‘*National School Health and Nutrition Strategy*’ (SHN), which was designed to be the main resource and guiding document for all school feeding programs across the country. The strategy has different focused areas that includes: education, health & nutrition, agriculture and social domains. For the purpose of this study, the SHN strategic focused areas related to school feeding program, particularly the health and nutrition related services and activities will be evaluated. These SHN activities and services are packages of activities and services expected to be accomplished at primary school levels across the country, which includes: Nutrition education, Disease prevention and control, school feeding programmes, micronutrient supplementation, and Water, Sanitation & Hygiene (WASH) services ⁽⁷⁾, ⁽⁸⁾.

As part of the national SHN strategy, the FMOH, one of the key stakeholder in national school feeding programme has developed a framework in August 2017, “*The Ethiopia School Health Program Framework*”, which has a range of different monitoring and evaluation tools and instruments for the different SHN activities and services ⁽⁸⁾.

The present study uses these two documents (The National SHN Strategy and The Ethiopia School Health Program Framework) as the main resource documents for the assessment of the implementation of school feeding program in selected government primary schools in Addis Ababa.

Semi-structured guide for interviewing the SFP coordinators and service providers and checklists for SFP accomplishments document review are adopted and developed from the Ethiopian school health program framework and the McGovern-Dole school feeding in Afar and Somali regions evaluation report^(6; 8).

The primary objective of the study is to evaluate the conformity of SFP with the national strategy, because, different SFP evaluation reports in Ethiopia indicated that SFPs were not being implemented as per the standards set out in the SHN. For instance, a study done by Yigzaw (2019), titled “*practice, contributions, challenges and sustainability of SFP in Somali regional state*” reported that the overall performance of the SFP was low, lacked comprehensiveness and interwoven with challenges⁽⁹⁾. Similarly, the evaluation of

McGovern-Dole school feeding in Afar and Somali regions showed that even though the overall programme had a positive outcome in education improvement and as a social safety-net, the programs were lacking comprehensiveness ⁽⁶⁾.

These findings indicated that the SFP currently underway may fail to achieve the national objectives stated in the SHN strategy in regard to nutrition improvement of the schoolchildren. Therefore, evaluating the level of implementation of SFP being implemented helps to:

1. Determine whether or not the delivery of a service is consistent with the original design and specifications and, if not, for identifying the reasons and justifications for non-compliance, this will help identify changes needed in the delivery of service for greater coverage and efficiency,
2. Ascertain when an intervention has no impact, whether this is because of the intervention itself or the manner in which it is being delivered,
3. Decide whether or not an intervention is reaching the appropriate target population ⁽¹⁰⁾.
4. Implementation evaluation also enables us to describe and assess our program's activities, to link with program's progress and outcomes ⁽¹¹⁾.

The study also attempts to assess the nutritional status of the beneficiary students, this is because even though baseline entry or progress or outcome data on the nutritional status of the school feeding children are lacking, determining the level of malnutrition is one of the key indicators for the successful implementation of the SFP as stated in the Ethiopian school health program framework evaluation & monitoring document ⁽⁸⁾. Therefore, sex and age specific anthropometric measurements will be taken from the beneficiary students to determine their nutritional status. The reason for determining age & sex specific nutrition status is because prevalence of malnutrition differs in children & adolescents in age & sex ^(12; 13).

Having the nutrition status of the beneficiary students may also help to use as a guide for targeted intervention like for instance, micronutrient supplementation e.g. Iron and some treatments as deworming ^(14; 15).

In addition, since the SFP is designed as a social protection safety net program to address vulnerable schoolchildren, who are at greater risk for malnutrition and its consequences. For instance, a study done in 2014, in the Amhara region, showed that malnutrition was prevalent both in rural & urban settings among school age children and were found to be 42.7% in rural areas and 29.2% in urban areas, while the corresponding figures for thinness were 21.6% in rural and 20.8% in urban settings ⁽¹⁶⁾.

1.2. Problem statement

Context

Addis Ababa is the capital city of the Federal Democratic Republic of Ethiopia, founded in 1886 by Emperor Menelik II. It is located at 9°1'48"N 38°44'24"E, with an area of Land 527 km² (203 sq. m) and an altitude of over 3,000 metres (9,800 ft) in the Entoto Mountains to the north to its lowest point, around Bole International Airport, at 2,326 metres (7,631 ft) above sea level in the southern periphery. The city is the seat of the United Nations Economic Commission for Africa (ECA) and the African Union (AU), as well as various other continental and international organizations. which makes the city to be called as the political capital of Africa. The city is divided into 10 municipalities, called sub-cities (*kifle ketema*), and 113 districts (*weredas*)⁽¹⁷⁾.

The city has many socio- economic problems, for instance, a study done “*on the food insecurity state of the city's, vulnerable primary school children*” indicated that 26.5% of study children ate once a day, 15.8% of them didn't get a meal the whole day and about 14.7% were found to be beggars⁽¹⁸⁾. A community based cross-sectional study done by Degarge et al. (2015), on the nutrition status of school age children in Lideta sub city showed a 31% undernourishment: 19.6% stunted and 15.9% underweight⁽¹⁹⁾.

In an effort to alleviate the food insecurity state and improve the nutrition status of the city's schoolchildren, school feeding program was started as a safety net program by different NGOs' and other stakeholders at different times. For instance, a local charity organization called YE ENAT WEG, had been providing school meal service in 211 primary school for selected food insecure and vulnerable schoolchildren. In 2017 the charity organization, in collaboration with the city administration education bureau provided school meal service to 30,327 primary school children at a cost of two meals at ETB 12 (USD 0.44) per child per day. The foods were prepared in HGSFP modality by hired cooks with annual budget of ETB 58,080,000 (USD 2.1 million)⁽²⁰⁾. The meal service was given twice a day- breakfast and lunch on school calendar days, with the exception of about 100 students with HIV/AIDS who received school meals, throughout the whole year⁽⁶⁾.

However, the charity organization was providing only school meal services (which is a single of the component of the SFP) to limited number of students and data are not available regarding the nutrition status of the beneficiary students either at entry to the program or at the end of the program when the NGO phaseout of the program.

In 2018/2019 academic year school meal service was delivered to more than 70,000 schoolchildren with a cost of 169 million birr. Starting from October 2019 the city government of Addis Ababa took over the SFP and continued the meal services in all government primary schools for all schoolchildren without criteria. Thus, currently 300,000 schoolchildren are in the SFP (*News- Borkena.com Ethiopian news October 14, 2019 retrieved online from internet*).

In addition, the Addis Ababa education bureau, education supervision & school expansion representative, TSEGAYE ASSEFA told ENA (Ethiopian News Agency) that “*school feeding program is prioritized within the zero-hunger strategy to address hunger and ensure human right to adequate food for all*”. According to the representative, “*schools provide nutritious meals which will boost cognitive abilities of students and eases school drop outs*”. He also mentioned that the city administration will spend 42 million birr for this academic year to feed an estimated 300,000 schoolchildren in primary schools. The representative added that previously the school feeding program was provided only for identified needy students but the current school meal offers to all pre & primary school students, because the previous one was affecting the psychology of the needy ones (*School Feeding Program Helps to cut Dropouts, Govt. Ethiopia 25 Oct 2019. ENA (Ethiopia News Agency), retrieved online from internet*).

According to parents of the beneficiary students, the school feeding program is helping students to get into school & decrease school dropout. For instance, DEGITU MEKONNEN, who is a housemaid and a mother of two children told ENA that “*she couldn't provide enough food for her children & afford school fee. She was forced to drop her children out of school due to malnutrition. But now, DEGITU added with the launch of school feeding program, her children get back to school and got supplementary food in*

the school” (School Feeding Program Helps to cut Dropouts, Govt. Ethiopia 25 Oct 2019. ENA, retrieved from online).

Despite the efforts taken so far, to mitigate the food & nutrition insecurity condition of schoolchildren through SFP, little is known about the extent of implementation of the programme and its alignment with the national SHN strategy. Equally the nutrition status of school fed children is not well documented and sufficient data is lacking, even after the government has taken the full responsibility of the SFP in 2019. These may endanger the rights of the beneficiary students from getting standard service, whom the SFP was designed and implemented. And clouds the achievements of the program’s gained so far.

Therefore, the present study aimed at discovering the extent of implementation of the SFP & nutrition status of school fed children in the selected schools. The findings of the study will fill the knowledge gap created on the extent of implementation of the SFP in regard to the national SHN strategy and on the nutrition status of the beneficiary students. The finding also benefits to generate and share, knowledge and experiences on how to implement the school feeding programmes in a better way in the complex school system, and discloses age & sex specific nutrition status of the school fed children which may be used as a baseline data for future studies.

1.3. Justification of the Study

Improved nutrition is the platform for progress in health, education and development. Consequently, optimal nutrition is the combined effects of balanced diet, good health and physical activity. To this end SFP has been used as one of the gate ways to improve the nutrition status of vulnerable schoolchildren, through different nutrition specific and nutrition sensitive activities^(7; 8). However, program evaluation indicated that, SFPs are not implemented as per the standards they are supposed to be implemented. A study done by Yigzaw (2019)⁽⁹⁾, and the McGovern-Dole school feeding in Afar and Somali regions are some of the examples⁽²¹⁾. Moreover, research findings in other countries showed that school fed children are getting more food than balanced and quality foods⁽¹⁰⁾. In addition, the nutrition status of beneficiary

students is not well documented and data are lacking, which make difficult to determine the effects of the SFP brought on the nutrition status of the beneficiary students and the resultant ‘improved nutrition’^(7; 8). These are the justifications for doing this study and the findings of the study will be instrumental for further service improvement and similar studies in the future.

1.4. Objective of the Study

The purpose of the study was to evaluate the implementations of school feeding program and assess the nutrition status of the school fed children (7 to 14 years old) in selected government primary schools as per the National School Health and Nutrition Strategy (SHN) focusing on food and nutrition perspectives.

1.4.1. Specific objectives

- To evaluate the extent of implementations of school feeding programmes compliance with the strategy.
- To assess the nutrition status of school fed children (7 to 14-year-old).

1.5. Research Questions

To what extent does SFPs are being implemented in primary schools?

What is the nutrition status of those beneficiary school fed children?

1.6. Operational Definitions

Primary Schools: - Government schools which provide primary education: grades 1-8.

School age children: School attending children age 7-14 years old

School Feeding Program: A social safety net program being implemented in Addis Ababa government schools to address the food & nutrition problem of schoolchildren.

School fed children; - are primary schoolchildren who are in the SFP and use the school meal service regularly.

Home Grown School Feeding: - A school feeding programme that provides food produced and purchased within a locality where the programme is implemented.

Micronutrient Powders (MNP): -refers to sachets containing dry powder with micronutrients that can be added to any semi-solid or solid food that is ready for consumption.

Percentage of dropouts- The number of students who have gone through the school meal service and have then decided to withdraw from the program for any reason.

Percentage of users- The number of students who have gone through the school meal service and have remained in the program and use the services.

Percentage non-users- The number of students who have never used the school meal service.

CHAPTER TWO

2. Review of related literatures

2.1. Overview of global school feeding programs

School feeding has been gaining much popularity across the world, to date Worldwide, nearly half the world's schoolchildren, some 310 million, in low- and middle-income countries eat a daily meal at school. Currently, India feeds more than 100 million children; Brazil 48 million; China 44 million; South Africa and Nigeria each more than 9 million. There is growing global consensus that school feeding programmes generate a lasting impact that can shape the future of a nation⁽⁴⁾. Nowadays it is a worldwide practice to combat malnutrition to school age children through a nutritious school meal service and micronutrient supplementations with other health promoting activities⁽⁵⁾.

2.2. The state of primary education in Ethiopia

According to the education and training policy of Ethiopia, "Primary education is of eight years duration, offering basic and general primary education to prepare students for further general education and training. Primary education is critical to a nation's development, and is the foundation for further education and economic growth. The Ethiopia primary education has two cycles; 1st cycle (grades 1-4) and 2nd cycle (grades 5-8), and the official admission age is 7 ⁽²⁰⁾.

2.3. School feeding programme in Ethiopia

School feeding in Ethiopia was started in 1994 with the support of WFP. The initial pilot project covered 40 primary schools in Amhara, Tigray, Afar and Oromia regions and further expanded to SNNPR and Somali Region in 2002, targeting chronically food insecure districts in these six of the country's nine regional states. School feeding is included in the social protection policy as social safety net instrument, in the national school health and nutrition strategy ⁽⁶⁾.

2.3.1. The school meal service modalities in Ethiopia

School meals delivered in different modalities according to local situation: there are mainly three delivery modalities such as: The “McGovern-Dole International FFE and Child Nutrition Programme, Home Grown School Feeding (HGSF) Programme and the Emergency School Feeding Programme (ESFP).

The *McGovern-Dole SFP* -the purpose of McGovern-Dole International FFE and Child Nutrition Programme interventions is to ensure equal access is provided for boys and girls at primary school with a focus on the marginalized food-insecure areas and vulnerable children in Afar and Somali regions. The programme provided children with about one third of their daily calorie intake along with complementary activities such as deworming and health and nutrition education. It provides one hot meal per day (composed of 120 gr of corn soya blend (CSB+), 36 gr vegetable oil and 3 gr salt) for all targeted children, corresponding to 504 calories per day ⁽⁶⁾.

Home Grown School Feeding (HGSF) Programme- the HGSF programme was started in Ethiopia as a pilot programme in 2012 in SNNPR with the support of WFP, later the program expanded to Oromia regional state. The HGSF links the existing school feeding programme demand with local agricultural production through the provision of locally produced food purchased from smallholder farmers. HGSF particular focus is to both increase children’s wellbeing and promote local agricultural production and development by expanding an ongoing market for small landholders ⁽⁶⁾.

Emergency School Feeding Programme (ESFP)- the ESFP was launched in response to the El Niño crisis seen in the 2011. The ESFP is similar to the HGSF programme, which linked to local cooperatives to gain the grains and legumes needed for the school meals. The per child school meal ration provides approximately 650 kcal per day and the ingredients used to prepare the meals vary from one region to the next depending on what is locally grown and the dietary preferences of the local population ⁽⁶⁾.

2.3.2. Relevance of the school feeding programme

A collection of evidences indicated that SFP not only alleviated immediate hunger but also improved nutrition status of school age children. The main objectives of the SFP in Ethiopia, is to contribute to the SGTP education sector and support education outcomes. While school meals serve as a universal social protection instrument by providing regular meal and alleviate immediate hunger in the schools and improve the nutrition status of children. ^{(7) (22)}.

2.4. The national school health and nutrition strategy of Ethiopia

National school health and nutrition strategy (SHN) was developed in October 2012 by the MoE with technical and financial support from UNICEF and WFP. The goal of the strategy was to improve access and education achievement of schoolchildren through health and nutrition interventions in schools. The SHN strategy has put clear nutrition and health intervention activities such as: school meal services & micronutrient supplementations, disease prevention and control services (deworming) and other health care services, nutrition educations and WASH services ⁽⁷⁾.

2.4. School feeding programme in Addis Ababa

School Feeding Programme in Addis Ababa was started by different NGOs at different time. YE ENAT WEG, a charity association, founded by H.E the former First Lady ROMAN TESFAYE in July 2014 is one of the NGOs which had been acting in about 220 government primary schools on SFP in collaboration with Addis Ababa city government education bureau and with the objective of improving the provision of food and school supplies ⁽²⁰⁾.

2.4.1. School meal services & micronutrient supplementations

The school meal service has been delivered in government primary schools for 220 school calendar days, throughout the whole year. The foods were prepared by HGSFP modality with hired cooks ⁽⁶⁾. The school feeding program is being provided as a social protection, safety net program in which children from vulnerable family's gate access to food in order to attained schools and improve their nutrition status ⁽⁷⁾.

Worldwide evidences are in favor of school feeding programs, in improving the nutrition status of schoolchildren. However, the meals are mainly composed of staple diets, which have relatively low contents of vitamins and minerals particularly: vitamin B6, vitamin B12, zinc, iron and animal proteins.

Micronutrient supplementation (MNS) can be the best option to supplement those schoolchildren with the most commonly deficient vitamins & minerals. According to the Home Fortification Technical Advisory Group (HF-TAG), typical diet may contain up to 80% of the RNI of some micronutrients, whereas other staple diets may only contain 20-40% of the RNI. Thus, the school meals should be fortified with MNPs, that contain most of the essential vitamins & minerals, which are the commonest deficiency in schoolchildren⁽¹⁵⁾.

Experience from WFP indicated that MNP can be used in school setup. The MNP formulation contains about 15 micronutrients (Vitamin A µg RE, the B Vitamins, Vitamin C mg, Vitamin D µg, Vitamin E mg, Folate µg, Iron mg, Zinc mg, Copper mg, Selenium µg, and Iodine µg). Sachets of MNP used for school feeding typically contain 10 or 20 dosages and should be made available throughout the year for the target groups, and should not be less than 60 / 6 months and no more than 180 / 6 months (i.e. no more than one sachet per day). However, the micronutrient content of MNP for school feeding should be age group appropriate⁽¹⁵⁾.

2.4.2. Nutrition Education

Schools are practical setting for delivering an integrated package of nutrition interventions such as: nutritious meal services, micronutrient supplements or on-site fortification, infection control & health promotion, nutrition and life-skills education to improve the health and nutrition of schoolchildren⁽²³⁾. Gibbs et al. (2013) encouraged schools to have school gardens and school kitchen demonstrations, which help student learn easily and develop diverse foods and good eating habits.

Another study done by Elizabeth Jarpe-Ratner & et al. (2016) showed that experiential cooking and nutrition education increases students' nutrition knowledge, cooking self-efficacy and communication to family about healthy eating^(24; 25)

2.4.3. Disease prevention & control services (de-worming)

Intestinal parasitic infections and infestations are one of the causes for undernutrition among schoolchildren. They contribute to under nutrition through host immune suppressions exposing a child to poor nutrition, underweight, weakened immune system, and vulnerable to infections ^(1, 28). According to the cost of hunger report (2013), greater than 2 out of every 5 children in Ethiopia are stunted, and nearly as many as 81% of all cases of child undernutrition are related to untreated pathology ⁽²³⁾. For these reasons, the school health and nutrition strategy recommend deworming to be given periodically preferably every 6 or 12 months ⁽⁸⁾.

WHO also recommends deworming for school children, because all the common worm infections in school-age children can be treated effectively with two single dose pills: one (Albendazole 400 mg or Mebendazole 500 mg) for all the common intestinal worms such as: hookworms, roundworms, and whipworms. The treatment is safe, even when given to uninfected children. They are administered as a single tablet to all children, regardless of size or age. Unless in the most highly infected communities deworming is not required more than once a year ^(14; 26).

2.4.4. The school WASH services

Water, sanitation and hygiene are nutrition sensitive interventions which are among the very essential packages for the health of schoolchildren. Worldwide evidence suggests that the provision of safe and adequate water supply improves sanitation facilities and safe hygiene practices. Schools without adequate water supply and, poor excreta disposal and hygiene services are prone to infection, environmental health hazards and conducive breeding sites for harmful insects, helminths, bacteria and viruses^(8; 27).

