



# School Feeding in Ghana

## INVESTMENT CASE: COST-BENEFIT ANALYSIS REPORT

ALEXANDER DUNAEV & FEDERICA CORONA  
for Ministry of Gender Children and Social Protection  
& Ghana School Feeding Programme





School meals  
helps sustain  
human capital,  
and gender  
balance

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**The Investment Case aims to provide evidence of the economic relevance of GSFP with respect to the country's development through quantifying in financial terms, the short and long-term benefits derived from the programme**

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# Foreword

The Ghana Cost Benefit Analysis was conducted to bring to the attention of government and other stakeholders in school feeding, the investment returns that school feeding yields, and to see school feeding not just as a cost, but as an investment in the Ghana's human capital and the economy at large.

According to the data collected and analysed, every GHS 1:00 cedi invested in feeding a child yields GHS 3:30 returns. These returns would be even higher if the bottlenecks in the programme are addressed, and the home-grown component of the programme that links school feeding to agriculture is strengthened.

The contribution of school feeding to improving human capital cannot be underestimated; therefore, school feeding should remain a priority for all successive government. This should be supported by legislation. Addressing the challenges that affect the programme should be a priority to help maximize the investment potential of the programme and promote sustainability. These should be addressed within the set of recommended actions in this analysis report, as well as recommendations from other school feeding operational assessment reports.

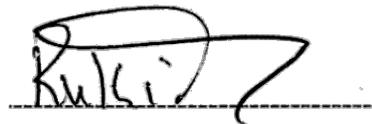
The Ghana School Feeding Programme and the World Food Programme together with their partners must continue to provide the needed capacity strengthening on policy and programmatic decisions to improve school feeding. Emphasis should be on nationally-tailored technical assistance and capacity strengthening to the Ghana School Feeding Programme secretariat and other school feeding stakeholders in all fields, not forgetting the inclusion of the private sector in this endeavor.

Linkage of the programme to agriculture, improving school feeding nutrition, biometric access that supports effective data capture for efficient use of funds, will be undertaken to shore up the benefits identified by this report, to further expand the programme and promote sustainability.



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# Acknowledgments

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- Ministry of Gender Children and Social Protection (MoGCSP)
- Ministry of Employment and Labour Relations
- EMIS Secretariat Team
- WFP HQ Team
- WFP Ghana Team
- Ghana School Feeding Programme Secretariat

A big “Thank you” to the WFP Transport Team for driving us safely.

We would like to especially thank MasterCard for providing us with superb support throughout our journey, for his engagement and guidance.

We are really thankful for this opportunity that given us both professionally and humanly.

We would like to dedicate this report to all teachers who do their best to foster the education of the young generation, to all caterers and cooks who feed the pupils and often go beyond their regular duties, to all parents who have to work really hard to maintain their families, to all government employees, who create programmes that benefit the whole society and, finally, to all Ghanaians who do their best to create a better and brighter future for Ghana.

Federica Corona

Alexander / Sasha Dunaev

# 1. KEY ACRONYMS & DEFINITIONS

<b>CBA</b>	Cost-Benefit Analysis
<b>EMIS</b>	Education Management Information System
<b>GSFP</b>	Ghana School Feeding Programme
<b>HT</b>	Head Teacher
<b>KG</b>	Kindergarten
<b>MIS</b>	Management Information System
<b>MMDAs</b>	Metropolitan, Municipal and District Assemblies
<b>MoFEP</b>	Ministry of Finance and Economic Planning
<b>MoGCSP</b>	Ministry of Gender Children and Social Protection
<b>NC</b>	National Coordinator
<b>NS</b>	National Secretariat
<b>PCD</b>	Partnership for Child Development
<b>PTA</b>	Parents and Teachers Association
<b>SFP</b>	School Feeding Programme
<b>SHEP</b>	School Health Education Programme
<b>SM</b>	School Meal
<b>UN</b>	United Nations
<b>UNICEF</b>	United Nations Children Fund
<b>WASH</b>	Water, Sanitation and Hygiene
<b>WFP</b>	World Food Programme

**Section 8.** Right to education and well-being. (1) No person shall deprive a child access to education, immunization, adequate diet, clothing, shelter, medical attention or any other thing required for his development.