WHO has developed minimum school WASH facility standards which includes: basic sanitation facilities (with separate latrine facilities for boys and girls) that enable

schoolchildren and staff to go to the toilet without contaminating the school grounds or resources such as water supply. The toilet facilities should have access for handwashing with water and soap (or ash) after going to the toilet and before handling food. The WASH service should also provide safe drinking-water or from a treated supply, and keep it safe until it is consumed. Fencing the school grounds is also recommended so that a clean environment can be maintained ⁽²⁸⁾.

The national school WASH (SWASH) guide line has set minimum school WASH program packages and standards in Ethiopia which include: safe water supply, sanitation facilities, good hygiene practice, menstrual hygiene management and solid and liquid waste management. The guide line specifies detailed criterion for each WASH services, for instance, it recommends toilet facilities with a ratio of one stand for every 25 girls and one toilet for female staffs and one stand plus one urinal for every 50 boys and one toilet for male staffs in regional capital cities and city administration towns⁽²⁹⁾.

However, evidence from the FMOH (2017), indicated that about 85% of primary schools in Ethiopia were reported to have traditional pit latrines, only 31% of schools have improved sanitation and only 21% of primary schools have hand washing facilities and only 5% of them have soap ⁽⁸⁾. The infra-structure and services in the primary schools in Ethiopia is worse than sub-optimal, around 50% of schools have no water source and only 17% of schools have piped water, and 98% of schools have the most common types of pit latrines with cement slabs, of which, 7% having bucket water and only 3% of latrine blocks having piped water for hand washing ⁽⁸⁾.

2.5. Evaluation of school feeding programs & activities

Many educational outcomes have reportedly been improved with school feeding programs, these outcomes can be divided into school performance, health and nutritional variables. Health and nutritional variables, which includes: improved dietary intakes, nutritional status and the establishment of good dietary practices, having standard evaluation indicators ^(8; 30).

Even though the relevance of school feeding programs is not that much controversial, evaluation reports showed that programs are not implemented as per the standards they are expected to. The evaluation of the nutrition program in Algeria showed SFP in Algeria is not implemented as stated in the national strategy ⁽³¹⁾. Similarly, the evaluation of McGovern-Dole school feeding in Afar and Somali regions school feeding showed that overall the programme had a positive outcome in education improvement and as a social safety net programme it lacked comprehensiveness⁽⁶⁾.

A study done by Aulo Gelli and Francisco Espejo (2012), further confirmed that the evaluation of SFP implementation in Africa was weak., according to the researchers only two randomized controlled impact evaluations have been done in sub-Saharan Africa ⁽³²⁾.

Sidaner et al (2013), argued that to evaluate the school feeding practice and activities there should be a minimum criterion for each service provided and a regular monitoring mechanism such as, the presence of school menus and other monitoring indicators ⁽³³⁾.

Evaluating the school feeding activities periodically is not only important to monitor the school practice compliance with the national policy but also to insure children are getting nutritional safe and adequate meals and supplementations. This is because, a study done in China in 2018 revealed that boarding school children consume more food but nutritionally compromised diet ⁽³⁴⁾.

2.6. Malnutrition, causes & consequences in school age children

Malnutrition is the primary cause of immunodeficiency, which affected mostly infants, children, adolescents, and the elderly. It is still highly prevalent in developing countries and schoolchildren are at high nutritional risk. However, their nutritional status is poorly documented, particularly in urban areas. For instance, a study done in Burkina Faso in 2011, on the nutrition status of schoolchildren age 7-14 years old, both malnutrition and micronutrient deficiencies are prevalent ⁽³⁵⁾.

Undernutrition is the combined effect of both macro and micro nutrient deficiency coupled by ill health conditions. The causes for these deficiencies are enormous, but the most common causes are: inadequate dietary intake, Poor bioavailability from foods

(especially for minerals), and frequent infection with parasites, diarrhea, and various malabsorption disorders. There are also risk factors that may pose for micronutrient deficiencies such as: monotonous diet, low intake of animal source foods, low prevalence of breastfeeding, low micronutrient density of complementary foods ⁽³⁶⁾.

Garrett (2018), explained micronutrient deficiencies as the most unseen hunger and is more prevalent in vulnerable populations groups, which includes: preschool children, school age children, female adolescents' women of reproductive age ⁽³⁷⁾.

Ritchie & Roser (2017), argued that among the micronutrients, Iron deficiency affects more people than any other nutrients and it is a leading cause of anemia which affects over 2 billion (30% of the world's population) people worldwide ⁽³⁸⁾.

Annemarie (2016) explained the effects of Iron deficiency, which causes anemia with the consequential effects of: reduces work capacity, impairs child's physical and intellectual development. The WHO (2017), report on micronutrient has showed an estimated 2.5 percent loss of earnings were due to lower cognitive skills ^(36; 39).

2.6.1. Malnutrition in school age children in Ethiopia

Ethiopia has made marvelous socio-economic progress, reducing the proportion of people below the poverty line. However, poverty and food insecurity are still widespread, and millions of Ethiopians are poor and inadequately fed and a very large number of these people are in absolute hungry and on welfare assistance ⁽⁴⁰⁾.

A study done by Herrador et al (2014), in Amhara regional state showed 79.5% of the school-aged children had at least one micronutrient deficiencies and 40.5% had two or more coexisting micronutrient deficiencies ⁽¹⁶⁾.

The cost of hunger report (2013), disclosed that more than 2 out of every 5 children in Ethiopia are stunted. The annual costs associated with child undernutrition are estimated at 55.5 billion Ethiopian birr (ETB), which is equivalent to 16.5% of GDP ⁽⁴¹⁾.

A study done in 2013, in north west Ethiopia, Gonder on 405 school children indicated that 22.7% of children found to be infected with intestinal parasite, with the most common

parasite being Ascariasis Lumboricoids (7.6%) but the study fails to demonstrate association between parasitic infection and undernutrition ⁽⁴²⁾.

Another study done in Adama, Ethiopia on a total of 358 children from four primary schools in Adama town 35.5% of the study subjects were found to be infected with mixed infection. The most frequent parasites were *Entamoeba histolytica* (12.6%) and *Hymenolopis nana* (8.9%). But the study failed to show significant association b/n intestinal parasitic infection with socio-economic factors and nutrition ⁽⁴³⁾.

Abera & Nibret (2014), in their study on 385 schoolchildren in Tilili town, north west Ethiopia, observed significant associations between intestinal helminth infection and those of age, grade level, and school variables, and the prevalence of hookworm infection was significant in children who did not wear shoes regularly ($P < 0.05$) ⁽⁴⁴⁾.

2.7. Assessment methods of nutrition status in children & adolescents

Nutrition status of an individual can be assessed by different methods. The most common methods used in nutrition studies are: Anthropometrics, Biochemical, Clinical and Dietary methods ⁽¹²⁾.

2.7.1. Anthropometrics measurements

The anthropometric measurements are used to measure body dimensions. The most measurements include height, weight and MUAC. These measurements with the indices used to determine stunting, underweight, acute malnutrition, overweight and obesity ⁽¹²⁾.

Stunting reflects chronic undernutrition, occurs when a child or adolescent fails to grow to his/her potential because of the long-term deprivation of inadequate dietary intake, frequent illness/ infection, or both. Height-for-age (HFA) reflects a child/adolescent's height relative to his/her age and sex and is used to identify stunting. The cut offs for stunting for children & adolescents Age (5-19 years) are: severe stunting= Z-score < -3 , moderate stunting= Z-score ≥ -3 to < -2 , normal =Z-score ≥ -2 to $\leq +3$. The effect is that the child or adolescent is shorter than would be expected for a healthy child of his/her age and sex.

Underweight reflects a child's weight relative to his/her age and sex. Weight-for-age is used to identify underweight. The cut offs for underweight in children ages (5-10 years) are: severely underweight= Z-score < -3 , moderately underweight = Z-score ≥ -3 to < -2 , normal =Z-score ≥ -2 to $\leq +3$.

Weight- for- age is not recommended to determine overweight in children and adolescent is best assessed by BMI-for-age. Weight for age may reflect wasting, stunting, or both, but it doesn't distinguish between the two. In children 10 years of age and older BMI-for-age and height-for-age, provide better information on nutrition status of children than weight- for- age. This is because weight-for-age does not distinguish whether weight reflects relative height or body mass, which is particularly important during an age when children and adolescents are experiencing pubertal growth spurts and may appear to have excess weight when they are simply tall. The BMI cutoffs for children & adolescents age (5-19 years) are: severe thinness= Z-score < -3 , moderate thinness= Z-score ≥ -3 to < -2 , normal =Z-score ≥ -2 to < -1 > $+1$ to $\leq +2$ Overweight = Z-score $\geq +2$ to $\leq +3$, Obese= Z-score $+3$ & above ⁽¹²⁾.

2.7.2. Body Mass Index (BMI)

Body mass index standardized by children's gender and age (i.e., BMI-for-age z-scores), reflects important aspects of their short-term nutritional intakes (e.g., overall nutritional intakes, being overweight or underweight) ⁽³⁴⁾.

2.7.3. WHO Z-scores

Anthropometric z-score uses to describe how far and in which direction does the child's measurements is from the reference populations' median value. Z-scores that fall outside of the normal range indicate a nutritional issue (undernutrition or overweight). If a z-score is outside the normal range, its distance from the median indicates the severity of the nutritional issue; the further away, the more severe. When a high proportion of individuals in a given population have z-scores outside of the "normal" range, indicates a population-level nutrition problem⁽¹²⁾.

CHAPTER THREE

3. Methodology & Methods

3.1. Study approach

A descriptive-cross sectional-mixed method study was done. The rationale for choosing a mixed method was that it gives a chance to use multiple methods, different views and assumptions, as well as different forms of data collection and analysis technique⁽⁴⁵⁾.

The evaluation of the SFP was done using content analysis. The assessment of the nutrition status of the school fed children was done using anthropometric measurements: WFA, HFA & BFA.

3.2. The Setting

The study was done in Addis Ababa city administration, in 13 selected government primary schools, where school meal service was/is being provided to schoolchildren as a social protection safety net program. The schools were chosen from three sub cities- Akaki-Kality, Lideta and Yeka sub cities.



Fig 1. Administrative map of Sub Cities

Courtesy: Kotebe Metropolitan University Annual Abstract 2018/19.

3.3. Flowchart for the evaluation of the implementation of the SFP.

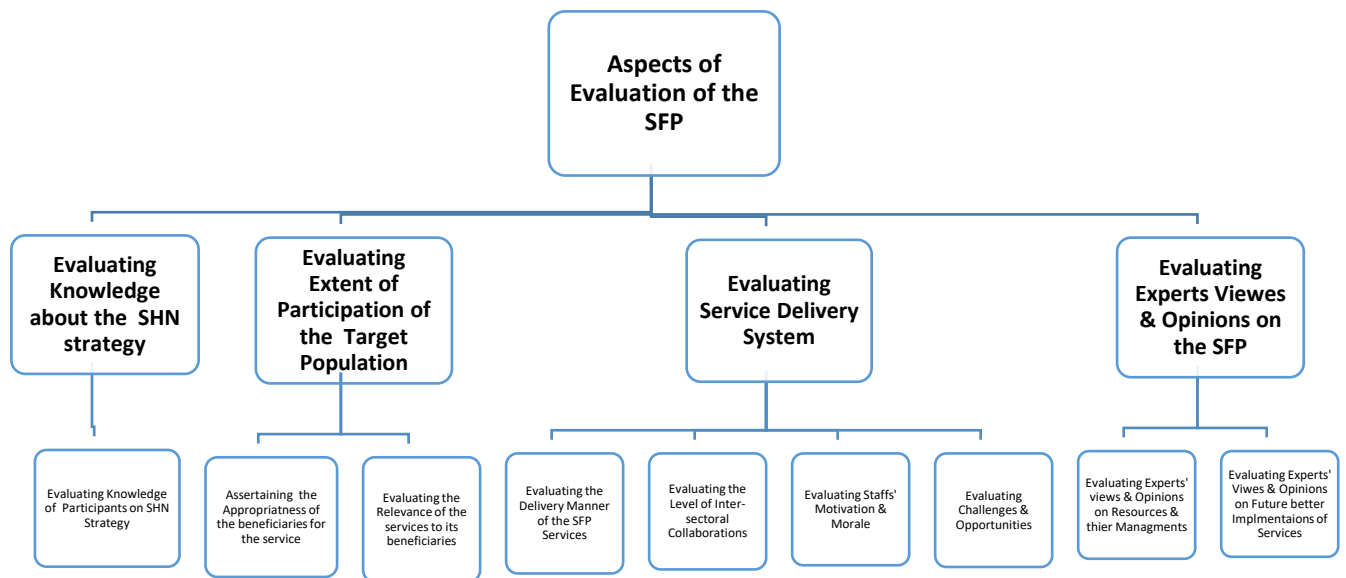


Fig 2. Aspects of evaluation of the School Feeding Program

3.4. Methods for the evaluation of the SFP

3. 4.1. The qualitative part

Evaluation of the SFP qualitatively was done interviewing 16 SFP coordinators & 3 service providers who were selected purposefully.

3.4.2. The quantitative part

To evaluate the extent of implementation of the SFP quantitatively, a three-year (2017- to 2020) SFP documents were retrospectively reviewed and trends of accomplishments of SFP were retrieved, and percentages of users, percentages of dropouts and percentages of non-users of a services were computed to generate important information on the utilization of the programme. This was done because the indicators provide a valuable information on the need for a service and establish the extent of the rejection of the service for any reasons (10).

Percentage of users – The acceptance of a programme by the target population is one of the important indicators of a need for the program: the higher the acceptance, the greater the need for the intervention. ⁽¹⁰⁾.

$$\text{Percentage of users} = \frac{\text{Total N}^0 \text{ of users of a service}}{\text{Total N}^0 \text{ of population}} \times 100$$

Percentage of dropouts – The dropout rate from a service is reflective of the satisfaction level of consumers with the programme. A higher rate indicates either inappropriate service content or defects in the way the service is being delivered: it does not establish whether the problem is with the delivery manner or the intervention content. However, the figure will provide an overall indication of the level of satisfaction of consumers with the service. The higher the dropout rate, the higher the level of dissatisfaction, either with the contents of a service or the way it is being delivered⁽¹⁰⁾.

Percentage of dropouts=

$$\frac{\text{N}^0 \text{ of dropouts from a programme}}{\text{N}^0 \text{ of total programme acceptors}} \times 100 = \text{dropout rate (\%)}$$

*Acceptors are ever-users of a service

Percentages of non-users of a service – Whereas a group of dropouts can provide extremely useful information about the problems with an intervention, non-users are important in understanding why some, for whom the programme was designed, have not accepted it⁽¹⁰⁾.

Percentage of non-users:

$$\frac{\text{N}^0 \text{ of non-users of the service}}{\text{N}^0 \text{ of total acceptors of the service}} \times 100$$

3.4.3. Background information of schools & school representatives

In an effort to make the study somewhat representative, the study was conducted in three sub cities of the metropolis, which was about 30% of the total sub cities. The sub cities were selected by lottery method. The two selected sub cities (Akaki- Kality and Yeka), are the largest sub cities next to Bole sub city and found at the periphery of the city administration, while Lideta sub city is found in the center of the city. From these three sub cities 13 primary schools were selected proportional to the number of schools each sub city has (see Fig.3 below & Table 12 in the annex). Table1. Shows background information of schools and school representatives participated in the evaluation of the SFP.

Table1. Background information of schools & school representatives

Sub city as represented by sub city level SFP coordinator		School Description		Participant description		
Sub- city	SFP Coordinator & Service provider	School Names	Year of Establishment	Position	Sex	Level of Education
AKAKI-KALITY Sub-city Education office	SFP Coordinator 1 st Degree	AKAKI MENGIST PRIMARY SCHOOL	1949GC (1942EC)	School V/ Director	F	1 st Degree
		BESEKA PRIMARY SCHOOL	1965GC (1958EC)	School V/ Director	M	1 st Degree
	Service provider 1 st Degree	FURI PRIMARY SCHOOL	2001GC (1994EC)	School Director	M	1 st Degree
		KALITI PRIMARY SCHOOL		School V/ Director	M	1 st Degree
LIDETA Sub-city Education office	SFP Coordinator 1 st Degree	LIMAT MINCH PRIMARY SCHOOL	2007GC (2000EC)	School V/ Director	M	1 st Degree
		ENAT ETHIOPIA PRIMARY SCHOOL		School V/ Director	M	1 st Degree
	Service provider Elementary	FREHIWOT PRIMARY SCHOOL	1963GC (1956EC)	School V/ Director	F	Diploma

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		ZERAY DRES PRIMARY SCHOOL		School Director	M	1 st Degree
YEKA Sub-city Education office	SFP Coordinator 1 st degree	ADIYOT PRIMARY SCHOOL	1972GC (1965EC)	School V/ Director	M	1 st Degree
		BREHAN GUZO PRIMARY SCHOOL	1984GC (1977EC)	School Director	M	1 st Degree
		YEKA MISRAK CHORA PRIMARY SCHOOL	1969GC (1962EC)	School V/ Director	M	1 st Degree
		YEKA TERARA PRIMARY SCHOOL	1959GC (1952 EC)	School V/ Director	M	1 st Degree
		ADDIS BREHAN PRIMARY SCHOOL	2007GC (1999EC)	School V/ Director	F	1 st Degree
	Service Providers	A total of 3 cook mothers of them 1 is degree holder, one secondary & the rest was primary education level			F	

3.4.3.1. Participant recruitment

Participants were selected purposefully. They were selected owing to their role & expertise in the SFP at sub city & school level. Participants were carefully chosen from each sub city and each school involved in a way that each sub city and each school has contributed 1 SFP coordinator (a total of 16 SFP coordinators), and 1 service provider randomly picked from one school within the sub city (a total of 3 cook mothers), (see Table 13. in the annex for the detail description).

3.4.4. Variables for the evaluation of the SFP

The variables of the study for the evaluation of the implementation of the SFP were: Knowledge of the SFP coordinators, Level of participation of the target population, Level of the implementation of the four SFP services & activities, Level of intersectoral collaborations and Expert views & opinions on the overall SFP.

3.5. Data Collection

3.5.1. Sources of Data

Primary data was collected from: sub city level SFP coordinators & school level SFP coordinators, and service providers through interview.

Field observation was carried out by taking pictures and field notes visiting: school meal cooking areas, dining halls, handwashing facilities, latrine rooms and school garden areas.

Secondary data was collected from schools' registries with pre-prepared checklists.

3.5.2. Data Collection procedure

After obtaining the necessary ethical clearances from College of Natural and Computational Science, Addis Ababa University and concerned government officials in the respective education bureaus, all qualitative data were collected by the researcher himself. In an attempt to do the job efficiently the researcher took a six-day high level qualitative research methodology training in Kotebe Metropolitan University.

3.5.3. Data collection tools

Different data collection tools such as: Interviews, document reviews and observation were used to collect data. Interviews were done using semi-structured guides, which were adopted and modified from the Ethiopia school health framework monitoring and evaluation check lists and the WFP'S USDA McGovern-Dole International Food for Education and Child Nutrition Programme's final evaluation report (2013–2017).

Document reviews was also done using pre-prepared check lists, which was adopted from Ethiopia school health framework (2017).

All participants were informed about the research and asked for their consent to participate in the study and for recording their voice. After obtaining oral consent, interviews were carried out in Amharic language and recorded with SONY IC RECORDER MODEL ICD-PX333. All participants were Amharic speakers and the interview was done with full understanding and friendly atmosphere. All interviews were

done in the schools on working days and notes were taken throughout the data collection when necessary.

Document reviews and observation were done on the second-round data collection schedule immediately after all interviews have been completed.

Pilot study was done in Kebena primary school in Arada sub city, which was not included in the study. Two SFP coordinators and one service provider (cook mother) participated for the qualitative part of the study and anthropometric measurements were taken from 62 school fed children for the quantitative part of the study.

The Pilot study was done to see preliminary findings and identify areas to be further explored; based on the lesson learned from the pilot study some rearrangements were done on the semi-structured guides without changing the core ideas of the questions. Table 2. shows semi- structure guide used for interviewing the SFP coordinators.

Table 2. Interview guide used for Interviewing SFP Coordinators

Semi- Structured Interview Guide or questions	Main Evaluation questions (EQs)
Q1. Please could you explain when and how the school feeding program came to this school?	EQ1. Knowledge & Understanding of the SHN strategy
Q2. What were the eligibility criteria to select beneficiary students?	EQ2. Extent of participation of the target population
Q3. Do you ever heard or read about the national school health and nutrition strategy (SHN) of the country?	EQ1. Knowledge & Understanding of the SHN strategy
Q4. What are the main components of the SFP services? Probe- how & how often MNS, Deworming is provided to students, WASH services, Nutrition education, school garden & cooking demonstration sessions.	EQ1. Knowledge & Understanding of the SHN strategy EQ3. Service delivery system or manner
Q5. How relevant is the SF programme to its beneficiaries (school fed children) especially in terms of health & nutrition? Probe- reduced incidences of hunger & malnutrition, reduced incidences of parasitic infection	EQ2. Extent of participation of the target population
Q6. How the school meal services are being delivered, do you have school menu & special feeding programs? Probe- for special feeding schedules for orphans, HIV positive children & others	EQ3. Service delivery system or manner
Q7. Are there students who quit the school meal service for whatever reason they have?	EQ2. Extent of participation of the target population
Q8. Are there unintended positive or negative challenges in implementing the program? Please explain. Probe- luck of resources, supervision and support etc.	EQ3. Service delivery system or manner

Q9. How do you see the inter-sectorial collaborations in your school situation?	EQ3. Service delivery system or manner
Q10. Do you think the program should continue?	EQ4. Experts views & Opinions on the SFP
Q11. Would you tell me your expertise view and recommendation for a better implementation of this program in the future? Probe- resource availing & controlling, management	EQ4. Experts views & Opinions on the SFP

3.5.4. Data Analysis

All audio-recordings were transcribed using smooth verbatim technique and translated into English language. The transcripts and translations were cross-checked for consistency and entered into *ATLAS TI 7.5.0. Scientific Software*. Transcriptions were read and re-read to define codes and sub-categories guided by the objective of the study. Deductive approaches were used to create categories, based on the meaning coming from the data. The coding strategy was structure coding in which 154 cods, 12 sub-categories and 4 categories were developed. (see Table 14. in the annex section).

Content analysis was done based on the meaning inferred from interviews using sub-categories and categories, since it is a technique for making replicable and valid inferences from the data to their context, using interviews, document reviews or focused group discussions⁽⁴⁶⁾ ⁽¹⁰⁾. Content analysis is a powerful method for analyzing large amounts of qualitative data and it gives the researcher the opportunity to choose aspects on which he/she wants to focus during analysis⁽⁴⁷⁾.

3.5.5. Trustworthiness

The trustworthiness of data in qualitative approach is ensured by considering aspects of credibility, transferability, dependability and confirmability.

3.5.5.1. Credibility

Credibility is all about internal validity, in which the researcher seeks to ensure the study measures or tests what is actually intended to measure or test. In other word credibility tries to answer the question; How consistent are the findings with reality?⁽⁴⁸⁾ ⁽⁴⁹⁾ ⁽⁵⁰⁾.

In an effort to intensify the credibility of the study the researcher gave a detailed description of notes by quoting and citing pages from the national SHN strategy and compared with the responses of the participants by quoting directly from their interview texts to convey the actual situations that have been investigated to an extent the contexts that surround them. This help reader determines the extent to which the overall findings reflect the reality on the ground.

3.5.5.2. Transferability

Transferability is a condition or extent to which the results from one study can be passed over or used to other related contexts, which in turn could be affected by how representative the sample is^(48; 50; 51). To this end, the research was conducted in relatively wider geographic areas and it could be reasonably enough for other researcher to be able to make judgments about the transferability of the research findings to other schools with similar program in the target sub cities.

3.5.5.3. Dependability

Dependability is the issue of reliability a technique uses to show, if the work is repeated, in the same context, with the same methods and with the same participants, similar results would be obtained⁽⁴⁸⁾. To this end the researcher described a detailed information about the research design and its implementation, data gathering techniques and field work thereby enabling a future researcher to repeat the work.

3.5.5.4. Confirmability

The concept of confirmability in qualitative study is comparable to objectivity. Thus, care must be taken to ensure as far as possible that the findings are the result of the experiences and ideas of the informants, rather than the characteristics and preferences of the researcher^{(48) (50; 52)}. To ensure confirmability the researcher read and re-read transcribed texts before coding and categorizing ideas and meanings were generated from the content analysis with quotes from participants' text, and much emphasis was given to triangulate participants' response with document review and observational findings.

3.6. Methods for the assessment of the nutrition status of the school fed children

3.6.1. Population, Sample and Sampling Techniques

3.6.1.2. Sampling Techniques

Multi stage sampling technique was used by which three sub cities were selected with a lottery method from the 10 sub cities and schools were selected proportional to the number of schools each sub city has. Calculated sample sizes were allocated to the sub cities based on the proportion of schools they have. Finally, each school shared equal number of samples within their respective sub cities (see Table 4 in the annex for the detail).

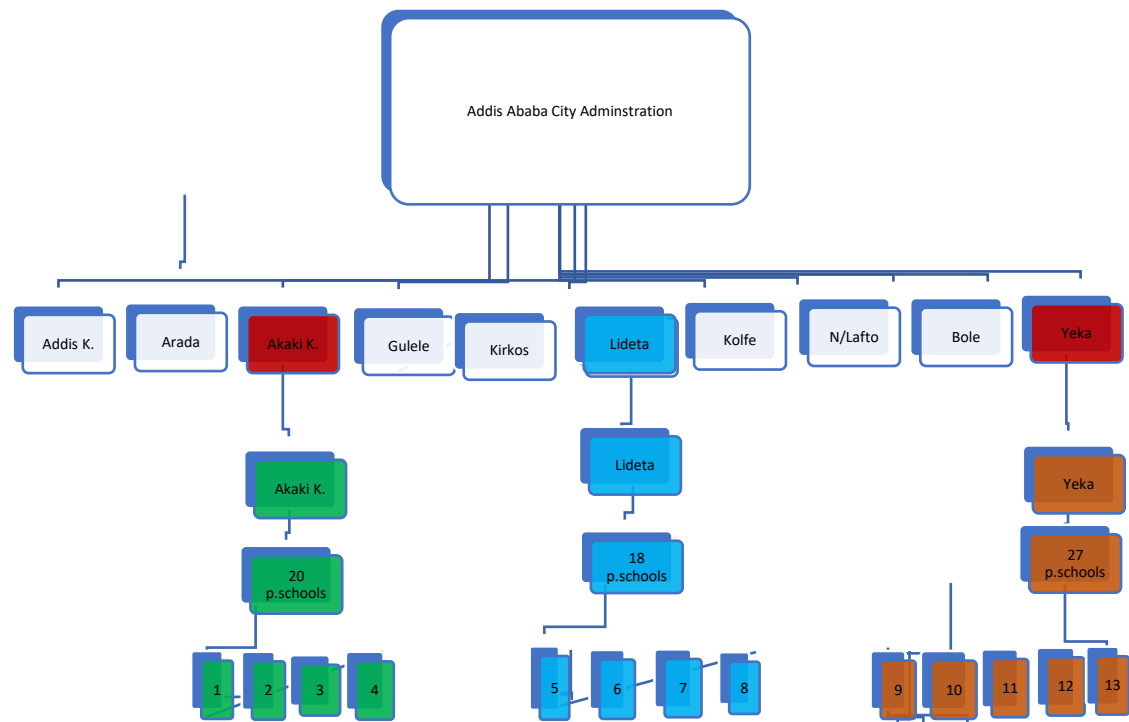


Fig.3. Flowchart in multistage sampling

3.6.1.3. Target Population

The target population for the study were all primary school children (age 7 to 14-year-old) in the selected sub cities, who were attending class and were using the school meal service in 2019/2020 (Feb2020 end of data collection date) academic year.

3.6.1.4. Study Population

The study population were those students (age 7 to 14-year-old), in the selected 13 primary schools, who were attending class and were using the school meal service regularly at the time of data collection (end of Feb.2020).

3.6.1.5. Inclusion Criteria

All school age children 7-14-year-old, who were in regular SFP, and were physically health looking at the time of data collection.

3.6.1.6. Exclusion Criteria

All schoolchildren (7-14-year-old), who were in the SFP but unwilling to participate and those students who drop out from the SFP or didn't consume school meals at all.

3.6.1.7. Sampling Frame

School register of students from grade 1 to 8, whose age were 7-14-year-old and who were in regular school meal service.

3.6.1.8. Study Period

The study was conducted between January 2020 to May 2020.

3.6.2. Sample Size Determination

The sample size estimation for this study was done using a p- value of 50%, 95% confidence interval and 5% level of significance with acceptable margins of error 5 %. and design effect 1.5. These values were taken because the researcher couldn't get previous study on the nutrition status of school fed school age children. Thus, single proportion study formula was employed to determine the sample size for the study. Since the study participants are homogeneous, the calculated sample size was allocated to each sub-city

proportional to the number of primary schools each sub-city has. The sample size was estimated by using the formula:

$$n = \frac{(Z_{\alpha/2})^2 * P (1-P)D}{E^2}$$

Where P = the prevalence or proportion,

E = the Precision (or margin of error) = 0.5%

$Z_{\alpha/2} = 1.96$ for 5% level of significance

D = is the design effect (the design effect can be taken from 1 to 2, reflecting the sampling design used such as stratified, systematic, cluster random sampling etc., estimated to compensate for deviation from simple random sampling procedure) ⁽⁵³⁾. Since the size of the study population was less than 10,000 the sample size was corrected using the following formula:

$$\text{Corrected sample size} = \frac{n * N}{n + N}$$

$$n + N$$

• Where:

– n is the non-corrected sample size

– N is the size of the source population

$$\begin{aligned} n &= \frac{(1.96)^2 \times 0.5 (1-0.5) \times 1.5}{(0.05)^2} \\ &= \frac{3.8416 \times 0.5(0.5) \times 1.5}{0.0025} \\ &= 1.4406 \end{aligned}$$

$$0.0025$$

$$= 576.24$$

n= 576.24 N= 30327 (source population for the study)

$$\text{Corrected sample size} = \frac{576.24 \times 30327}{30,903.24}$$

$$= \frac{17,475,630.48}{30,903.24}$$

$$= 565.49$$

$$= 565.49$$

$$= 565.49$$

Allowing 10% non-response rate, adjusted sample will be $565.49 \times 10/100$

$$= 56.549 = \underline{\underline{622}}$$

3.6.2.1. Variables of the assessment of the nutrition status of the school fed children

The variables of study for the assessment of the nutrition status of the beneficiary students were: Status of Malnutrition (Underweight, Stunting, Overweight, Obesity), Age, Sex Weight, Height and BMI.

3.6.2.2. Data Collection tools

Anthropometric measurements were taken using standard ADE (brand name for German weighing machine) made analog weighing machine model M308800 and height was measured with standard metallic non stretchable measuring tape. Height and weight measurements were collected from each study participants by trained health and nutrition professionals. All students were measured bare footed and with minimum clothing. Female students were politely asked to flatten their braided hairs (all boys were short cut hair) before height measurements were taken and only volunteer students were measured.

3.6.2.3. Data Quality Control Measures

To ensure optimal data quality, degree holder health professionals were hired for data collection and were provided a one-day refreshment training with simulation practices on anthropometric measurements.

3.6.2.4. Data Management

Before embarking upon data collection, pretest was done in Kebena primary school to ensure the validity of the measuring instruments.

Objectivity

The objectivity of the result of this study was granted, owing to the methods of sampling techniques, data collection and analysis undertaken. The research design used has also validates the objectivity of the study, in which every researcher can obtain precisely the same findings on the study participants.

Validity

Any measuring device or instrument is said to be valid when it measures what it is expected to measure, for this reason WHO standard clinical weighing scale & erect height measuring tape (ADE- a German made analogue weighing machine) was used and the machine was checked for consistency after every thirty measurements.

Reliability

The reliability of the data goes hand in hand with validity of measurements, anthropometric measuring devices were checked and rechecked for their consistency through a series of measurements and the machine was tested for accuracy and reliability during the pilot study.

3.6.2.5. Data Analysis

Data were polished for accuracy, timeliness, meaningfulness and entered into *WHO Anthro- plus software v.1.0.4*. Participants' age (in years) were converted to ages in months with *SPSS version 20 software*, using a formula: 'one year has 365.25 days, and one month

(365.25 divided by 12 [months]) is equal to 30.4375 days⁽¹³⁾. The indices used for the analysis were: underweight, stunting, overweight & obesity.

3.7. Ethical Consideration

Ethical approval was obtained from the Institutional Review Committee of the College of Natural and Computational Sciences of Addis Ababa University, Research Ethics Review Committee (CNSDO/297/12/2020), Addis Ababa City Administration Education Bureau (-9.2/5579/-28-40/35), and from the sub cities education offices and respective schools. After explaining them about the nature and objective of the study, all participants were asked for oral consent before participating in the research and audio recording, while, confidentiality and anonymity were kept throughout the study.

CHAPTER FOUR

4. Findings

4.1. Findings on the evaluation of the SFP

4.1.1. Evaluating knowledge about the National SHN strategy

For successful implementation of school feeding programmes, the knowledge of middle and lower level managers (SFP Coordinators) about the national school health & nutrition strategy is very much important. To this end the national school health & nutrition strategy advocate for knowledge and understanding as a key for successful implementation of the program. The strategy stated that:

“Central to the National SHN Strategy is the understanding that the impact of different SHN interventions is maximized when they are delivered in an integrated fashion.....” (page 23)⁽⁷⁾.

Equally important is the understanding of the strategy as the main resource document and practical guide for all SFP related practices across the country, as it is stated in the strategy’s scope and application section:

“The National SHN Strategy shall be applied to all students, teachers, and other staff in public, private, formal and informal education and training institutions at all levels and sub-sectors of the education system in Ethiopia....”(page 9)⁽⁷⁾.

Thus, assessing the knowledge of middle level (sub-city level SFP coordinators) and lower level (school level SFP coordinators) managers about the national SHN strategy was taken as first and prior step in the evaluation of the school feeding programme implementation, since they are the peacemakers for successful implementation of the program at grass root level. Accordingly, coordinators (both at the sub-city level and those in school level) were interviewed about the national SHN strategy and 14 of the 16 participants declared that they had never seen or didn’t read the strategy and responded as followed:

The sub city level coordinator:

“I didn’t get the chance to see the strategy; it might be mentioned in trainings. But recently the city administration endorsed and circulated a new technical guideline for the program and we are going to use this guideline” (LSBC-P₁)

School level coordinators:

“.....we have taken trainings by different NGOs, and started the school feeding, I don’t know the strategy specifically” (FUSC-P₁₄).

“for your surprise I’m hearing about the strategy right now from you...” (EESC-P₅).

I also had got the chance to see the so called ‘new guideline’ for brief of time in one of the sub city SFP coordinator’s office and from what I read the guideline was all about school meal service provision, which details the meal preparation, storage and delivery processes and about food handling and sanitation of the service providers. However, the guideline didn’t address other components of SFP’s services and activities listed in the national SHN strategy.

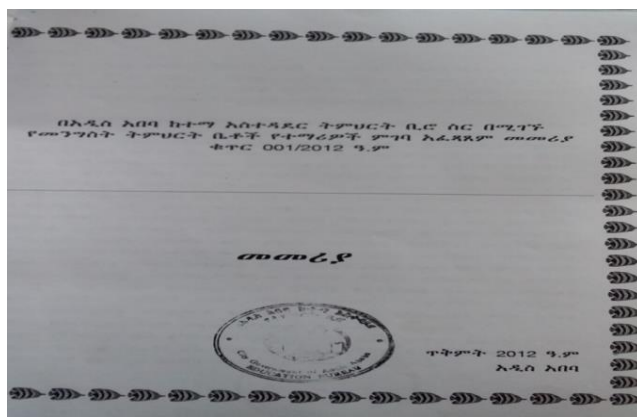


Fig 4. The new school meal guideline for primary schools in Addis Ababa

In an effort to have a complete image of the level of implementation of the national SHN strategy and SFP document review was done for the 2019/2020 academic year (up to Feb. 2020) (seen Table 15. in the annex for the detail). Fig 5. Shows percentages of implementations of the four major SHN activities & services by sub city 2019/2020 academic year.

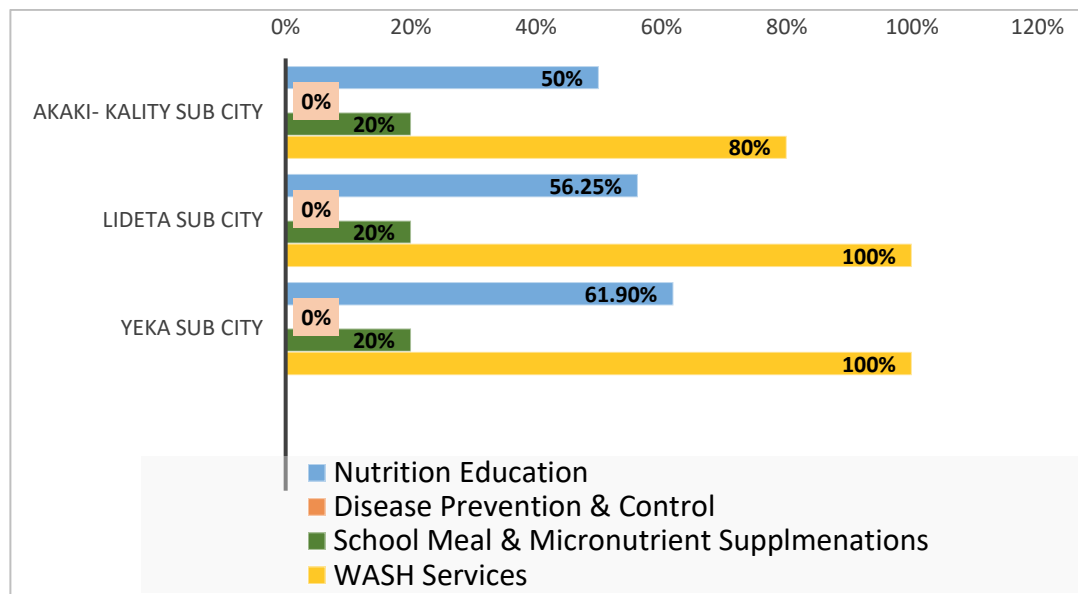


Fig 5. Level of implementations of the four major SHN activities & services by sub city 2019-2020 (up to Feb.2020) academic year.