**ACT OF THE PARLIAMENT OF THE REPUBLIC OF GHANA**

**ENTITLED**

**THE CHILDREN'S ACT, 1998**

# 1. Executive Summary

## I. A quick overview

WHAT IS THE COST-BENEFIT ANALYSIS?	WHEN TO USE THIS STUDY?
<p>An advocacy tool developed to illustrate to donors and governments the long-run costs and benefits of a particular safety net programme;</p> <p>An economic model leveraging 4 data sources: academic literature, impact data collected at country level, information collected from WFP experts, information collected from government experts.</p>	<p>To advocate for the benefits of a particular safety net programme;</p> <p>To highlight the benefits of a school feeding programme;</p> <p>To generate buy-in among stakeholders.</p>

**NOTE:** The results of the study **can't be used as a prescriptive tool** aiming at defining programme design, implementation or evaluation or a comparative tool to assess the relative efficacy or effectiveness of different types of programmes.

## II. Highlights

Cost-Benefit Analysis (CBA) was jointly undertaken by the WFP and MasterCard leveraging both organisations' know-how and expertise. It was in collaboration with the Ghana School Feeding Programme (GSFP), under the oversight of the Ministry of Gender, Children and Social Protection (MoGCSP). The purpose of the study is to provide evidence of the economic relevance of the school feeding programme in respect of the country's development. This analysis can be an advocacy tool used to leverage stakeholders' involvement in different aspects of the programme. It may be also used as a supporting tool in the conversations about the further development of the GSFP.

The cost-benefit analysis' key takeaways are presented below:

- The analysis has confirmed that GSFP delivers strong economic value to the beneficiaries. Every GHS 1 invested in the school feeding programme brings an economic return (Cost-Benefit ratio) of GHS 3.3 over the lifetime of the beneficiary pupils.
- Estimated value NPV (Net Present Value) is USD 1,173 (GHS 5,630) to each beneficiary over their lifetime.
- The calculated total cost per beneficiary is USD 44.4 (GHS 213) per year or USD 356 (GHS 1708.8) during the 8-year GSFP support cycle. The major cost drivers of caterers under the programme are:

**Table 1 MAJOR COST DRIVERS**

*Cost is provided for the GSFP term, i.e. 8 years (average years of School Feeding).*

Cost Drivers	Amount in USD (\$)*	Amount in GHS(¢ )
Cost of food	166	797
Transportation cost	17	82
Cost of personnel	10	48
Overheads (Water, Firewood, LPG, etc)	14	67

\* Exchange rate: GHS 4.8 = USD 1

**Table 2. MAJOR BENEFIT DRIVERS**

Benefit Drivers	Valued in USD (\$)	Valued in GHS(¢ )
Improved Education and Productivity	457	2,194
Value transfer	285	1,368
Healthier life	272	1,306
Return on Investment (ROI)	152	730

*Benefit is calculated based on the estimated lifespan of the individual*



These children  
have a future  
when we invest  
in school meals

# CHAPTER ONE

## 1.0 COUNTRY BACKGROUND - GHANA



Figure 1. Map of Ghana as at Oct 2018

Over the years Ghana has made significant strides in its educational system. The government introduced the Free Compulsory Universal Basic Education Programme (FCUBE) in 1996, seen as one of the key instruments aimed at achieving poverty reduction and sustainable development in the country. The launch of FCUBE has been progressively supported by a strong school policy framework including the capitation grant (abolition of school fees), school feeding, free school uniforms and exercise

Ghana, a sub-Saharan coastal country, is located in West Africa, immediately north of the Gulf of Guinea. Ghana sits on the Atlantic Ocean and is bordered by Togo, Cote d'Ivoire, and Burkina Faso. According to the World Bank classification, it is a lower-middle income country. It has a total population of 29.6 million (2018) and a total land area of 238, 538 sq. km. The country is divided into 10 administrative regions, which are sub-divided into 254 districts.

Education is a right enshrined in chapter 6 of the 1992 Constitution of Ghana, where article 38 makes provision for education as a human right and basic education as an entitlement for all children. This requires Government to provide access to Free Compulsory Universal Basic Education, and depending on resource availability, to Senior Secondary, Technical and Tertiary education and life-long learning.

books, aimed at encouraging participation in basic education, increasing school attendance rate and retention of children in schools, particularly for children from poor households.

The Education System in Ghana follows the British model. It consists of two to three years of nursery school (Kindergarten, age 4-5 years), six compulsory years of primary school (P1-P6, age 6-11 years) as well as three compulsory years of Junior High School (Age 12-17).

Once the children are enrolled, the major challenge related to the Education Policy is to keep them in school and to make sure that they learn. School health and nutritional status of children are key in this respect and this is one of the main reasons behind the initiation of the Ghana School Feeding Programme (GSFP).