4.1.2. Evaluating Level of Participation of the Target Population

School feeding programmes are designed as one of a social safety net programs, in which food insecure and nutritionally & economically disadvantaged schoolchildren get access to school health and nutrition services. Thus, it is important to ascertain whether the program was/is running as it was designed or not. One way of ascertaining this is through evaluating the level of participation of the target population. This can be determine by establishing the appropriateness of the beneficiaries for the service ⁽¹⁰⁾ and by determining the relevance of the program for the beneficiaries⁽⁶⁾.

4.1.2.1. Ascertainning the appropriateness of the beneficiaries for the meal service

Determining the appropriateness of the beneficiaries for the service is very much important because, sometimes, people use a service even though they are not entitled to the service. In other words, in evaluation studies it is important to determine not just the number of users, but whether or not they are eligible users. therefore, determining the appropriate use of an intervention should be an integral part of an evaluation.⁽¹⁰⁾. In an effort to address this issue, participants were interviewed about the SFP, how and when the

school feeding program was started in their respective areas and what were/are the eligibility criteria. Most of participants (15/16 SFP coordinators) responded that the school feeding program was started by YE ENAT WEG, in the years between 2014 to 2017. in some schools, however, different NGOs had been providing school meal services, before or later than YE ENAT WEG.

Schoolchildren were selected from the poorest families. The criteria were no clear and standard selection criteria; however, different selection techniques were used somewhat similarly in all schools. These criteria were: Class room teachers' recommendation, using student's portfolio, student's family requests, student's own report and doing home visit to food insecure children to ascertain the living condition of the children. The beneficiaries were: Orphan children, children with HIV and other health problems, children with financial problem.

Participants shared their experiences as follows:

"The school feeding program was started by YE ENAT WEG in 2015. there were also other NGOs like GUBAE EGZIABHER and WORLD TOGETHER, who came later on....." (ABSC-P7).

"The school feeding program was started by YE ENAT WEG with 250 students and by FAMILY ASSOCIATION with 40 students. Starting from this year, however, the program is running by the government with 400 students" (BGSC-P9)

"The school feeding program was started in 2012/2013 by COMPASSION, a local NGO with 40 students, then a year later another NGO called DAILY BREAD, first with 30 students then with 60 children started feeding in 2014. In the meantime, YE ENAT WEG, still another local NGO came and joined the program with 160 children" (FHSC-P2).

"The school feeding program was started by YE ENAT WEG-a charity organization with limited numbers of student. The selection was done using different techniques: we have students' profiles, which are filled at the start of each academic year, in which we record the socio-economic condition of each student, class room teachers also knew

children who have food problems, we do home visit to watch the children's living conditions. And the selected children where: vulnerable children, Children with HIV, those who live on streets were also included in the program. But the service was accessible only to limited number of students" (ATSC-P₈).

"..... the selection was carried out by class room teachers because the teachers knew the students very well, the students' family had also request personally to enlist their children for the service. So we were selecting the very poor and vulnerable children....." (YMSC-P₁₀).

4.1.2.2. Determining the relevance of the service to its beneficiaries

The primary objective of the School Feeding Program was to promote universal access of primary education to socio-economically disadvantaged group of the society⁽⁷⁾. The SHN strategy stated that:

"Every child has a right to quality health and nutrition services. School establishments are expected to be the tool towards achieving this goal in partnership with the communities. Access to health and nutrition services shall be arranged especially for poor and vulnerable children" (SHN ...page 11).

Having this strategic policy in mind participants were interviewed about the relevance of the SFP service for the beneficiary children particularly in addressing the children's food and nutrition needs. To this end, 15 of the 19 participants responded that the school meal service has eliminated school hunger. However, 3 of the 19 participants expressed their hesitation that they didn't believe the foods address the nutrition needs of children.

The participants' shared their views as follows:

"It was very difficult for the students to attend class in an empty stomach. Sometimes teachers at schools were feeding those hungered children themselves. But now since the school feeding has stopped the incidents of hunger in schools, students are attending their

classes without worrying about food. In addition to these, the school feeding program has also brought reduction in school dropout rates and school repetitions. The feeding has also made students remain in school compound at break times, so they are protected from the influences of the outside environment, which expose children to many mal adoptive behaviors. So, these are some of the main relevancies of the program” (LSBC-P₁).

“The school feeding has great relevancies, for instance there were students who beg lunch from teachers and there were many students who came school without having breakfast, now all those things are avoided. Incidences of school dropouts and absentees are also reduced. The school meal has abolished school hunger” (AMSC-P₁₃).

“This school is found in a village, where the poorest community in our sub city live. The majority of the community are engaged in daily labor and in small businesses. Most of our students live with their relatives so they support their families with income generating businesses, thus they were forced to miss classes, some even dropout of schools. But now the school provides breakfast and lunch services, the number of dropouts and missing classes were reduced. Students were sleepy and less attentive, now they follow their classes in alert and interest so these are some of the relevance of the school feeding program” (ZDSC-P₃).

“wow! it has great relevance, we had students who fall because of hunger and starvation. There were also some students who ate only roasted grains at lunch time. The school feeding has abolished all these miseries, and now we don’t face such problems” (KASC-P₁₅).

4.1.2.3. Determining the total number of users, non-users and dropouts

The other method used to evaluate the level of participation of the target population is determining the total number of: users, dropouts, and non-users of a service⁽¹⁰⁾. To compute

these mathematically a three- year from 2017/2018 to 2019/2020 school meal service delivery data was retrospectively reviewed from the schools' registry. A detailed description of these numerals' can be seen in Annex3. and Table5. below describe aggregated percentages of users, dropouts, & non-users of school meal users by years from 2017/18 to 2019/2020 in the study schools.

Table 5. Percentages of users, dropouts, and non-users of school meal service by years 2017/ to 2020 (up to Feb. 2020).

A/ Year	Percentage of Dropouts	Percentage of Non-Users	Percentage of users
2017/2018	0%	-	15.09%
2018/2019	0%	-	27.28%
2019/2020	6.76%	1.66%	92.23%

4.1.3. Evaluating the service delivery system

School feeding programmes are implemented as social safety net programs to address the problems of the needy. However, there are conditions when a programme may not have achieved its intended goals. This is may be due to the content of the intervention and/or the way it is being delivered. Therefore, it is important to identify problems with the way a service being delivered or finding ways of improving the delivery system. Thus, evaluating the delivery manner of a programme is a very important aspect of process evaluation ⁽¹⁰⁾. Accordingly, the present study attempted to evaluate the four major food & nutrition related activities and services listed in the SHN strategy:

4.1.3.1. Delivery of school meal service & micro nutrient supplementations

The national school health and nutrition strategy emphasizes and acknowledges the importance of optimal nutrition to school age children- stating:

“Good nutrition is essential to fully realize the learning potential of children and to maximize returns on educational investments. Malnutrition affects a child’s attentiveness,

concentration, aptitude and overall performance and has a negative impact on school attendance and enrolment. Due to this, schools shall promote good nutrition practices by integrating nutrition interventions including school feeding programmes and micronutrient supplementation into school activities” (SHN-page 19) ⁽⁷⁾.

Current practice

The school feeding program currently practiced in all government primary schools are in HGSF modality. The school meals were staple foods, prepared in the school compounds and delivered to children guided by school menus. The menu was developed by the city administration education bureau and circulated to all government schools operating the SFP. However, in some schools there are different menus than the one circulated by the city government. For instance, Table 7 & 8 show two different NGOs’ menu practiced in the same school in addition to government meal service delivery.

Table 6. Government school menu

	Breakfast		
	Days	Menu	Serving Time
1	Monday	EnjeraFirfir with tea	7:00AM – 8:20 AM
2	Tuesday	Difodabo (bread) with tea	
3	Wednesday	Dabo (bread) with tea	
4	Thursday	EnjeraFirfir with tea	
5	Friday	Repeating one of the above menu	
	Lunch		
1	Monday	Enjera with misirwot (lentils broth)	12:00 AM- 1:30 PM
2	Tuesday	Rice with bread	
3	Wednesday	Enjera with be key Dinich wot	
4	Thursday	Enjera with shiro& boiled egg	
5	Friday	Repeating one of the above menus	

Table 7. Christian development association (Gubae Egziabher) school menu

	Days of Feeding	Menu	
		Breakfast	Lunch
1	Monday	Biscuit with Tea/ water	Rice with milk
2	Tuesday	Bread with milk	Enjera with shiro & vegetable wet, alcha wet
3	Wednesday	Kinche	Macaroni and banana
4	Thursday	Dinch sils with bread	Egg with bread
5	Friday	Kinche	Enjera with ater kik or dinch key wet

Table 8. Charity Association (World Together) School menu

	Days of Feeding	Menu	
		Breakfast	Lunch
1	Monday	Firfir with Tea	Macaroni soup with bread & banana
2	Tuesday	Bread with milk	Enjera with key minchet & one boiled egg and ater kik alcha wet
3	Wednesday	Bread with Tea	Rice with bread and banana
4	Thursday	Bread with egg & Tea	Enjera with key minchet & one boiled egg and Dinch alcha wet
5	Friday	Bread be Dinch with Tea	Enjera with Shiro wet & Misir kik wet

Participants were interviewed about the school meal delivery manner, and among the respondents 12 of the 16 coordinators declared that the task of running and operating the canteen service was given to a group of women, called ‘mothers’ or “Cook Mothers” who are organized as small business enterprises. The cook mothers were recruited and given

basic trainings on: personal hygiene, how to prepare and handle foods by district women and children affairs offices. They were also screened against communicable diseases including HIV/AIDS by district health offices before they enter into service delivery.

The cook mothers are both service providers (business entrepreneurs) and cooks, who are responsible for every activity related to the feeding programme such as: availing the necessary raw materials for the service, preparing the meals, delivering and feeding the children. They operate by their own capital for profit and get payed every two weeks by the schools' management bodies based on their performance report. They are payed 14birr for breakfast and lunch (i.e. to mean 7 birr for each service) per a student per day. They prepared the meals with locally available food items, guided by school menu (Table6).

Regarding the meal service, all children shared the same meals and there was no special meal preparation and delivery to any student for whatever reason a student has.

According to the participants the role of the schools is limited to regulation and settling the bills for the cook mothers. The day to day feeding program were led by a member of committees organized from school teachers, students and students' family called WETEME (ወተሙ- ወላጅ-ተማሪ-መምሪን ኮሚቴ).

The sub city level SFP Coordinators described the overall service delivery as follows:

“.....we provide only school meals, there is no de-worming or micronutrient supplementation.The cook mothers took a five-day training on personal hygiene and they also checked for infections including HIV before they entered to service provision. The meal service is carried out with school menu and all children served same foods, no special feeding schedules” (AKSBC-P₁₂).

“.....we provide breakfast and lunch services with school menu throughout the week, from Monday to Friday on school days.We don't have special menus or special meal services to any one for any reason. But we do support children living with HIV with materials like school bags. Otherwise, all students are expected to share the same menu.in collaboration with women and children affairs office, trainings were given to 137

service providers (cook mothers) before they engaged into service provision at the start of the program this year. The district health offices have also provided trainings to the cook mothers on how to maintain personal hygieneAwareness creations were also given to the school teachers' as well" (LSBC-P₁).

".....there were also other NGOs like GUBAE EGZIABHER and WORLD TOGETHER, who came later on..... These two organizations have been giving school meal services for the past 3 to 4 years. they have their own menus and systems. There are 250 students supported by GUBAE EGZIABHER and 67students by WORLD TOGETHER, they are still operating. The government, GUBAE EGZIABHER and WORLD TOGETHER have their own menus, The NGOs provide milk, eggs and fruits, which are not included in the government menu" (ABSC-P₇).

"..... regarding micronutrient supplementations, we didn't have such things, I don't know? They may get from the foods, actually they get Iodine because we use Iodized salt.Of course, there are 216 students, who are supported by the ETHIO- SWIDISH, initiated by volunteer individual who was the student of this school, these students get milk with bread and we sometimes give this milk to those children with HIV and those with severe food problem. Regarding food preparation, the cook mothers are responsible for all activities including purchasing goods and raw materials for the meal" (FHSC-P₂).



Fig 6. Students at lunch (NGO meal service) Addis Brehan Primary School



Fig7. Students at lunch (Government meal service) Addis Brehan Primary School

One of the cook mothers has articulated their services as:

“.....we have menu and we provide the meal service according to the menuwe provide enjera three days a week, they also be given rice, but they request us meat, which

is not in their menu. They ask a lot, they ask us macaroni, pasta. Even their numbers differ when there is an egg service, this indicates that they want eggs. Anyway, they ask a lot.there are some students who didn't want to eat here, because even if this is a government school, there are families who can feed their children, so some students have left the program.We prepare the necessary materials and consumables by our own capital, we buy raw materials like sugar and cooking oils from SHEMACHOCH we have market linkage with them, but the other consumables like vegetables and other materials we buy like any individuals from the local retailers. But we are expected to feed the children with a variety of meals each day” (SQM-P₁₇).

4.1.3.2.Delivery of disease prevention & control services

The SHN strategy stated that:

” schools shall ensure that they put in place measures aimed at preventing diseases through health education and implementation of preventive and control interventions..... Schools shall administer mass de-worming campaigns based on the prevalence and intensity of worms and should include all school-age children..... providing children with frequent (6-monthly or annually) oral treatment for micronutrient deficiencies and worm infections.SHN-page 15-19”⁽⁷⁾.

However, most of participants (15 of the 16 SFP coordinators) reported that disease control & prevention activities, especially deworming and micro nutrient supplementations are not being implemented at all. But one participant (from Frehiwot primary school) had reported that de-worming had been given in her school until the government took over the school feeding program.

“In regard to micro nutrient supplementations and de-worming services I'm not sure the services are available, other than periodical vaccination campaigns at times of problems” (LSBC-P₁).

“.....Regarding the de-worming and micronutrient supplementations services, we never had such services, but I think it is very important if the service is available because in our school situation there is high need for it, because there are students who live in streets and under church fences, who are potentially exposed to parasitic infestations” (ATSC-P₈).

“.....de-worming tablets had been given to students by SRI- an NGO, which was working on teachers’ capacity building activity, The NGO had been giving the de-worming for the past three years once a year, but this year (2020) after the government took over the feeding program, the service was stopped because the NGO has left” (FHSC-P₂).

4.1.3.3. Delivery of nutrition education

Knowledge and practice of good nutrition is believed to have a lasting positive effect on the nutrition condition of an individual and a community at large. For this reason, countries incorporate nutrition educations on their school curricula. The national SHN strategy has given due attention to nutrition education.

“Literacy and numeracy education may amount to nothing if essential life skills are not also developed. Skills-based health education goes beyond the provision of factual information to promote attitudes, values and skills associated with physical and mental health. This approach to health, hygiene and nutrition education focuses upon the development of knowledge, attitudes, values, and life skills needed to make and act on the most appropriate and positive health-related decisions with respect to issues such as....., appropriate nutrition throughout the lifecycle. The Ministry of Education in collaboration with the Ministry of Health and relevant stakeholders shall ensure that health and nutrition issues be included in the school curriculum and be taught as subjects in all schools..... Schools shall have gardens for demonstration purposes

and to serve as resource centers for learning more about nutrition practically (page 14 &19)”⁽⁷⁾.

Participants were interviewed about nutrition education and 11 of the 13 coordinators declared that nutrition education is provided from grade 1 to 8 as a topic in different subject like: environmental science, integrated science and biology.

I had also discovered nutrition section in grade three student text books: ‘Environmental Science (አካባቢ ሳይንስ ሙጽሀፍ)’ the first chapter detailing with “Food and Family Health’- (ምግብና የቤተሰብ ደህንነት)”, the chapter has different sub- topics which covers about 36 pages. However, participants reported that the teaching learning process was limited only to class room sessions because most of the schools have neither school garden nor cooking demonstrations that use for nutrition teaching aids.

“nutrition education is provided in different subjects, for instance students from grade 1 to 4, learn about nutrition and hygiene in environmental science and those from 5 to 8 grades learn in integrated science and biology, in addition to the class room, they learn in school clubs, but regarding to school garden and cooking demonstrations we don’t have them” (AMSC-P₁₃).

“..... about the school garden, we had school garden up to last year and we had been planting vegetables like tomato even for the school feeding but this year we constructed dining hall on the garden area and we no longer have school gardens” (FUSC-P₁₄).

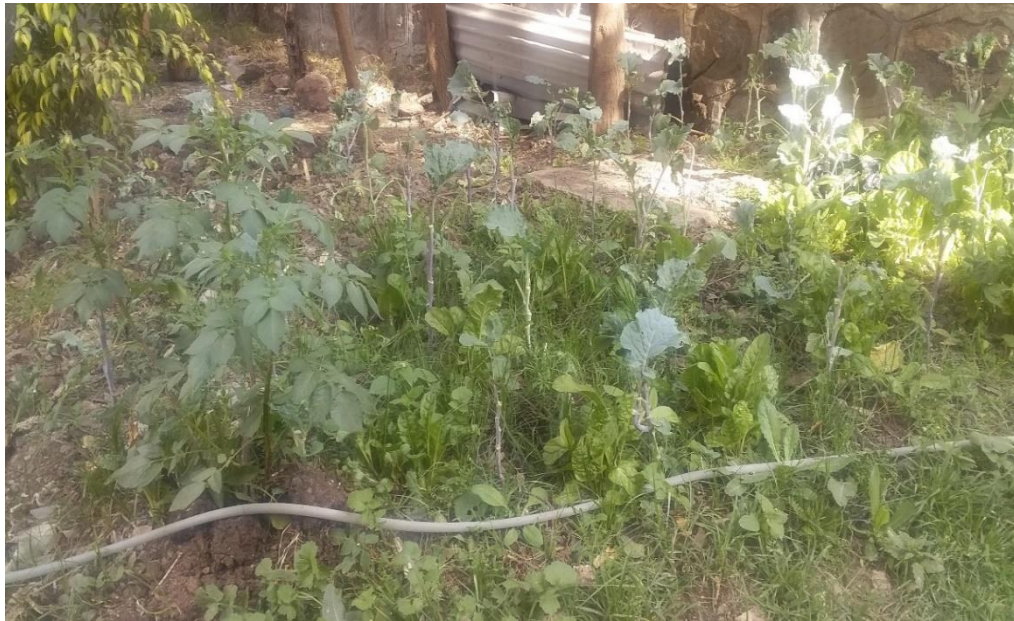


Fig 8. School garden- Limat Minch primary School



Fig 9. School garden Enat Ethiopia primary School

4.1.3.3. Delivery of WASH- Services

The national SHN strategy acknowledges the importance of the WASH services stating:

“A safe and adequate water supply as well as proper sanitation and hygiene promotion is a prerequisite for realizing a healthy and hygienic school environment.....” ⁽⁷⁾.

However, the WASH situation in government schools in the metropolis is not much far from the national figures. According to Mathijs and et al (2018) report on ‘School WASH of Addis Ababa’, only 31% of primary schools have access to safe WASH and only 6% of schools had reliable access to water five consecutive school days per week, only 35% had useable toilets, only 66% of handwashing taps were functional, and soap was present at a mere 10% of the schools in 2016⁽⁵⁴⁾.

According to participants, however currently, due to an extensive schools’ capacity building and renovation works done in last summer (2019) by the city government, much of the latrine & handwashing facilities became functional and they didn’t have problem with WASH services except water supply interruptions for which they are using water reservoirs tanks. They expressed the WASH situations as follows:

“..... we have separate latrine rooms for boys and girls and for the staffs as well.....Regarding handwashing practices, we renovated and maintained the sinkers and water pipes in the summer so all handwashing pipes are working and students are using them even though we couldn’t supply soaps for the students. But those students who are supported by the NGOs use soap for washing their hands” (ABSC-P₇).

“..... we have separate latrine rooms for girls and boys (six holes for girls and four holes for bays), the staffs’ toilets are also gender specific.....but we have problem with water availability for handwashing or other service and most of the time we didn’t get the pipe water, so we bought two large water reservoir tanks. We use the tanker water after treating with water treatment tablets (WUHA AGAR). The children also brought drinking water with plastic bottles from home.” (EESC-P₅).

“we provide safe water to our students and I think we are in a better condition compared to other schools, because an NGO called SPLASH has installed us water purification machine with a cost of over 200,00 birr and our students use pure water for drinking, so we don't have problem with potable water. We have also standard handwashing stations, around the toilet areas and near to the feeding hall, students provided soap for handwashing. Our latrines are separate for boys and girls and they are clean” (ZDSC-P3).



Fig 10. Students' Latrine Room Furi primary School.



Fig 11. Students' Latrine Room Beseka primary School



Fig12.Handwashing Basin and Water Purification Machine Zeray Dres primary School



Fig 13. Dry waste garbage- Frehiwot primary School



Fig 14. Dry waste garbage- Furi primary school



Fig 15. Dry waste garbage- Limat Minch primary School

4.1.3.4. Staff morale, motivation and interest

For successful implementation of any programme, specially, for a programmes like school feedings, which run in a safety net program, the morale, motivation and interest of the implementers are very much crucial. To this end, according to SFP coordinators (8/16) report, school staffs are not only coordinating but also had been feeding vulnerable children by their own expenditures even before the advent of NGOs or government.

“.....the school communities had been feeding about 15 vulnerable children, who had food shortages by contributing from their pockets, before the advent of the NGO..... I think the commitment of the school staffs are the milestone for the success of the program so far.” (EESC-P₅).

“.....we had been feeding some poor students by teachers’ and staffs’ contribution in our own clubs, who were in severe conditions but due to lack of budget couldn’t be included in the NGOs’ feeding program.the only positive thing we have is the determination and commitment of our staffs, especially our female teachers. they are doing great jobs, by coordinating the overall feeding activities. They are working in a weekly program to facilitate the feeding process.” (ATSC-P₈).

“It is because of our committees’ strength that the program is running, otherwise it is tiresome.....our committees are the positive opportunities we have, they work in responsibility and sense of ownership” (BGSC-P₉).

4.1.3.5. Level of Inter-sectorial collaboration

School feeding programme is a complex social safety net program which needs to be addressed through multi-disciplinary, inter-sectoral collaboration with community involvement. Accordingly, the SHN strategy calls for different stakeholders to participate in the programme in an integrated & coordinated manner through: advocacy, capacity

building and strengthening of SHN systems, complementing government efforts in mobilizing resources as well as in programme implementation and dissemination of information on SHN activities...SHN page25-26 ⁽⁷⁾.

Trainings and capacity buildings are also areas of inter-sectoral collaborations. The national SHN strategy has also emphasizes training and capacity building:

“Designing and implementing in-service and other short-term training programmes in the area of SHN using the revised curricula will be the responsibility of the ministry of Education while, the ministry of health is responsible to: “Providing advice and training on existing and new health and nutrition policies, Providing technical support in the training and in-servicing of school personnel....SHN page 25-26” ⁽⁷⁾.

In this regard 13 of the 19 participants responded that the inter-sectoral collaborations are low and unsatisfactory. However, they also admitted that the extent of stakeholders’ involvement differs from sub city to sub city and between schools.

“.....In collaboration with women and children affairs office, trainings were given to 137 service providers (cook mothers) before they engaged into service provision at the start of the program this year.Awareness creations were given not only to the cook mothers but also to the school teachers’ as well.We do supportive supervisions based on the new guideline I mentioned earlier and based on the annual plan we have planned. We as sub city coordinator also monitor closely every activity related to the feeding program” (LSBC-P₁).

“We have committees, who regulate the feeding activities to insure the quality of the meals, they even taste the foods before dispensing it to the children; they also check every student has washed his/her hands before entering to the dining hall.....to your surprise there is no any training or capacity building activities so far, late alone the staffs and we the coordinators even the cook mothers didn’t get any capacity building, which could help them provide better services, unfortunately there is no such things in our school.

“.....we have communication links with SHEMACHOCH, a local community business enterprise, which provide us cooking oils and sugar, the enterprise has also donated cooking pan which cost about 20,000birr for the school meal service....The district health office has also donated us water reservoir tank which has the capacity to hold about 10,000liter. We work closely with these two government offices. The women & children affairs office is responsible for recruiting, training and deploying the cook mothers. The sub city and district education offices also helped us by suppling some chairs and supportive supervisions, they gave us training on how to prepare the foods” (FHSC-P₂).

“We have established committee; the committee regulate the feeding process. the inter-sectoral collaboration is very low; the health offices came to find faults. Even the education office is not that much supportive, they only declare orders. We didn’t get any training or capacity buildings” (BGSC-P₉).

4.1.3.6. Challenges and opportunities

Participants were interviewed about the challenges and positive opportunities they have faced in implementing the SFP. Accordingly, 11 of the 16 SFP coordinators responded that they faced infrastructure challenges and 12 of them reported that they have been implementing the SFP with many challenges and the challenges became hard after the government took over the feeding program, the main reasons for these challenges they reported were:

1. The government’s decision to entitle all schoolchildren to use the school meal service has dramatically increased the number of users.
2. The government feeding programme was started suddenly with existing infrastructures and logistics, which were used for limited numbers of beneficiaries during the NGOs delivery systems.

Most of the challenges they mentioned were: shortage of serving utensils, cooking materials, student seating chairs and uncondusive cooking areas (kitchens) and dining halls and low budget allocation i.e. 14 birr for breakfast and lunch for a student per day is very low.

During field work the researcher had noticed that most of the schools have problems with kitchens, dining halls, and material shortages like serving plates, for which in some schools I observed students with different serving plates and asked the coordinators the reason for the different plates and they told me that students were forced to bring their own plates from home due to lack of serving plates in the schools. In some schools, students ate their lunch in an open area exposed to sun light. However, the intensity of the problem and challenges differ between schools, for instance, in some school students ate in relatively well furnished dining halls, cook mother work in a kitchen with electric power, in other schools they work with fire woods, in some other school cook mother even didn't have kitchen at all and work in open fields.

One of the sub city level coordinators has put the situations as follows:

“.....we have problems in cooking areas, the kitchens are near to the toilets in some schools, this is dangerous we know that but we need to feed the children.For instant in one school around Ferensay the students' kitchen is found near to the toilet, the students have no dining rooms. We don't have eating plates or dishes, so students brought their own dining plates from their homes, we worry about risks of contamination because they are told to bring clean plates from home but they may not wash their plates..... we have problems with water & power supply, problem of dining rooms & kitchens, shortages of cooking utensils, and utilities.....to manage water problems, schools use tanker water for all purposes including drinking, which needs attentions. In some areas the problems are more severe, for example, we faced water scarcity even for handwashing in Yeka Abado, Tafo, and around Kotebe.The only unexpected positive opportunity we got is the city government's determination and devotion to feed all school children, because this is critical in a sense that the government acknowledges the severity of the problem. ...” (YSBC-P₆).



Fig 16. Children on lunch queue with their own plates- Yeka Terara primary School



Fig 17. Children eating lunch in an open space- Zeray Dres primary School



Fig 18. Children eating lunch in a shed- Addis Brehan primary School



Fig 19. Children having lunch in a crowded dining room- Furi primary School



Fig 20. Students' dining hall- Limat Minch primary school



Fig 21. Students' dining hall- Kaliti primary School

“.....There are students who came into the meal service and left now and then. This inconsistency is becoming hard for us to manage the service and the main reason that confronted us with the service providers during payment settlements. The unintended challenges we faced was shortages of materials, which are necessary for running the program, because holistic feeding was launched suddenly, without any prior preparedness. this exposed us to great burdens it took us lots of time to come up with it and run. Even the cook mothers were not in a position or didn't have capacity to feed that huge number of children so many mess-ups were created. For instance, the authorities told us (schools) should cover water and electric costs but it took us a lot of time to manage it, because the school is not prepared for this purposes from the beginning, for example we didn't have three phase electric meter, which is necessary for the cook mothers.” (ATSC-P₈).

The cook mothers explained the challenges as follows:

“..... We buy consumables like vegetables and other materials from local retailers same as any individual, we didn't have market linkages.....we are a team of women about 60 in number came here to provide the meal service, but the business is not profitable. We work here because we don't have other options.....you know there are graduates among us, but we have been working here for the past five years. we share the money we got, but the money doesn't cover even our medical expenses, we spent the whole day under fire, we work for survival, they paid us 14 birr for breakfast and lunch services we provide for a student a day. But we are expected to pay 2% withholding tax and another 2% income tax from that 14birr. We appealed to all concerned bodies about the market situation and to make us at least free of taxes but they didn't respond.” (SQM-P₁₇).

“we have problem with the working area, it isn't comfortable. we are working with charcoal. We pay 2% tax for the school and another 2% tax for the revenue authority.the market price is high and we are paid only 14birr per student per day.” (SQM-P₁₉).



Fig 22. Cooking area 'kitchen' -Kality primary School



Fig 23. Kitchen with electric stoves Facility-Addis Brehan primary School



Fig 24. Cook Mothers working with fire wood- Furi primary school

4.1.4. Experts' views & opinions on the overall SFP

The present study attempted to incorporate the views of SFP experts (SFP coordinators' and service providers') on the overall implementing process of the SFP and resource management.

4.1.4.1. Experts' view on resources available and their management

Resource management helps to identify what works, and what activities should continue, what works and what activities need improvement, with what resources and how and by whom ^(55; 56).

School feeding program coordinators (Experts) at sub city and school level and the service providers were interviewed for their opinions.

"In availing raw materials and consumables, it would be better if the government takes the responsibility and distribute to the schools, than be in the hands of the service providers (cook mothers). Since the government has the capacity to negotiate with the suppliers or buy through bids." (LSBC-P₁).

“..... it seems difficult to me if the government continues running the program by itself, so it will better if the program is run by independent body like agency or anybody and the government regulates that body. But if the program continues the way it is now, it will be difficult to the government to manage it in the future, and through time I feel that the program may fails” (EESC-P5).

4.1.4.2. Experts’ views and opinions on future implementations.

The national SHN strategy gives due attention to a ‘Bottom Up’ approach in designing and implementing the school health and nutrition programme.

The SHN strategy states:

“School SHN teams would identify SHN-related problems with members of their local community and prioritize activities to be included in the schools SHN plan. Woreda SHN teams would be responsible for compiling a “menu” of health and nutrition conditions in their locality amenable to being addressed through SHN interventions.....they are also responsible for identifying local resources to support SHN interventions in schools. Such resources shall come from government budgets, development partners and other stakeholders.” (SHN, page 16).

Participants were interviewed for their expertise views for better future implementation of SFP. They expressed their concern with the program’s continuity and sustainability, because of the current delivery system. They raised different reasons for their concern, for instance, they feel the program lacks a clear system, they also perceived that the current holistic (all-inclusive) feeding program may have hidden political agenda related to the coming election and they were also concerned about program’s high cost. However, all participants declared that they appreciate and wish if the program’s continued.

“I believe the program must continue, but there should be a system, otherwise it will be difficult and tiresome if it continues the way it is now.there might be different ways to run this program in a better way, I’m not sure about it, some says there should be an agency, I don’t know about agencies but I prefer if the school feeding program runs like the universities’ canteen system. I also prefer targeted feeding than holistic feeding.the community should be asked on the way it should be implemented, because there are some community members who can cover their children’s meals, so it is unnecessary & wastage of resources to feed all children.The other thing targeted feeding creates good opportunity to have quality service because resources will be used economically.Otherwise if possible, it will be better if that 14birr is given to the needy families as a home take ration.” (ATSC-P₈).

“.....If the program is to continue in the future, schools should have their own income generating capacities. I have an experience on this, we school coordinators had the chance to visit one school in Amhara regional state, a school in Sekota, a place where the highest record on stunting, the school was established by an NGO to help those vulnerable children in the district. In an effort to make the school self-reliant, the NGO helped the school to have its own cattle to produce milk to the school feeding program consumption, but now the school has reached making business by selling dairy products to the community and even established dairy processing factory. So this experience must be adopted to our schools according to local situation.” (AKSBC-P₁₂).

“Truly speaking, I prefer the program continues, but the intention of the government was to create job opportunities for these women and enabling them to run their own business with less profit by helping ‘their’ children as the same time. But the cook mothers miss understood the objectives of the program. So it would be better if they are hired cooks, with a monthly salary as any of us.The other thing it seems difficult to me to run this program by the government alone, so it will better if the program is run by independent body like agency or anybody and the government regulates that body.As an

option, I advise the government that it will be better to give that 14 birr to students' family as Home Take Ration in the form of food aid, by providing them like wheat flour, cooking oils and sugar.” (EESC-P₅).

“In my opinion, I prefer the program even extends to high schools. I also prefer holistic feeding because it avoids peer influences, stigma and discrimination related to home meals among students. So, if the program to continue it has to be with the current delivery manner. To avoid sense of dependency and encourage ownership the community should be involved and contribute for the program. The other thing this program needs to be run by its own manpower. There should be capacity building trainings especially for the service providers. The payment needs be corrected, the cook mothers are working without profit and this is challenging. The electric power needs to be corrected, if the issues related to power supply solved the cook mothers will do most of their jobs with electric and this lowers the operational costs for the service providers. There should be independent body and budget for the program.” (FHSC-P₂).

“I suggest, for better use of resources, those NGOs who have been in school feeding program should have shift their support to fill the gaps crated in materials and infrastructures. It is better if the role of the cook mothers be limited to food preparing and serving. They should not be the cooks and at the same time sole service providers.....I support holistic feeding.....but at the same time it is possible to prepare improved foods for those students with health problems like HIV, that help improve their health condition.” (LSBC-P₁).

“In my opinion I prefer the program continues.....But I do prefer the service would be given to selected children, this might have its own problem but holistic feeding also has its own limitations, because there are self-sufficient students and families.....as to me the feeding program needs to have its own operators other than the schools’

management.....It is also better if students get meat at least occasionally on holydays like universities, because we all like meat. To deliver quality services, the payment should also be corrected because it is impossible to deliver quality foods with 14 birr” (LMSC-P₄).

“I wish if the payment situations and the menu improved.the children get nutritious foods that includes meat and milk at least once a week.So, everyone in the country and those in abroad should support the government to ensure the program’s continuity at least at the present level of delivery.” (SQM-P₁₇).

“.....crate links with local smallholder farmers and so we get raw materials from them, the price may be a little bit better and we will be able to improve the meals” (SQM-P₁₈).

“the community need to be involved to insure sustainability.The other thing the program needs to have its own professionals preferably, food and nutrition professionals.I also advise the NGOs support us with logistics, since the government is providing the meals, we need them to help us in fulfilling the necessary infrastructures for the program. I personally prefer selective feeding than holistic, because it saves unnecessary expenses and wastages, so I advise the government to reconsider the service delivery system.The other thing is the payment it needs to be reexamined because it is impossible to deliver quality service with 14birr” (YSBC-P₆).

“I wish if it continues because the program is solving many problems.in my opinion, I think the program should be supported with research. The other thing the payment needs to be amended because it is impossible to deliver quality meals with only 14birr.I prefer selected feeding because it will be better and easy to deliver quality services to the most affected children than bulk feeding.....” (YTSC-P₁₁).

4.2. Results of the assessment of the nutrition status of the school fed children

4.2.1. Anthropometrics results

The following tables disclosed the anthropometric results of school fed children age 7 to 14-year-old. Table 9. Shows overall prevalence of undernutrition among school fed children age 7 to 10-year-old as measured by WFA & HFA. Table 10. Shows overall prevalence of malnutrition among school fed children age 11 to 14-year-old as measured by BFA & HFA.

Table 9. Age & Sex combined prevalence of undernutrition (underweight & stunting) among school fed children age 7 to 10-year-old

Age groups		N	Weight-for-age (%)						Length/height-for-age (%)					
Years	Month		% < -3SD	(95%CI)	% < -2SD	(95%CI)	Mean	SD	% < -3SD	(95%CI)	% < -2SD	(95%CI)	Mean	SD
Total (5-19)	(61-228)	306							0.7	(0%, 1.7%)	9.8	(6.3%, 13.3%)	-0.74	1.03
Total (5-9)	(61-119)	234	4.3	(1.5%, 7.1%)	10.7	(6.5%, 14.9%)	-0.77	1.11	0.4	(0%, 1.5%)	10.3	(6.2%, 14.4%)	-0.69	1.06
Total (10-14)	(120-179)	72							1.4	(0%, 4.8%)	8.3	(1.3%, 15.4%)	-0.9	0.88

RUNNING HEAD- ASSESSMENT OF THE IMPLEMENTATION OF SCHOOL FEEDING PROGRAM AND NUTRITION STATUS OF SCHOOL FED CHILDREN

Table10. Age & Sex combined Age & Sex combined prevalence of malnutrition (underweight & stunting) among school fed children age 11 to 14-year-old

Age groups		N	BMI-for-age										Length/height-for-age (%)							
Years	Month		% < -3SD	95% (I)	% < -2SD	95% (I)	% < +1SD	95% (I)	% < +2SD	95% (I)	% < +3SD	95% (I)	Mean	SD	% < -3SD	95% (I)	% < -2SD	95% (I)	Mean	SD
Total (5-19)	(61-228)	153	2.2	(0.4%, 4%)	3.6	(3.5%, 3.7)	3.7	(4.3%, 4.3)	3.8	(0%, 1.1%)	0	(0%, 0.2%)	-0.46	1.04	6.1	(0%, 3.1%)	17.1	(12.8%, 21.5)	-1.06	0.98
Total (10-14)	(120-179)	153	2.2	(0.4%, 4%)	3.6	(3.5%, 3.7)	3.7	(4.3%, 4.3)	3.8	(0%, 1.1%)	0	(0%, 0.2%)	-0.46	1.04	6.1	(0%, 3.1%)	17.1	(12.8%, 21.5)	-1.06	0.98

CHAPTER FIVE

5. Discussion

5.1. Discussion on evaluation of the SFP findings

I. Evaluation of knowledge about the national SHN strategy

The national SHN strategy gave due emphasis on the knowledge of all involved, in implementing the SHN in an integrated manner (SHN page7 &23)^(7; 57). However, 87.5% of the SFP coordinators participated in the interview reported that they have never seen or read the national SHN strategy and only 4 of them had some information about school feeding and the new guide line endorsed recently by the city administration.