## 1.2 BRIEF HISTORY OF GHANA SCHOOL FEEDING PROGRAMME

The Ghana School Feeding Programme (GSFP) was started in 2005 as a social protection intervention in the context of the Comprehensive African Agricultural Development Programme (CAADP) Pillar III and in response to the first and second Millennium Development Goals (MDGs):

The GSFP was implemented by the Government of Ghana as a pilot in one school per region (10 schools in total) with 1,900 beneficiaries pupils nationwide. In 2006, it was scaled-up to 2 schools per district in 138 districts, reaching over 230,000 deprived communities.

The programme, as at the end of the 2016/2017 academic year, covered a total of 5,682 schools and benefitted 1,671,777 pupils nationwide whilst providing jobs to about 24,000 caterers in its beneficiary communities.

The GSFP provides pupils in public primary and kindergarten schools in the deprived communities with one hot, nutritionally adequate meal per each school going day, using locally grown foodstuff, aimed at achieving the goals of the programme, which seeks to eradicate hunger, poverty and malnutrition.

The immediate objectives of the programme are to:

- Increase school enrolment, attendance and retention
- Reduce hunger and malnutrition
- Boost domestic food production

## 1.3 BRIEF HISTORY OF WFP'S SUPPORT

Since 2006, the United Nations World Food Program (WFP) has been collaborating with the Government of Ghana to distribute school meals to over 200,000 pupils in over 400 schools in the Northern, Upper East and Upper West regions by providing in-kind food assistance. In May 2014, WFP transitioned

from in-kind food assistance to direct cash payments to the caterers to enable them to procure food from the local farmers and markets, cook and serve the children. Under the Country Programme 2012 – 2016, a gradual hand-over strategy was jointly agreed between WFP and the Government. As part of that strategy, WFP handed over the direct support (cash) to the school feeding programme in December 2016 but continued to provide technical support from January 2017.

## 1.4 BRIEF SUPPORT HISTORY OF PCD

Partnership for Child Development (PCD) on the other hand, has supported the GSFP with the development of a School Meal Planner and Handy Measuresto guide cooks and caterers on the right quantity of food items to cook as well as the serving portions per child, to ensure their nutritional needs are met.. PCD in 2018 support GSFP with 1000 Handy Measure Charts for all its Regional offices and MMDAs, and supported in training district actors on the meal planner tool for the development of district menus.

## 1.5 BACKGROUND OF THE CBA FOR GHANA SCHOOL FEEDING PROGRAMME

The request for conducting a CBA of the Ghana School Feeding Programme was formulated by stakeholders during a national dissemination and advocacy workshop of the outcomes of the nutritional survey of the School Feeding Programme, conducted by GSFP, WFP and PCD in 2017.

The national dissemination workshop was held on 5th December 2017 in Accra. According to stakeholders' feedback, when the caterers feeding grant was GHS 0.80 per child per school going day, there was a consensus among stakeholders that the feeding grant should be increased from GHS 0.80 to between GHS 1.50 – 2.00 / per child per school going day, on the basis of real expenditures reported by caterers, and the feeding cost at Senior High School level which is between GHS 2.5 to 3.00 per student per day.

The Ministry of Finance and Economic Planning (MoFEP) approved the increase to GHS 1.00 per child per school going day as of 1<sup>st</sup> January 2018. This took effect from 2<sup>nd</sup> term 2017/2018 academic year payment to caterers.

In order to make the case to the Ministry of Finance and Economic Planning for further increase in the feeding grant further to GHS 1.50 – 2.00, stakeholders recommended to:

1. Conduct CBA (Cost Benefit Analysis) of the GSFP to show the direct/indirect benefits the school feeding generates, show the return to investments in SF in Ghana, and to show SF as an investment and not as a cost.
2. GSFP to present results of the CBA to Government, and advocate for the increase in the feeding grant

The Ministry of Gender, Children and Social Protection (MoGCSP) and the Ghana School Feeding Programme in collaboration with WFP and MasterCard Foundation conducted the Cost-Benefit Analysis on GSFP in October 2018.

## **1.6 BRIEF ON GSFP BENEFICIARY SCHOOL SELECTION CRITERIA**

Beneficiary Schools are selected according to a set of criteria that are focused on addressing the following:

- Low school enrolment, attendance, and retention, especially for girls.
- Drop-out rates.
- Low literacy levels.
- High hunger and vulnerability status.
- Poor access to potable water.
- High communal spirit/or community management capability.
- The willingness of the community to put up basic infrastructure (e.g. Kitchen, storeroom, latrines) and to contribute in cash or kind.