Reviewed document findings also showed low level of accomplishments of the four major SHN services & activities, with the overall accomplishments being: 57.7%, 0%, 20% and 93.8% for nutrition education, disease prevention & control (de-worming), school meal services & micronutrient supplementations and WASH services respectively. The sub city level overall performance for the studied schools were found to be 36.85%, 43.42% and 45.28% respectively. The individual school performances were also showed great variations (see Annex 2). The degree of implementations of the services not only differ between sub cities and between schools but also lacked comprehensiveness. These lack of service comprehensiveness were also reported in the McGovern-Dole SFP evaluation of the Afar and Somali regions and a study done by Yigzaw ^(6; 9).

II. Evaluation of the level of participation of the target population

Evaluation of extent of involvement of the target population was assessed by ascertaining the appropriateness of the beneficiaries for the service and determining the relevance of the service to its beneficiaries.

Accordingly, 93.75% of the SFP coordinators declared that SFP in their respective schools was started by different NGOs as a safety net program to provide school meal services for selected vulnerable schoolchildren. However, they also affirmed that the service was accessible only to limited number of students, because of the NGO's targeted

feeding practice. But, after the gov't took over the school meal service in 2019/2020, the issue of accessibility was solved and all schoolchildren entitled to free school meal service without any preconditions.

Reviewed documents have showed that accessibility of the service has increased drastically after the government took over the service, as percentage of service users escalated from 15% in 2017/18, and 27% in 2018/19 to 92% in 2019/20. This high percentages of service users may not only indicate accessibility of service but may also show acceptance of the service. However, it should be noted that people may be unhappy and dissatisfied with a service, nevertheless they use it simply because there is no other option available to them. Thus, to minimize this shortcoming the percentage of users was compared with percentage of dropouts and percentages of non-users of a service as recommended by experts ⁽¹⁰⁾. The findings indicated that the level of participation of the target population was very high see Table 5 & Annex 3 for the detail.

In terms of the relevance of SFP in ensuring the food and nutrition problem of the children, 93.75% of participants unanimously declared that the school meal service has abolished school hunger and secured students from worries of food shortages and 2 participants even believed that the meal service has improved physical appearance of students. However, about 19% of the participants had concerned on the quality of diet, claiming the meals lacked animal sources foods and doubted its contribution in improving the nutrition condition of the beneficiary students. In this regard reviewed document findings also showed that the school menus were monotonous-cereal based and static. Sadly, participants had also reported that students have ever been supplemented with micronutrients of any kind and the meals had never been fortified with any micronutrients, even though the national SHN and experts recommend such interventions^(8; 15). These findings might put the relevance of the school meal service in question in achieving the desired improved nutrition. Nevertheless, from participants' reports, reviewed document findings and my observation, as a researcher, I have positive stand that the school meal service has contributing a lot in alleviating school hungers and worries of foods lacks for the poor children.

III. Evaluation of the Service Delivery System

1. Delivery of School meal service & Micro nutrient supplementations

According to Participants' report the school meals are prepared in HGSFP modality, based on school menus and delivered to the children twice a day- breakfast and lunch throughout the weeks on school days. However, some participants (about 21%) mentioned that there are some situations in which they didn't follow the menus. For instance, in some schools the only available animal protein (egg) and marmalade were omitted from the meals due to high cost and fear of food poisoning. On the other hand, the SFP coordinator at Addis Brehan primary school, reported that two NGOs are providing meal service with their own menus. The NGOs' menus are relatively better in food composition than that of the government one seen Tables 6, 7 & 8. To witness this situation, I had the chance to see the foods prepared by the NGOs' and that of the government and saw a clear difference in the quality of the meals.

The NGOs' sponsored children were not only relatively being served with better meals but also dine in a better room than the government sponsored children, Fig6 shows the NGOs' students having their lunch in a class room, while Fig7. shows government sponsored children consume their lunch in a shade in Addis Brehan primary school. According to the coordinator of that school, one of the NGOs provide meals throughout the year including school off days and in summer. The NGO also provide a home-take ration in the form of wheat flour for the beneficiary students. These kinds of discriminating service delivery could have a negative psychological influence on the government sponsored children.

In regard to micronutrient supplementations, 94% of participants declared that they have never seen either students get micronutrient supplementation or the school foods enriched with or fortified with MNP.

2. Delivery of disease prevention & control services

Disease prevention and control specifically de-worming services are one of the key nutrition sensitive interventions, that help scale up the outcome of nutrition specific interventions. Both the SHN strategy and the national nutrition program incorporated the service as one of the focused area of activity^(7; 57). This is because, intestinal parasitic infections are one of the causes for undernutrition among schoolchildren^(8; 41). However, almost all participant 93.75% reported that de-worming services had never been implemented in their respective schools and students were never been screened for malnutrition. Only one participant (Frehiwot primary school) reported de-worming tablets had been given in her school by NGO called IRS, until the government took over the SFP.

3. Delivery of Nutrition Education

68.75% of SFP coordinators participated reported that nutrition education is limited to classroom sessions and schools didn't have gardens, and only 25% of participants reported to have school garden in their schools Fig8 and 9 showed instances of school gardens. However, during field work I had the chance to observe, that most of the schools have a potential space for school garden, poultry production and some schools even have the potential for dairy production, which if implemented will help improve the SFP. But regarding school cooking demonstration, the I realized that the idea was new for all SFP coordinators, and needs a lot of work to revolutionize the concept and implement in the schools.

4. Delivery of WASH- Services

Mathijs Veenkant & et al (2018) in their report on the WASH facility in Addis Ababa, showed that implementation of WASH was low ⁽⁵⁴⁾. In this regard almost all (93.75%) participants reported that WASH facilities in their respective schools are functional and they have separate toilets for boys and girls and for the staffs as well. However, only 23% of schools provide soap for handwashing, which was higher than that of the Addis Ababa WASH report (which was only 10%). Reviewed document findings had also strengthened

the participants report as it showed the overall performance of WASH services in the study schools were 93% and for that of the WASH-Addis Ababa report was only 66%.

However, the accomplishment of the WASH service varied between schools; for instance, some schools have well organized and standardized latrine, handwashing and safe potable water facilities while others had limited facilities.

To this end Dejazmach Zeray Dres primary school could be taken as model in such facilities Fig12. showed handwashing basin and water purification machine of the school. Some participants also reported that they use water tabs (WOHA AGAR) for treating reservoir water (Enat Ethiopia primary school). But some schools have sub-standard WASH facilities, for example Beseka primary school was one of such schools Fig11. Shows the student latrine room of Beseka primary school. The researcher has observed the whole school compound and felt that the school was the lowest performing in all SWASH facilities. However, schools with 'good' SWASH facilities doesn't mean that they fulfill the criteria set by the ministry of education school SWASH standards⁽⁵⁴⁾.

5.Level of Inter-sectorial collaboration

In regard to inter-sectoral collaborations 68.4% of participants (coordinators & service providers) reported that inter-sectoral collaboration, in terms of trainings, capacity buildings, infrastructure development and material aids were/are unsatisfactory. However, they work with Women & Children Affairs Offices, District health offices, SHEMACHOCH & WETEME.

6.Challenges and opportunities encountering in implementing the program

According to participants' they have been implementing the SFP through many challenges and, after the city government took over the program, the challenges became more rampant due to dramatic escalation of the number of service users, to which the schools were not ready to serve at a moment's notice and with such a short time to prepare.

The challenges were of two kind, challenges related to material resources and challenges related to administrative & managerial issues.

In regard to material challenges, 68.75% of participants reported that the schools were/are structurally not favorable and not made conducive to implement school meal service for such huge number students and 75% of participants declared that they have either shortages or lack of materials such as: kitchen rooms and kitchen utensils, dining halls, serving plates, drinking cups or mugs and seating chairs and tables for the dining rooms. In some schools, for instance, due to lack of serving plates children were forced to bring their own plates from home, Fig16 shows students waiting for lunch with their own plates.

Lack of dining halls and insufficiency of the available dining rooms can also be seen in Fig17, Fig18 and Fig19, which show, children eating their lunch in an open space (Zeray Dres primary school), in a shade (Addis Brehan primary school) and in crowded dining hall (Furi primary school) respectively.

However, there are also schools with relatively in good conditions in relation to dining halls and serving plates. For example, Fig20 shows student dining room (Limat Minch primary school), Fig21. shows student dining hall (Kality primary school). Similarly, the kitchen facilities were one of the disparities & problematic areas Fig22. shows the kitchen condition (an open cooking area)- Kality primary schools. Fig23. shows a kitchen with electric stove facility, note the slenderness of the kitchen (Addis Brehan primary school). I also confirmed that the condition of the kitchens and the working areas for other school, for which the pictures not included here are similar to those pictures 22 & 24 and almost in all schools except Addis Brehan primary schools all cook mothers were working either in fire woods or charcoal. 53.8% participants reported that they have been facing shortages & interruption of power and water supplies. Forcing the cook mothers work with fire woods and charcoal. Fig24. Shows cook mothers working with fire woods.

In regard to challenges related to administrative & managerial issues, 61.5% of participants reported that, the SFP has created additional heavy burden on schools' daily activities. Schools were/are suffering from lack of manpower, who have the necessary knowledge and skill to run the program.

The main reason for such challenges was that, the program by itself requires professionalism and those individuals involved in coordinating and delivery of the service didn't get sufficient trainings and capacity building to manage the SFP efficiently and they were also busy by their own daily professional work.

The only positive opportunities in regard to SFP, schools have got as reported by the 25% of participants were the schools' staffs' commitment and city government's involvement in the program and its determination.

IV. Evaluation of experts' views and opinions on the School Feeding Program

Experts are individuals who have special skills or knowledge that is acquired by training, study, or practice⁽⁵⁶⁾. In respect to this, the researcher believes that, SFP coordinators and service providers are expert in the school meal services.

1. Experts' view & opinions on resources availability and their management

Experts entertained and expressed different views regarding resource availability & its management, in this regard 19% of experts preferred government to be the supplier and manager for the resources, claiming that the cook mothers are profit makers & care about their business. The other reason they raised was that government has the potential to compete with other competitors to get necessary resources and even has the capacity to buy resources with bids. So according to the coordinators it would be better if the government control the resources and its managements.

On the other hand, the service providers wanted the government create market linkage for them with whole sellers and smallholder farmers and manage the resources by their own.

2. Experts views and opinions on better future implementations of the SFP

All participants (100%) an unanimously declared that they wish the program continues. However, 25% of the participants expressed their concerns on the sustainability of the program and forwarded their expertise views & opinions for better future implementation

of the SFP and suggested different measures and actions to be taken in the future, among the proposed recommendations, the following were the most frequently suggested ideas:

Table 11. Experts' suggestion & recommendations for future improvement of the service

N0	Suggested ideas	Number of participants suggested the idea	Percentage
1.	SFP needs its own professional managerial system	11/13	86.6%
2.	NGOs and community should be involved	8/13	61.5%
3.	Payment should be reconsidered	11/19	58%
4.	Infrastructures and logistics should be fulfilled	7/16	43.75%
5.	Targeted feeding	6/16	37.5%
6.	All-inclusive (holistic feeding)	6/16	37.5%
7.	The foods need to be balanced diet	4/16	25%
8.	The cook mothers should be hired cooks	2/13	15.4%
9.	Needs its own budget & legal or constitutional support	2/16	12.5%

5.2. Discussion on the nutrition assessment of the school fed children results

Anthropometric findings are a proxy indicator of the nutrition status of individuals. They need to be interpreted and understood in a certain context with specific situations at a certain period of time. The primary objective for doing the assessment of the nutrition status of the schoolchildren was that, there was lack of information about the nutrition status of these group of the population⁽¹⁾. In addition, age and sex specific information are rare for school age children, particularly for primary schoolchildren (7 to 14-year-old). Therefore, even though baseline data regarding the SFP beneficiary students were not available, the researcher finds it useful to assess the nutrition status of the school fed children, which may be used as a reference for future studies. Consequently, and unfortunately, the researcher couldn't compare or contrast these findings with previous works due to lack of information specifically on the nutrition status of school fed children. Therefore, forced to disclosed crude results.

The prevalence of undernutrition among school fed children age 7 to 10-year-old (n=306) were found to be 15% underweight (severely underweight 4.3%<-3SD with 95%CI (1.5%-7.1%), moderately underweight 10.7% <-2SD with 95%CI (6.5%-14.9%), and 10.5% stunted (severely stunted 0.7%<-3SD with 95%CI (0%-1.7%), moderately stunted 9.8%<-2SD with 95%CI (6.3%-13.3%).

For those children ages 11 to 14 year-old (n=315) 8.5% were found to be thin (severely thin 2.2%<-3SD with 95%CI (0.4%-4%), moderately thin 6.3% <-2SD with 95%CI (3.5%-9.2%) and 0.3%<+2SD were overweight with 95%CI (0%-1.1%), and 18.7% were found to be stunted (severely stunted 1.6%<-3SD with 95%CI (0%-3.1%), moderately stunted 17.1%<-2SD with 95%CI (12.8%-21.5%).

5.3. Key findings of the research

- 87.5% of participants declared that they didn't know or have not read about the national school health and nutrition strategy and only 25% participants have some information about the school feeding program and the newly endorsed school meal guideline.
- 94.7% of participants declared that the service was accessible only to limited number of students, until the gov't took over the SFP in 2019/2020.
- The SFP particularly, the school meal service was found to be relevant in alleviating school hunger and has high acceptance by users (with percentages of users 92%).
- SFP are not being implemented comprehensively and the overall accomplishments was found to be low (42.9%).
- The SFPs are being implemented with many challenges & problems. The most prominent challenges discovered are: poor and inadequate infrastructures, weak inter-sectoral collaboration, lack of resources (both material & human), poor logistics, and lack of ownership of the SFP which run the program with accountability and commitment.
- The school meals were found to be monotonous and cereal based which lacked animal proteins, fats and fruits & vegetables.
- The researcher has also noted that in the majority of schools' SFP record keeping and data retrieving system was sub-optimal & operated manually, which made difficult to get information easily.
- The overall prevalence of malnutrition (underweight, stunting & overweight) among study participants age 7 to 14 year-old (n=621) was found to be 23.5%, 29.2% & 0.3% respectively.

CHAPTER SIX

6. Implication, conclusion, recommendation & limitation of the study

6.1. Implication

The study satisfactorily addressed the research questions it raised. Important issues were discussed and relevant points were captured for future better implementation of the SFP in the selected sub cities and has shined lessons for other schools in the city administration as well.

Areas to be improved were unveiled clearly and the main problems of the SFP were identified and listed vividly. So, the city government education bureau and other stakeholders can use these findings and act upon based on their area of interest and expertise.

The researcher is confident and hopeful that the findings will help school officials, concerned bodies and stakeholders generate new ideas and ways for better service improvement.

Lastly, the researcher is hopeful that these findings will contribute new knowledge and information, on the extent and condition of school feeding programme implementations in the studied schools and about the nutrition status of the beneficiary students. Most importantly this research paves the way for further rigorous studies in the area of SFP and beneficiary students in the context of Addis Ababa.

6.2. Conclusion

The research findings showed that there was significant knowledge gap about the national school health & nutrition strategy among the study participants.

The implementation of SFP lacked comprehensiveness and much emphasis was given only to school meal services, which was found to be static, monotonous low quality to improve the nutrition condition of the beneficiary students as desired in the strategy. There was sub-standard monitoring & evaluation of the SFP for instance, the beneficiary students

were not screened for malnutrition, which was one of the monitoring indicators stated in the school health program Framework⁽⁸⁾

These findings put the SFP questionable in addressing the national SHN strategic objectives. However, with all its limitations, the SFP is a very important and practical way for solving food and nutrition insecurity of economically disadvantageous group of the society, and it should be continued, supported, encouraged & strengthen through community participation & ownership and stakeholders enhanced involvement.

Moreover, since the SFP is meant building the future generation and is running with huge budget and resources, it should be supported with evidence based best practices, transparent & accountable management systems, short term as well as long term outcomes and impacts need to be assessed periodically and should be documented particularly in regard to the beneficiary students' health and nutrition improvement.

6.3. Recommendation

The researcher believed that the low accomplishments & lack of comprehensiveness of the SFPs have many underlining causes and partly resides on lack of knowledge of the national SHN goals & objectives. Thus, I recommend:

I. The city administration education bureau to emphasize, encourage & ensure:

1. The implementation of national SHN strategy in all schools.
2. All SFP guidelines and directions should be in align with the national strategy.
3. The school meal service be implemented uniformly across all schools and those NGOs, which provide the school meal service and the city government, should follow the standards stated in the strategy.
4. All stakeholders act in an integrated but non-duplicated and sustainable manner.
5. The service discrepancies, especially the discrepancy of the school meal service delivered by the NGOs and the government need be corrected, preferably by upgrading the government services.
6. The SFP service is hardly linked to local smallholder farmers and local business sectors. Therefore, it should be linked with the localities, to encourage the local

communities, participate, benefit from it and increase the communities' sense of ownership and make the community contribute back to the program.

7. The beneficiary students are at their growth spurt, which requires balanced diet and this period is their last chance to compensate the growth flattering they encountered during early childhood. Therefore, they need optimal diet otherwise the stated improved nutrition may not be achieved. Thus, the bureau, should do its best to include animal source foods, fruits and vegetables in the school meals or supplement the children with micronutrients or fortify the meals with MNPs.

II. The sub city education offices and schools

1. The researcher has noted that in most schools' record keeping in the areas of the SFP and beneficiary students was so weak that it was difficult to get data easily, and most data are put in the hands of individuals (lack of computerized data retrieval system). Therefore, trainings and capacity building works need to be done on recordkeeping with continuous monitoring and supportive supervision to information & communication personals, data clerks & schools.

III. The city government

1. The school meals, which is being delivered was found to be monotonous, mainly composed of cereals. The reason for this compromised quality was claimed to be low budget, allocated per student per day (which is 14 birr for breakfast and lunch service a day). Therefore, the city administration should look at the budget or find other option to reconsider it in order to safeguard the nutrition need of the schoolchildren and meet the national objectives.
2. As researcher and nutrition professional, I support the idea of all-inclusive feeding but with the current service delivery manner and limited resources, targeted feeding will be beneficial for better economic use of the limited resources and safeguard the nutrition need of the vulnerable beneficiary students. So, the government should re-evaluate the best delivery option available with evidence-based practice and expertise consultation.
3. The NGOs who had been acting in the SFP were put aside or abandoned their services, since the city administration took over the SFP, but they have plenty

of experiences and capabilities in the area of SFP. So, the city government should see them as partners and should encourage them to participate back in the program at least in capacity building activities.

IV. The academic scholars

1. School feeding programmes are complex social protection programmes, which encompasses different services and activities. The services are for the needy and economically disadvantaged groups delivered with subsidized costs. Therefore, for the success of the programmes, intellectuals particularly the academic arena's involvement in research, capacity building and evidence-based expertise supports are very much important. To this end, the school meals need to be evaluated for its nutritional contents & end benefits, the nutrition status of beneficiary students need to be assessed with more rigorous methods (e.g. biochemical & clinical analysis) and followed for changes they brought. So, I recommend the academicians (particularly the AAU Food & Nutrition science staffs) in their domain do their best to support the SFP.