- Communities/schools not already covered by other feeding programmes.

“The Goal of the School Feeding Policy is to deliver a well-organized, decentralized intervention providing disadvantaged school children with nutritionally adequate, locally prepared food thereby reducing poverty, through improved household incomes and effective local economic development” thus driving the increase of school enrolment, attendance and retention. (Programme, 2016).

While all the efforts, undertaken by GSFP stakeholders, led to fruition and quick expansion of the programme, some observations made in the previous studies, witness that there are clear improvement areas in this programme. In 2015 and 2016 WFP volunteers conducted surveys in selected schools.

The nutritional survey of the School Feeding Programme was conducted in 17 schools in 10 districts of the northern region . It was observed and reported that the quality and quantity of school meals served were not always adequate and, in some cases, did not meet the attaining of the proposed 30 percent Recommended Daily Allowance (RDA). General lack of protein was observed together with a higher than the prescribed quantity of oil in the meals served. Rations were not according to age and caterers were not paid on time among others. In addition, the hygiene condition and cost management were highlighted as an issue.

## **1.7 BRIEF ON ROLE OF CATERERS IN THE PROGRAMME**

School Feeding in Ghana at the Primary/KG level, adopts a caterer model of school meal provision, where caterers through procurement guidelines are contracted to execute their catering duties to beneficiary schools/pupils under the programme over a renewable period of time. Contracted caterers in fulfilment of boosting the local economy are usually from the beneficiary communities and

required per the contractual guideline, to recruit cooks from the same community.

Section 3.1 of the GSFP Catering Contract states the responsibilities of caterers contracted under the programme. Caterers shall among others:

- Provide meals that contain all three food groups
- Provide fruits, eggs and milk at least once a week
- Display and follow the menu chart approved by GSFP
- Endeavour to buy at least 20 percent by value of foodstuffs from small-holder farmers
- Prepare and cook food on site using a kitchen, storage space and sufficient potable water provided at no cost by the District
- Shall spend 60 percent of the daily stipend on foodstuffs for the preparation of meals
- Use the GSFP Handy Measure during food preparation and service to ensure that the daily nutritional and caloric requirements stipulated are met.
- Submit “request for funds feeding forms/ Caterer Claim Forms” approved by the headteacher to the desk officer
- Comply with the Food Safety and Hygiene as well as the Health and Nutrition procedures cited in the Code of Quantity and food hygiene checklist
- Shall be responsible for paying staff who shall be employed from the beneficiary community
- Provide reports especially in relation to purchases from smallholder farmers (SHFs, etc.)
- Undertake to be monitored by his/her respective MMDA and GSFP representatives.

Caterers contracted under the programme are to prepare, cook and serve meals to the pupils in beneficiary schools. Caterers are managing all the aspects of the school meal preparation, delivery, and serving, including purchasing of the ingredients, transporting from the market to the kitchen, meal preparation and feeding pupils. They also bear all the major costs, such as salary of cooks and overheads (cost of water and firewood or other energy sources like LPG).

In 2016/2017 academic year, the total number of caterers was 4,975 and more than 14,925 cooks nationwide who through the programme have been empowered financially in gainful employment.

Caterers are expected to deliver the meals according to the “GSFP district menu” specification, developed by the GSFP in consultation with the districts (MMDAs). In reality, meals vary due to seasonality and availability of the ingredients and the portion size might be different from the required ration demonstrated by the Handy Measures.

As at October 2018, caterers are paid a feeding grant of 1.00 GH, and increase from 0.80 GHS as per child per every school going day and it is based on the enrollment figures provided by the school/ MMDAs to the local GSFP office (Regional Offices).

Caterer payments are typically coming with significant delays that may be up to 3 - 4 months, it is worth noting that, the clause in Section 2, subsection 2.4 of the GSFP Catering Contract stipulates that “The caterer shall be able to pre-finance for at least one academic term”. This thus requires caterers to pre-finance their catering services awaiting reimbursements by the Government.

Cook Serving School  
Meal at Koblimahgu  
Sobria Islamic,  
Tamale Metro,  
Northern Region.  
October 2018





Pupils are energized to participate in extra curricular activities that helps develop their talents.

## CHAPTER TWO

# COST-BENEFIT ANALYSIS OUTLINE

## 2.0 Cost-Benefit Analysis

### 2.1 Outline of the School Feeding Cost-Benefit Analysis

The Investment Case aims to provide evidence of the economic relevance of GSFP with respect to the country's development through quantifying in financial terms, the short and long-term benefits derived from the programme.