6.4 Limitation and strength of the study

6.4.1. Limitation of the study

The city government of Addis Ababa education bureau administers 220 government primary schools, with more than 300,000 school attending children in all the 10 sub cities. The present study was done in three sub cities, which have a total of 65 government primary schools with 11,625 students, from which 13 government primary schools were selected, with total study participants of 641 (16 SFP coordinators, 3 service providers and 622 school fed children).

This limited geographic and demographic coverage restricts the scope of the study to reflect the situation of the SFP in the metropolis and the transferability of the study to other areas across the city. The other limitation of the study was that the nutrition status of the school fed children was determined using anthropometric measurements- WFA, HFA, and

BFA which are proxy indicators, it will be better if other measurements like biochemical or clinical tests were included. But due resource constraints such as: time, finance, and manpower the researcher couldn't do that. Therefore, the study findings should be viewed with these limitations and it may not be representative for wider geographic area and wider population other than the one it was designed to represent to.

6.4.2. Delimitation of the study

The study demarcated itself only to selected government primary schools in Addis Ababa, where school feeding program is being implementing as a social safety net program for schoolchildren. The study findings didn't consider other school feeding programs in government, private or other boarding schools. Thus, the findings of the study cannot be transferred or generalized to other SFP and school fed children in private, government and non-governmental schools in the city or other parts of the country.

6.4. Strength of the study

The main strength of the study was that; it used different methods with meticulous study design and tried to triangulate the different methods to reach on true, consistent, neutral and applicable findings.

The study had tried to incorporate the views, opinions and experience of different participants: the sub city level SFP coordinators, school level coordinators and service providers which made the research enriched with relevant information about the implementation of SFP in the studied schools, which could give clue for further study.

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Annexes

Annex 1. Table 12. Lists of selected sub-cities and allocated sample sizes

o	Number of Sub-Cities & selected sub-cities (highlighted)	Number of schools / Sub-city	Number of selected schools	Number of Children selected / schools	Total number of Participants per sub-city
1	ADDIS KETEMA	22			
2	AKAKI-KALITI	20	4	48	192 (30.8%)
3	ARADA	22			
4	BOLE	22			
5	KIRKOS	21			
6	KOLFE	24			
7	LIDETA	18	4	47	170 (27.6%)
8	NIFAS SILK LAFTO	21			
9	GULELE	20			
10	YEKA	27	5	52	260(41.5%)
	Total	217 (65)	13	-	622

Annex 2. Table 13. Participants descriptions & codes

N0	Participant's Level & Descriptions	Codes
I	Sub-City Level SFP Coordinators	
1	AKAKI- KALITY SUB-CITY COORDINATORS	AKSBC-P ₁₂
2	LIDETA SUB-CITY COORDINATORS	LSBC-P ₁
3	YEKA SUB-CITY COORDINATORS	YSBC-P ₆
II	School Level Coordinators	
1	ADDIS BREHAN PRIMARY SCHOOL	ABSC-P ₇
2	AKAKI- MENGIST PRIMARY SCHOOL	AMSC-P ₁₃
3	ABIYOT PRIMARY SCHOOL	ATSC-P ₈
4	BESEKA PRIMARY SCHOOL	BSSC-P ₁₆
5	BREHAN GUZO PRIMARY SCHOOL	BGSC-P ₉
6	ENAT ETHIOPIA PRIMARY SCHOOL	EESC-P ₅
7	FREHIWOT PRIMARY SCHOOL	FHSC-P ₂
8	FURI PRIMARY SCHOOL	FUSC-P ₁₄
9	KALITI PRIMARY SCHOOL	KASC-P ₁₅
10	LIMAT MINCH PRIMARY SCHOOL	LMSC-P ₄
11	YEKA MISRAK CHORA PRIMARY SCHOOL	YMSC-P ₁₀
12	YEKA TERARA PRIMARY SCHOOL	YTSC-P ₁₁
13	ZERAY DRES PRIMARY SCHOOL	ZDSC-P ₃
III	Service Providers (Cook Mothers)	
1	COOK MOTHER 1	SQM-P ₁₇
2	COOK MOTHER 2	SQM-P ₁₈
3	COOK MOTHER 3	SQM-P ₁₉

Annex 3. Table 14. Concise categories, sub-categories & codes with response summaries

Categories	Sub-Categories	Codes (Samples)	Response Summaries
Knowledge and Understanding of the National School health & nutrition strategy	Knowledge and Understanding of the Overall Strategy	Codes (5): [components unknown] [followed YE ENAT WEG] [never seen the strategy] [new manual developed] Quotation(s): 24	Most of the participants responded that they have never seen the strategy. According to them, they just followed the NGOs working methods. But recently the city administration endorsed and circulated a new technical guideline for the school meal service and they are going to use this guideline”.
Evaluating Extent of Participation of the Target Population	Ascertaining the appropriateness of the beneficiaries for the service	Codes (25): [all students feed] [by family request] [children with HIV] [class room teachers recommendations] [government no criteria] [government took over] [home visits] [limited numbers of students] [street children] [students profile] [teachers and staffs' contribution]] [vulnerable children]	Participants reported that SFP was started by different NGOs providing school meal services as safety Nate program for selected vulnerable student. The service was accessible only to limited number of students. But after the gov’t took over the SFP the issue of accessibility relived.
	Determining the relevance of the service to its beneficiaries	Codes (9): [eliminated hunger] [increased students' learning interest] [is bringing physical change] [learn without worry] [now all students are in school] [nutrition security doubt] [opportunity for local community] [reduced risk of maladaptive behavior] [reduced school dropout & delay]	According to participants the school meal service alleviated school hunger and improved the physical appearances of the children they are becoming beautiful and attractive. It has also reduced school dropouts and delay.
Evaluating Service Delivery Manner	Delivery of School meal service & Micro nutrient supplementations	Codes (47): [all students feed] [concern with quality of service] [get fresh foods] [good community response] [government no criteria] [have menu,] [high cost of resources] [ins and outs] [meal	Participants reported that School meal services are delivered with menu. There are different menus in some schools: government menu and Ngo menus. Menus are violated in some schools for different reasons. currently all

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		provided on school days] [menu breaks]	school children feed without any criteria. However, there is ins and outs of the service and there are dropouts from the meal services. All children share the same meal. There is no special meal service for those children with health problems.
	Delivery of Disease prevention & control services	Codes (4): [de-worming was given] [high need for deworming] [NGOs follow progress] [no deworming and micro] Quotation(s): 18	Participants in unanimously declared that Disease prevention & control services are not being implemented in their respective schools. but one respondent reported that de-worming tablets had been given to students by one NGO named SRI till 2019
	Delivery of Nutrition Education	Codes (6): [also in mini medias] [also learn in school clubs] [environmental science & integrated science] [in environmental science & biology] [no demo] [no garden or demo] Quotation(s): 23	SFP coordinators affirmed that Nutrition education is limited to class room sessions and school garden and cooking demonstrations are not available. Even the available school gardens are not using for teaching purposes.
	Delivery of WASH-Services	Codes (14): [handwashing facilities] [handwashing practiced] [in environmental science & biology] [purification system] [reservoir] [separate toilets] [shortages of soap] [use soap] [water from home] [water supply interruption] [water treatment]	According to participants, WASH services are relatively good in all schools. Schools have separate latrine rooms for girls & boys and also for the school staffs. Hand washing facilities are also available in schools but there is water supply problems and interruptions.
	Level of Inter-sectorial collaboration	Codes (11): [committee regulates activities] [cook mothers trained] [coordinate all activities] [excellent collaboration] [less support and collaborations] [less trainings & capacity building] [market linkage created] [no trainings] [there is monitoring & supervisions] [we have trainings] [work in collaboration]	Participants reported that the level inter-sectoral collaboration is low, differed among schools. however, participants acknowledged SHEMACHOCH, the district health, WETEME & the women and children affaires office for their partnership.

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	Staff morale, motivation and interest	Codes (5): [class room teachers' recommendations] [coordinate all activities] [home visits] [staffs' determination and commitment] [teachers and staffs' contribution]	Participants confirmed that schools' communities' interest, & motivation were/are the backbone for the success of the SFP so far and the coordinators acknowledged the school communities. .
	Challenges and opportunities encountering in implementing the program	Codes (37): [asked to pay taxes] [challenging to change meals with student preference] [city government's determination] [claim unnecessary payments] [cook mothers care about profits] [create burden] [disagreement with cooks] [efforts to mobilize resources] [high cost of resources] [inadequate infrastructures] [ins and outs] [lack of materials]	Many challenges were raised by participants. The most commonly mentioned were lack of recourses, logistics and uncondusive infrastructures such as: lack of dining hall, kitchen, power shortages. The other main challenge raised were related to service providers and their payments. positive opportunity they got according to the respondents was the city government involvement in the program.
Experts' views and Opinions on resource management and better future implementations	Experts' view & opinions on resources available and their management	Codes (6): [asked for corrective measures] [concern with quality of service] [cook mothers care about profits] [government should be the supplier] [needs a system] [the program needs its own budget] Quotation(s): 9	SFP coordinators raised different views about resources and their managements. Some suggested NGOs should be encouraged to participate in resource execution, schools should have their own resources. Resources should be availed and managed by the government. But service providers (cook mothers). Claimed only market linkages and they wanted to manage the resources by themselves.

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	Experts views and Opinions on better future implementations of the service.	Codes (32): [better if cooks are hired] [community should be consulted] [community should be involved] [consider home take ration] [government should be the supplier] [infrastructures should be improved] [involve NGOs in logistics] [logistics must be fulfilled] [menu should be improved] [needs a system] [needs collaborative actions] [needs its own professional] [needs to be supported with research]	SFP coordinators responded on the program's continuity, but there should be a system of its own independent from school daily activity and management. Experts proposed different methods for better delivery of services. Among the suggested methods: cook mothers should be hired, NGOs should encourage to participate in logistics and capacity building works, schools should have self-reliant, the SFP must be run by its own professionals, the program needs to have legal or constitutional support and its own budget. Stakeholders should act in cooperative and integrated manner.
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Annex4. Table 15. Level of implementation of the major four SHN activities by Sub cities and respective Schools in 2019/2020 academic year.

SFP Co mponent s	Specific Activities	Level of Implementations of SFP activities by Sub-Cities & Schools in 2019/2020 (2012EC.)															Total		
		AKAKI KALITI SUB CITY				LIDETA SUB CITY				YEKA SUB CITY				Accomplish ments of SFP Components by Sub Cities					
		M A S S S E S S E S	S C H O O L S	L E V E L	R E S O U R C E S	M A S S S E S S E S	E D U C A T I O N	D E V E L O P M E N T	H E A L T H	B E H A V I O R	G O V E R N M E N T	T E C H N I C A L	M A N A G E R I A L	T E C H N I C A L	K N O W L E D G E	D I S S E M I N A T I O N	K E Y M E S S A G E S		
Nutr ition educatio n	Nutrition education in curriculum	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	0 %	6.2 5 %	1.9 %	7.7 %
	Nutrition counseling	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES				
	Cooking demonstration	O	O	O	O	O	O	O	O	O	O	O	O	O	O				

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	School gardening	O	O	O	O*	O	N	O	ES	O	ES	ES	O	O	ES				
Disease prevention & control	Screening for malnutrition	O	O	O	O	O	N	O	O	O	O	O	O	O	O				0%
	No of Students Received deworming	O	O	O	O	O	N	O	O	O	O	O	O	O	O		%	%	0%
	Malnourished managed	O	O	O	O	O	N	O	O	O	O	O	O	O	O				
	Deworming	O	O	O	O	O	N	O	O	O*	O	O	O	O	O				
	Deworming given periodically	O	O	O	O	O	N	O	O	O*	O	O	O	O	O				
School meal & MNS	Food menu	ES	ES	ES	ES	ES	Y	ES	ES	ES	ES	ES	ES	ES	ES		0%	0%	0%
	No students received Vitamin A	O	O	O	O	O	N	O	O	O	O	O	O	O	O				
	No students Screened for MN risks factors	O	O	O	O	O	N	O	O	O	O	O	O	O	O				
	No students received MNS other than Vit. A	O	O	O	O	O	N	O	O	O	O	O	O	O	O				
	Meal fortified or enriched with MNP	O	O	O	O	O	N	O	O	O	O	O	O	O	O				
WASH services	Safe school environment	ES	O	ES	ES	ES	Y	ES	ES	ES	ES	ES	ES	ES	ES		0%	00%	00%
	Functional hand washing	ES	O	ES	ES	ES	Y	ES	ES	ES	ES	ES	ES	ES	ES				
	Functional separate latrine	ES	ES	ES	ES	ES	Y	ES	ES	ES	ES	ES	ES	ES	ES				3.8%

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	for boys & girls																	
	Safe drinking water facilities	ES	O	ES	ES	ES	Y	ES	ES	ES	ES	ES	ES	ES	ES			
	Proper solid waste disposal	ES	O	ES	ES	ES	Y	ES	ES	ES	ES	ES	ES	ES	ES			
Level of Implementations of School by %		2.1 %	1.1 %	2.1 %	2.1 %	2.1 %	4	2.1 %	7.4 %	2.1 %	7.4 %	7.4 %	2.1 %	2.1 %	7.4 %			4 2.87 %
Level of Implementations by Sub City by %		36.85%					43.42%					45.28%						

NB. * Indicates services given in 2017/2018 & 2018/2019 (2010 & 2011EC) but not in 2019/2020 (2012 EC).

Annex 5. Table 16. Trends of implementations of school meal service and number of users, dropouts and non-users of the service from 2017/18 to 2019/2020 of studied schools.

School Code	School Name	2017/2018 (2010 EC)									2018/2019 (2011 EC)									2019/2020 (2012 EC)									
		NO of Students in the A/Year			NO of SFP Beneficiary Students			NO of Dropouts of			NO of Students in the A/Year			NO of SFP Beneficiary Students			NO of Dropouts of			NO of Students in the A/Year			NO of SFP Beneficiary Students			NO of Dropouts of			
								(from SFP)									(from SFP)									(from SFP)			
		Non-Users			Non-Users			Non-Users																					
T	1	2	T	1	2	T	1	2	T	1	2	T	1	2	T	1	2	T	1	2	T	1	2	T	1	2	T	1	2
K	M	44	51	93	65	1	4				14	33	81	65	1	4				28	27	01	28	27	01				
								79	80	99							49	62	87										
	S	846	57	189	50	6	74				526	84	42	56	08	48				365	23	42	21	57	59				
								596	81	015							170	76	94				6			49	6	3	
	L	882	77	005	20	0	0				823	55	68	50	00	50				901	97	00	90	97	00				
								732	27	35							573	55	18				1			4			
	R	631	80	51	50	62	8				025	90	55	50	62	8				523	34	90	52	34	90				
								381	18	63							75	28	67				3						
D	M	71	97	74	0	3	7				00	12	88	92	4	8				16	21	95	00	10	90				
								91	54	07							08	18	00							6	1		
	E	87	41	46	6	7	9				84	40	44	80	4	6				61	31	30	61	31	30				
								21	04	17							04	6	8										
		86	51	35							60	45	15	84	7	7				96	41	55	38	37	01	8			4

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[illegible]

Appendices

1. Semi-Structured Interview Guide for Sub-City Level SFP Coordinators

ቃለ-መጠይቅ ለክፍለ ከተማ ወይም ለወረዳ የትምህርት ምክትል ከተባባሪ ጋለሙያ

- Introduction (for data collector)
መግቢያ (ለመረጃ ሰብሳቢ)
- Self-introduction
ራስህን አስተዋወቅ/ቂ
- Explain purpose of the study
የጥናቱን አላማ ግለፅ/ጸ
- Explain confidentiality and there will be voice recording and proceed to next steps
ቃለ-መጠይቁ ሚስጥራዊነቱን የተጠበቀ መሆኑንና የጥናቱ አስፈላጊ በመሆኑ የድምጽ ቀረጻ እንደሚደረግ አሳውቀው ወደ ቃለ-መጠይቁ ሊገቡ መሆን ያስረዱ እና ይቀጥሉ፤

#	Item	Probing Questions
	Please explain briefly when and how the school feeding programme came to this local sub-city and what the roles and contributions of the various stakeholders እባክዎ ትንቢት ምክትል ከተማ ፕሮግራም መጥፋቱን እንዴት በዚህ ክፍለ ከተማ / ወረዳ እንደተጀመረና የባለ-ድርሻ አካላት ሚና ምን እንደሆነ ይግለጹልኝ?	
	What were the eligibility criteria to select beneficiary students?	
	Do you ever heard or read the national school health and nutrition strategy (SHN) of the country?	
	What are the main components of the SFP services? በትምህርት ምክትል ከተማ ፕሮግራሙ የሚሰጡ ዋና ዋና አገልግሎቶች ምን ምን ድናቸው? እባክዎ ያብራሩልኝ	
	How relevant is the SF program to its beneficiaries (school feeding students)? የትምህርት ምክትል ከተማ ፕሮግራሙ ለተመጋቢ ተማሪዎች ምን ፋይዳ አለው ብለው ያስባሉ?	e.g. reduced incidences of hunger & malnutrition, reduced incidences of parasitic infection etc. ለምሳሌ: ረቀቀ ስሜትና ለምሳሌ: ረቀቀ ስሜትና ለምሳሌ: ረቀቀ ስሜትና

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		ምግብ አንጻር፤ በሽታን ከመከላከል አንፃር
	Do the schools ever get capacity building activities in relation to the school feeding program? Please explain the inter-sectoral collaboration in relation to capacity building activities በእርሶ ክ/ከተማ ያሉ ትምህርት ቤቶች ከትምህርት ቤት ምግብ ጋር በተገናኘዋቸው ምግብ ስራዎች አግኝተው ያውቃሉ? እባክዎ ያብራሩልኝ?	
	Are there unintended positive or negative challenges in terms of the SF activities? Please explain. በክፍለ ከተማ ውስጥ ያለው ምግብ ስራ ምን ዓይነት ምኞት ያሳያል? (ተግዳሮቶች) ገጥሞት ያውቃል እባክዎ ያብራሩልኝ?	
	What accounts for the areas of success of the intervention? ለስኬታችን ምን ዓይነት ምኞት አስተማጽ አድርገዋል ብለው ያስባሉ?	(probe for internal and external factors, including for other social protection activities that may affect the implementations e.g. access to grants, etc.) (የውስጥና የውጭ ምኞት ችላለሁ፡- ድጋፍ ማግኘት- የገንዘብ የመሳሪያ፤ የስልጠና ወዘተ...)
	Would you tell me your expertise view and recommendation for a better future implementation of the program? ይህ ፕሮግራም በተሻለ መንገድ እንዲቀጥል ምን መደረግ አለበት ብለው ያስባሉ?	

2. Semi- Structured Interview Guide for School level SFP Coordinators

ቃለ-መጠይቅ፡-ለትምህርትቤት የምግብ ፕሮግራም አስተባባሪዎች

- Introduction (for data collectors) (ለመረጃ ሰብሳቢ)
- Self-introduction (ራስህን አስተዋውቅ/ቂ)
- Explain purpose of the study
የጥናቱን አላማ ግለፅ/ጸ
- Explain confidentiality and there will be voice recording and proceed to next steps
ቃለ-

መጠይቁ ሚስጥራዊነቱ የተጠበቀ መሆኑንና ለጥናቱ አስፈላጊ በመሆኑ የድምጽ ቀረጻ እንደሚደረግ አሳውቀው ወይም ቃለ-መጠይቁ ሊገቡ መሆን ያስረዱ እና ይቀጥሉ፤

Item	Probing Questions
Please explain briefly when and how the school feeding program came to this school? እባክዎ ትንቢትምህርትቤት ምግብ ፕሮግራም መጣ፤ እንዴትና በማንበእ ዚህ ትምህርትቤት እንደተጀመረ ያብራሩልኝ?	
What were the eligibility criteria to select beneficiary students? የምግብ ፕሮግራሙ ሲጀመር ተጠቃሚ የሚሆኑት ማረጋገጫዎች ምን ሆኑ? መረጡት በምን መስፈርት ምንን በርእዮአቸው ያብራሩልኝ?	
Do you ever heard or read about the national school health and nutrition strategy (SHN) of the country? የሀገር አቀፍ ትምህርት ቤት የጤናና ስነ-ምግብ ስትራቴጂ ስምተው ወይም አንብበው ያቃሉ?	
What are the main components of the SFP services? የትምህርት ቤት ምግብ ፕሮግራም ውስጥ ምን ምን የአገልግሎት ችይሶጣሉ?	e.g. how & how often MNS, Deworming is provided to students, WASH services, Nutrition education, school garden & cooking demonstration sessions. ለምሳሌ፡- እንዴት የማይክሮኒውትረንትን ጥረንገር እንደሚሰጥ፤ የሆድ ውስጥ ተዋሲያን መከላከያ መድሃኒት እንዴትና መቼ እንደሚሰጥ፤ የዉሀና የንጽህና አጠባበቅ ሁኔታ እንዴት እንደሆነ፤

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		የጓሮልማትና የምግብ ማዘጋጃና ማብሰያ ሰርቶ ማሳያ አገልግሎት እንዳለና እንደሌለ
How relevant is the SF programme to its beneficiaries (school fed children) especially in terms of health & nutrition? የትምህርት ቤት ምግባላት መጋቢት ማረጋገጫ ምን ዓይነት ጤናማ እና ለውጥ ሊያሰጥ?		e.g. reduced incidences of hunger & malnutrition, reduced incidences of parasitic infection etc. ለምሳሌ፡ ረሀብን ከማስቀረት እና ከስነምግብ አንጻር፤ በሽታን ከመከላከል አንጻር
How the school meal services are being delivered, do you have school menu & special feeding programs? የምግባት ሮግራማችሁ በተለይ የምግብ አሰጣጥ ሁኔታ ምን ዓይነት ላል፤ የምግብ ዝርዝር አላችሁ		Probe for special feeding schedules for orphans, HIV positive children & others በልዩ ሁኔታ የሚመገቡ ተማሪዎች አሏችሁ፤ ለምሳሌ ቤተሰብ የሌላቸው፤ ከኤች.አይቪ.ጋር ለሚኖሩ ወዘተ...
Are there students who quit the school meal service for whatever reason they have? የምግባት ሮግራሙን ጀምረው ያቋረጡ ተማሪዎች አሉንም ምክንያት ይሁን?		
Are there unintended positive or negative challenges in implementing the program? Please explain. በትምህርት ቤት ውስጥ ምግባት ሮግራሙ ጋር በተያያዘ ያልተጠበቀ ጎጥ ምድህን አሉታዊ ውጤቶች (ተግዳሮቶች) ገጥሞት ያውቃል? እባክዎ ይግለጹባቸው፡፡		(e.g. luck of resources, supervision and support etc.) ለምሳሌ፡- የግብዓት፤ የክትትል እና ድጋፍ ማግኘት
How do you see the inter-sectorial collaborations in your school situation? የአጋር አካላት ንትብብር ከእርሶትም ህርት ቤት አንጻር እንዴት ያይታል?		ለምሳሌ፡- የሴቶችና ህጻናትና የመሳሰሉትን ተቋማት ጤናን፤
Do you think the program should continue? ፕሮግራሙ መቀጠል አለበት ብለው ያስባሉ?		ለምሳሌ፡- ሁሉም መመገብ አለባቸው ወይስ የሚያስፈልጋቸው ብቻ ተመርጠው ቢመገቡ ይሻላል ብለው ያስባሉ

Would you tell me your expertise view and recommendation for a better implementation of this program in the future? ይህንጥረግራምበተሸለመንገድለማስኬድእናቀጣይነትእንዲኖረውምንይመክራሉ? እባክዎትንያብራሩልኝ።	
--	--

3. Semi- Structured Interview Guide for service providers (Cook Mothers)

ቃለ-መጠይቅ ለትምህርት ምገባ አገልግሎት ሰጪ ባለሙያ

- Introduction (for data collector)

መግቢያ (ለመረጃሰብሳቢ)

- Self-introduction

ራስህንአስተዋወቅ/ቂ

- Explain purpose of the study

የጥናቱንአላማግለፅ/ዲ

- Explain confidentiality and there will be voice recording and proceed to next steps

	Main questions	Probing questions
1	Would you please explain how your customers (students) view about your service?	
2	Regarding your service which services they like most and which service they want to be changed?	
3	Are there students who dropped out of the school feeding services, for whatever reasons they have?	
4	How do you deliver the meal service, can you explain it please? Could you explain the challenges you faced as service providers?	
5	Could you explain the challenges you faced as service providers?	
	Do you think your service really helping the children for whom it was designed?	

RUNNING HEAD- ASSESSMENT OF THE IMPLEMENTATION OF SCHOOL FEEDING PROGRAM AND
NUTRITION STATUS OF SCHOOL FED CHILDREN

6		
7	How can you think, your service be improved? Is it achieving its objectives?	

4. Checklist for document review (from school roster or EMIS).

Name of the school Code..... Sub-city.....

A/ Year..... Data collected dateInformation source.....

≠	Variables	Questions	Number	Yes/ No
1	General	Minimum number of school health & nutrition packages being implementing in the school.		
		Total number of students in the academic year Total number of beneficiary students----- ----- Male-----Female----- Total number of dropouts (from school meal service) ----- Male-----Female-----		
		Does school have nutrition education in the curriculums?		
		Does the school have school gardening service?		
2	Nutrition education	Number of students provided nutritional counseling services		
		Does the have school cooking demonstration session		
		Number of students screened for malnutrition		
3	Disease prevention & control	Number of students who received deworming drug		
		Number of malnourished students managed		

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	(Deworming & other health services)	Does students receive deworming drugs periodically?		
4	WASH services	Does the school have safe school environment for feeding?		
		Does the school have functional hand washing facilities?		
		Does the school have functional separate latrine facility for male and female students and for staffs?		
		Does the school have safe drinking water facilities?		
		Does the school have proper solid waste disposal facility?		
5	School meal & micronutrient supplementations	Does the school have school food menu?		
		Number of students supplemented with Vitamin A		
		Number of students screened for MNS risk factors		
		Number of students who received MNS other than vit. A		
		Does the school meal fortified or enriched with MNP?		

5. Confirmation and Consent Letter

Addis Ababa University College of Natural and Computational Science Center for Food
Science and Nutrition Community Nutrition Program

This ethical confirmation and consent form is prepared to get participants' willingness for participation and permission to collect the necessary data for the study to be carried out: on the assessment of school feeding activities and nutrition status of school fed children in government primary schools in Addis Ababa city administration. The research is conducted by me, GIRMA GOSHIME, MSc student in Addis Ababa University College of Natural and Computational Science Center for Food Science and Nutrition Community Nutrition Program.

Data will be collected by interviewing School Feeding Program coordinators at sub-city & school level, document review from school rosters& anthropometric measurements of school fed children. Participants will be informed about the nature of the study and the required data. The findings of the research will be used for recommendation for future school health and nutrition intervention and service improvement.

Extending my gratitude in advance, I certified that the information I obtained from you will be strictly kept confidential and only be used for the purpose of this specific study. Lastly, I also assure you that this study is fully recognized and permitted by Addis Ababa University, Addis Ababa Education bureau, respective study sub-cities and schools' authorities.

Thank you.

Girma Goshime

School code Participant's code

6. The Amharic Version of the Confirmation and Consent Letter.

ፍቃድ ማረጋገጫና የፍቃድንኝነት ስምምነት ቅፅ

በአዲስአበባዩኒቨርሲቲ የተፈጥሮናኮምፕውቲቭናልሳይንስኮሌጅ የምግብሳይንስናስነ ምግብ ማእከል የማህበረሰብ ስነ-ምግብ ፕሮግራም ድሕረ ምረቃ ትምህርት ክፍል

የመንግስትትምህርትቤቶችምገባፕሮግራምአተገባበርንናየተማሪዎችስነምግብሁኔታንየዳሰሳጥናትለማካሄድከክፍለ ከተማ እና ከትምህርት ቤትየምገባፕሮግራምአስተባባሪዎችናሃላፊመምህራን እንዲሁምከምገባ ፕሮግራሙ ተጠቃሚ ተማሪዎች መረጃ ለመሰብሰብ የፍቃድ ማረጋገጫና የጥናት ተሳታፊዎች የፍቃድንኝነት ስምምነት መጠየቂያ ቅጽ ነው።ይህመጠይቅየቀረበውበአዲስአበባዩኒቨርሲቲየምግብናስነ ምግብ ማእከል የማህበረሰብ ስነ-ምግብ ፕሮግራም የሁለተኛ ዲግሪ ተማሪ በሆንኩት በግርማ ጎሽሜ ነው።

ይህንመጠይቅበመተንተንየማገኘውውጤትበአዲስ አበባ ከተማ የሚገኙ የመንግስት የመጀመሪያ ደረጃ ትምህርት ቤቶች የተማሪዎች ምገባ ፕሮግራምን አስመልክቶ ለምሰራው ጥናት የየትምህርት ቤቶችን የአመጋገብፕሮግራምእናተያያዥስራዎችንእንዲሁምየፕሮግራሙተጠቃሚልጆችንቁመትናክብደትበመውሰድናበማስላትየፕሮግራሙንአጠቃላይአተገባበር ግምገማ በማድረግ በቀጣይ ፕሮግራሙን ለማሻሻል የሚረዱ ምክረ ሀሳቦችን ለማመንጨት ነው። በመሆኑም ለጥናቴ መሳካት ስለትብብርዎ በቅድሚያ እያመሰገንኩ ከዚህ በታች የተዘረዘሩትንመረጃዎችእንዲሰጡኝበማክበርእየጠየኩ የሚሰጡኝ ማንኛውም መረጃ ሚስጥሩ የተጠበቀና ለዚህ ጥናት ብቻ የምጠቀመው መሆኑንአረጋግጥዎታለሁ። ይህጥናትበአዲስአበባዩኒቨርሲቲ፤በአዲስአበባትምህርትቢሮ፤በክፍለከተማዎትምህርትፅህፈትቤትእናበትምህርትቤትዎዎታወቀናየተፈቀደነው።

አመሰግናለሁ።

ግርማ ጎሽሜ

የትምህርትቤቱመለያቁጥር.....ቃለመጠይቁንየሞላውተሳታፊመለያቁጥር.....

RUNNING HEAD- ASSESSMENT OF THE IMPLEMENTATION OF SCHOOL FEEDING PROGRAM AND NUTRITION STATUS OF SCHOOL FED CHILDREN

7. Ethical Clearance Letters

COLLEGE OF NATURAL & COMPUTATIONAL SCIENCES
Addis Ababa University

የተፈጥሮና ኮምፒውተራዊ ሳይንስ ኮሌጅ
አዲስ አበባ ዩኒቨርሲቲ

OFFICE OF THE DEAN
የዲን ጽ/ቤት

Ref. No.
ቁጥር: CNSDO/297/12/2020

Date:
ቀን: January 23, 2020

To: Addis Ababa City Administration Education Bureau
Addis Ababa

The College of Natural & Computational Sciences Institutional Review Board (CNS-IRB) Committee in its meeting held on 20/12/2019 Minute No. IRB/42/2019 has examined the project proposal entitled “Assessment of the Implementation of School Feeding Activities and Nutrition Status of School Fed Children in Government Primary Schools” by Girma Goshime, from the Addis Ababa University.

The proposal is approved for implementation.

With regards,
Addisalem Goshime PhD
Dean, College of Natural & Computational Sciences

ሥልክ/Tel: +251-11-123-94-72
ፋክስ/Fax: +251-11-123-94-69

ፖ.ሣ.ቁ/P.O.Box 1176 Addis Ababa, Ethiopia
ኢ.ሜ.ል/Email: dean_cns@aau.edu.et

Please Quote our reference number in you correspondence

RUNNING HEAD- ASSESSMENT OF THE IMPLEMENTATION OF SCHOOL FEEDING PROGRAM AND NUTRITION STATUS OF SCHOOL FED CHILDREN

አዲስ አበባ ከተማ አስተዳደር
ትምህርት ቢሮ



ADDIS ABABA CITY
GOVERNMENT EDUCATION
BUREAU

ቁጥር: 192/579/2020-10/3
ቀን: 11/05/20

ለአራዳ ት/ጽ/ቤት

ለአቃቂ ቃልቲ ት/ጽ/ቤት

ለልደታ ት/ጽ/ቤት

ለካት/ጽ/ቤት

አዲስ አበባ

ጉዳዩ:- የጥናትና ምርምር የፀሐፍ ሥራ ትብብርን ይመለከታል።

የአዲስ አበባ የንግድ ሥራ ትብብር CNSDO/297/12/ 2020 በተባረዘ ደብዳቤ አቶ ግርማ ጎሽሜ የንግድ ሥራ ትብብር አንደኛው ተማሪ እንደሆነ በመጥቀስ በአዲስ ከተማ አስተዳደር በሚገኙ አራት ክ/ከተሞች በተመረጡ አንደኛ ደረጃ የመንግስት ትምህርት ቤቶች ላይ " Assessment of the implementation of school feeding activities and nutritional status of school feed children in government primary schools in addis ababa" በሚል ርዕስ የምርምር ስራ ለመስራት እንዲችሉ የድጋፍ ደብዳቤ በትምህርት ቢሮ በኩል ለክፍለ ከተሞች እንዲገኙ ተጠይቋል።

በመሆኑም ለጥናቱ ግብዓት የሚሆነውን መረጃ ከትምህርት ቤቶች መሰብሰብ እንዲችሉ በእናንተ በኩል በጥናቱ ለተመረጡት አንደኛ ደረጃ ትምህርት ቤቶች ብቻ በደብዳቤ እንዲገልፁላቸው አሳስባለሁ።



ከሰላምታ ጋር

ግልባጭ:-

- ለምክትል ቢሮ ኃላፊ
- ለመምህራን ትምህርት አመራርና ባለሙያዎች ልማትና አስተዳደር ዳይሬክቶሬት

የመምህራን ትምህርት አመራርና ልማት
Addisu Wemako
Educational Leaders &
Experts Development & Administration
Directorate Director

☒ 744 አዲስ አበባ/ Addis Ababa/ ኢትዮጵያ/ Ethiopia/

E-mail: aacgeb@ethionet.et

ግልበይ ሁሉንም የጥናትና ምርምር ርዕስና የሚመለከተውን ክፍል ይጥቀሱ

REMINDER:- PLEASE ALWAYS PROVIDE REF.NO, SUBJECT AND ATTENTION TO

8. Curriculum Vitae

1. PERSONAL INFORMATION

Name	GIRMA GOSHIME TEFERA
Sex	Male
Marital Status	Married
Date of Birth	Sep. 11, 1978
Place of Birth	Addis Ababa
Nationality	Ethiopian
Contact Address	Tel. 09-11-18-21-68/ 09-41- 95-71-41 E-mail girmaaddis2017@gmail.com

2. PROFESSION

A/ Lecturer in Kotebe Metropolitan University, Menelik II Medical & Health Science College

3. EDUCATIONAL BACK GROUND

- MSc in Community Nutrition from Addis Ababa University (MSc Candi.)
- BSc in Applied Human Nutrition from Bahir Dar University
- BSc in Midwifery from Kotebe Metropolitan University, Menelik II Medical & Health Science College
- Diploma in Clinical Nursing from Africa Medical College.
- Dilla University (from 1991 E.C to 1993 E.C) in faculty of Teachers education degree program for two years (withdrawal).
- High school education in Cilallo S.S. School-Arsi, Assela
- Elementary education in Asebe Teferi (Kutir Anid) Elementary School-Asebe Teferi, Harer.

4. ADDITIONAL CERTIFICATIONS

Master TOT in Helping Mothers Survive, managing bleeding after birth and Managing pre-eclampsia and eclampsia, training organized by EMwA in collaboration with ICM and Jhpeigo.

Certificate in Training of Trainers (TOT) in Basic Emergency Obstetric& Neonatal Care (BEmONC), training organized by Menelik II Health Science College in collaboration with AACARHB.

Certificate in Effective Teaching Skills, training organized by Menelik II Health Science College in collaboration with Jhpeigo

Certificate in Basic Emergency Obstetric& Neonatal Care (BEmONC), training using Helping Mothers Survive& Helping Babies Breathe training curricula. The UNIVERSITY OF BERGEN, Norway in collaboration with AACARHB & EMA.

Certificate in Training of Trainers (TOT) On Comprehensive Abortion Care (CAC) organized by Marie Stopes International Ethiopia in collaboration with Federal Ministry of Health (FMOH)

Certificate in Clinical Teaching Skills, training organized by EMA in collaboration with Federal Ministry of Health (FMOH) & UNFPA.

Certificate in Maternal, Neonatal, & Child Health (PMTCT), training organized by AACARHB with UNFPA.

Certificate in IMNCI, Training organized by AACARHB with Ethiopian pediatric society.

Certificate in Comprehensive Family planning , training organized by EMA in collaboration with Federal Ministry of Health (FMOH) , USAID& Jhpeigo.

Certificate in Comprehensive Abortion Care (CAC), training organized by Engender Health in collaboration with AACARHB.

Certificate in trainer's methodology (TMT) training, organized by AACATVET AGENCY

Certificate in Health System Management, training organized by AACARHB in collaboration with ALERT Hospital (pending).

Certificate in (COC) Competency, certificate in Midwifery level 4, from AACA; OCACC

Certificate in (COC) Competency, certificate in Clinical Nursing level 2 & 4, from AACA; OCACC

5. JOB EXPERIENCE

- ❖ A/ Lecturer in Minilik II Health Science College
- ❖ A/Lecturer in St. Lideta Health Science College Addis Ababa.
- ❖ A/Lecturer Addis Ababa Medical College- Addis Ababa
- ❖ Midwifery Skill Teacher in Minilik II Health Science College from June 2005- 2009
- ❖ Disease prevention & Health Promotion process owner in Saris health center, Addis Ababa from April 2004 to June 2005.
- ❖ Head nurse in Tsehay Genet Clinic, Addis Ababa from May 2001 to Sep. 2004 EC.

6. LANGUAGE SKILLS

Excellent writing and speaking skills in: both Amharic and English languages.

Fair in listening, speaking and writing Afan Oromo

7. ADDITIONAL SKILLS AND EXPERIENCE

Trainer in BEmONC & Comprehensive Abortion Care.

Master trainer in helping mothers survive (HMS).