The main objective is to assess and compare the monetary cost and the economic benefit of providing school feeding, and to estimate the value created in terms of increased education, improved health and nutrition to the beneficiaries, showing that school feeding is a valuable investment in the short and long term for the children, communities and the country's growth and development.

This tool was developed by WFP in partnership with The Boston Consulting Group (BCG). It is based on academic evidence, WFP's experience and country-specific data on nutrition, health, education and income transfers. In a sample of fourteen (14) countries providing school meals, take-home rations or biscuits, it showed that the cost-benefit ratio ranges from 1:3 to 1:9, which means that for every USD 1, (GHS 1 reference to the cost-benefit ratio ranges) invested in school feeding, the economic returns from improved health and education among school children and increased productivity when

they become working adults range from USD 3, that is GHS 3 to USD9; (GHS 9 ). This analysis therefore provides concrete evidence that school feeding is not so much a cost as an investment in human capital development.

The economic model underlying this analysis assesses the effects of a school feeding intervention as quantifiable outcomes valued in US dollars. It is important to outline that, the results of this tool should be used only for advocacy purposes and not for programme design.

The main outcomes of an investment in school feeding are;

1. Increase in enrollment, attendance and cognition while at school. Parents have more incentives to send their children to school as they know they will get a hot meal, which alleviates their food expenditures as well as their health expenditures (school-fed children are less often ill). Children who receive a meal during the day generally show better concentration during classes and get higher test results, improving their chances to remain at school and to do higher studies.
2. The decrease in the dropout rate. School meals also reduce the dropout rate of school children.
3. Increase in household income. School feeding represents an alleviation of household

expenses, as families can invest the funds, they would have spent in feeding their children on other assets, thus generating an economic return.

4. Improved nutrition and health. Children have better nutrition during their childhood which leads to improved health in the long run.

## 2.2 Scope of the CBA Model

The CBA model draws upon academic evidence on the benefits of school feeding, WFP's extensive experience, and country-specific data in estimating the value created through five key benefit drivers:

The model takes into account all the quantifiable benefits and all the costs of implementing a school meals programme, throughout the life of the beneficiary. The benefits are discounted at their net present value (NPV). The cost-benefit ratio is an assessment of the economic profitability of the programme to the whole community, including benefits for the child. A 1:3 ratio means that each USD 1 (GHS 1 ) invested in school meals results in USD 3 (GHS 3 ) of value throughout the life of the beneficiary. The model considers the following costs and benefits in order to assess the cost-benefit ratio:

### 2.2.1 Costs

The typical costs items include:

1. **Commodity Costs:** refer to the total cost of the food distributed, including both the value of the commodity purchased at its actual price.
2. **External Transport:** are incurred when transporting the food procured internationally from the country in which it was donated or purchased to the country in which it will be distributed, or a neighbouring country. (N/A)
3. **Landside, Transport, Storage and Handling (LTSH):** include everything that is needed to care for and physically deliver the commodities from the completion of external transport to their final destination.
4. **Other Direct Operational Costs (ODOC):** are the costs of all activity inputs provided to beneficiaries in conjunction with food activities or utilized by host governments or cooperating partners to implement or monitor food or cash-based activities, excluding transport, storage, handling and delivery of the food.
5. **Direct Support Costs (DSC):** are costs which can be directly related to the provision of support to an operation and which would not be incurred should that activity cease.
6. **Overhead / Indirect Support Costs (ISC):** Overhead costs incurred by WFP & Government
7. **Community Cost:** Operating cost covered by the communities. These include firewood, water and cooks' salaries and were computed from informational interviews.

In this study the caterers' actual cost has been used as a proxy and input for estimation of the cost/pupil and the total GSFP expenses per year. Face-to-face interviews, conducted with caterers, revealed that they usually have a simplified approach to the cost of meal calculation. As caterers bear the majority of the costs of meal preparation related to the GSFP, this led the team to a more basic approach to the cost structure of the model. For the purpose of Ghana CBA the following cost structure has been used:

1. **Food costs:** Cost of ingredients used by caterers to prepare the meal.
2. **Transportation cost:** Cost of transporting the food from the market to caterers home or to the school and the cost of transportation from the caterer's house the school. (that is when the caterer is cooking from home to serve the pupils)

3. **Cost of personnel:** Salaries that are paid by caterers to the cooks, involved in meal preparation.
4. **Overheads:** Water, firewood or other energy sources eg. LPG

According to the interviews, schools and parents do not have significant expenses related to GSFP, so they were not considered in the cost calculation.

## 2.2.2 Benefits

School meal programme benefits are broken down following the conceptual framework, built by WFP, indicating how school meals contribute to the Sustainable Development Goals (SDGs) of the 2030 Agenda, which corresponds to the various pathways-

to-impact through which school meals may benefit children, their families, their communities, and the national economy. These benefits are broken down into five **benefit drivers**, as follows:



WFP Conceptual Framework (Benefits)



**Return on Investment:** The value constituted by the food transfer to the households may free-up resources which households can then invest in productive assets. Academic evidence suggests that poor households are known to be active asset managers, and will effectively save and invest a share of this additional income on productive assets such as livestock products i.e. chicken that can offer additional food (eggs) to the family over a certain period of time or products that improve crop quality and production.



**Value Transfer:** The distribution of a food ration at school is a value transfer to the households of an amount equivalent to that of the meal. This value transfer can be considered as an additional income for the family.



**Healthier Life:** Increased earnings from healthier life come from two drivers: (i) private healthcare expenditures avoided due to the children's better health directly attributable to school feeding. (ii) public healthcare expenditures avoided due to the children's better health directly attributable to school feeding. When school feeding programmes are designed with a nutritional objective, they can provide approximately 30-40 percent of the international recommended daily intake for school-age children. Given the correlation between nutritional status and cognitive learning, healthy and nutritious school meals, particularly when combined with complementary health interventions such as micronutrient fortification (i.e. adding micronutrients such as iron or vitamin A to foods at the processing stage), WASH (water, sanitation and hygiene) programmes and deworming can address deficiencies in micronutrients, critical for a child's cognitive learning, as well as reduce school absenteeism due to illness. Nutritious and regular school meals, therefore, help impoverished and food, insecure families, to overcome challenges such as undernutrition and poor health. These will result in a healthier life for beneficiaries and reduced Disability Adjusted Life Years (DALYs).<sup>1</sup>

<sup>1</sup> UN Food and Agriculture Organization, Rome. (2010) Gender and Nutrition



**Increased Productivity:** School feeding promotes equal access to education and learning and can contribute to reduced micronutrient deficiencies and this enhances health. Healthy children have enhanced learning potential, which can enable them to be more productive when they become working adults. This increased productivity is measured through higher wages due to better education. In addition, better nutrition at school will increase the overall life expectancy of the beneficiaries, which will lead to additional years of labour and in consequence, higher total productivity over their lifetime.



**Gender Equality:** reduction of the gender gap with respect to access to education and access to health interventions. School meals are effective in promoting gender parity, providing an incentive to parents who might otherwise keep their children at home for financial or cultural reasons, therefore increasing access and equity to education and health. Globally more girls and women are disproportionately out of school and have a higher vulnerability to hunger and malnutrition than boys.<sup>2</sup>

<sup>2</sup> UN Food and Agriculture Organization, Rome. (2010) Gender and Nutrition

# CHAPTER THREE

## METHODOLOGY

### 3.0 Approach And Methodology

The approached and methodology considers the format of data collection, a brief on the CBA approach to the Ghana mission as MasterCard has conducted the CBA in about 17 countries with school feeding and the Ghana is the 18<sup>th</sup>.

### 3.1 Mission Objective

The primary objective of the mission was to conduct a CBA of the GSFP.

The CBA aims to provide a realistic picture of the benefits of a specific programme, taking into account its features as well as the economic context in which the programme takes place.

Although basic education in Ghana is from KG to JSS, spanning the age group from 4 to 15 years, this report is focused on the eight years of pre-school and primary education covered by GSFP. Therefore, any data related to secondary school costs, education indicators or other parameters in the model are not included. Both qualitative and quantitative data were collected during the field visits and these data sets are used to triangulate and complement secondary data sources.

### 3.2 Methodology

The project was initially structured for a 4-week duration. The team had to extend its stay, as the key GSFP and government stakeholders were available for the final presentation only on week 5.

The sample for primary data collection was eight (8) treatment (GSFP beneficiary schools) and six (6) control (non-beneficiary schools) for triangulation of secondary data submitted by GSFP and Ghana Education Service's (GES), EMIS secretariat . The control group schools are used as a benchmark to treatment schools in order to ensure regional similarities in social & economic indicators and to get an objective view about GSFP performance and impact. Table 1 below shows the target groups for the purpose of conducting the CBA.

Out of the 10 regions in Ghana where the GSFP is been implemented, 5 regions were selected, all been representative of the country's belt divisions (Northern, middle and Southern belts)with 8 schools in the treatment and 6 schools in the control group. Fourteen (14) schools were selected in five (5) Regions representing a sample of 50 percent of regional coverage, and 100 percent of country belts, from Northern belt through to the southern belt. Both treatment and control schools in the same districts were visited to grant similarities in geographic conditions.

During the school visits the team had interviews with headteachers, PTA representatives, caterers and parents to collect data on various school performance indicators and to understand their contributions, viewpoints, and challenges. In some schools, the team had a headcount check to define attendance rates on the day of the visit. In Tamale, the Regional WFP Office was visited for an introductory meeting with the regional coordinator and the WFP local team.

### 3.3 Project Timeline

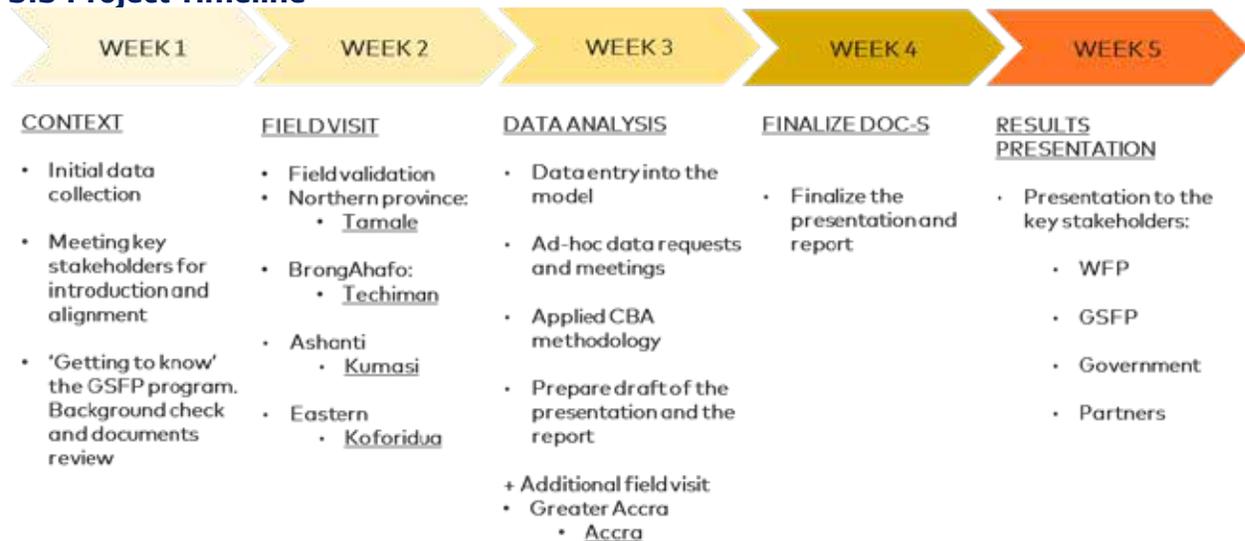


Figure 1 – CBA Project Timelines

#### 3.3.1 Week 1. Induction and Context

The first week was dedicated to investigation and establishment of the context for the report, collection and analysis of existing documentation. The team was working with various information sources and gathered existing programme documents which included previous studies and reports, details on government policies and programmes as well as various analytical data sets.

The team also had introductory meetings and deep dive conversations with key stakeholders of GSFP. The primary objective during these sessions was to introduce the CBA methodology to the key stakeholders, to understand their roles and their positions on school feeding. The team also did drill-downs into specific data sets. On that week there was also a meeting held with EMIS that is playing a crucial role in further data collection and analysis exercise.

#### 3.3.2 Week 2. Field Visits (Northern & Middle Ghana)

The second week was dedicated to field visits in schools located in 4 Regions of Ghana, representing the Northern and Middle belt of the country: Northern (Tamale), Brong Ahafo (Techiman), Ashanti (Kumasi), and Eastern (Koforidua).

#### 3.3.3 Week 3 (Southern Ghana)

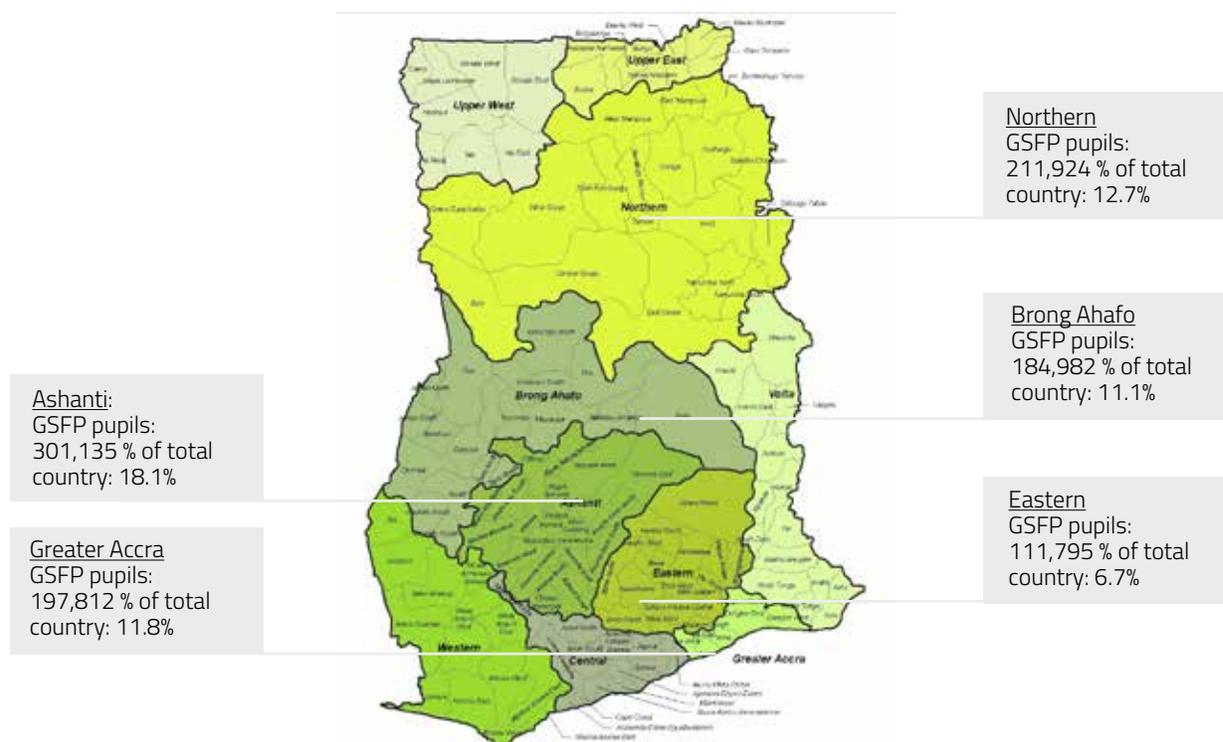
On week 3 the team also went to 2 treatment schools in the Greater Accra region (Accra) in the Southern belt, covering sample from all three (3) belts of Ghana. The team visited beneficiary schools (treatment group) as well as non-beneficiary schools (control group). The total numbers of visited schools were fourteen (14).

The data collection field visits is illustrated in figure 2 below showing the national coverage.

Table 1 – CBA school selection criterion for GSFP

Criteria	Rational
<p><b>1.Existence of the School Meal</b></p>	<p>GSFP is being implemented across the country in public primary/ KG selected according to the following criteria:</p> <ul style="list-style-type: none"> <li>• Low school enrolment, attendance and retention especially for girls.</li> <li>• High drop-out rate.</li> <li>• Low literacy levels.</li> <li>• High hunger and vulnerability status.</li> <li>• Poor access to potable water.</li> <li>• High communal spirit/or community management capability.</li> <li>• Willingness of the community to put up basic infrastructure (e.g. Kitchen, storeroom, latrines) and to contribute in cash or kind.</li> </ul> <p>Out of the 10 regions, 5 regions were selected with 8 schools in the TREATMENT and 6 schools in the CONTROL group</p>
<p><b>2.Similarity in geographic conditions</b></p>	<p>14 schools were selected in 5 Regions representing a sample of 50% of country regions, and 100% of Country belts, from North to South. Visits were performed (Treatment &amp; Control) in the same districts to grant similarities in geographic conditions.</p>
<p><b>3.Similarity in social and economic conditions</b></p>	<p>Taking into account similarities in the number of schools and pupils population</p> <p>Similar characteristics and measurements in (Poverty gap, Nutrition indicators, the main source of earning and child deprivation of school needs)</p>

Figure 2– Regional Coverage by CBA team



### 3.3.4 Week 3 & 4. Data Analysis, Report, And Presentation

Week three and four were dedicated to information gathering completion, assessment and data analysis, to ad-hoc meetings with data providers. The team was also working on the final presentation and report.

### 3.3.5 Week 5. Presentation of Findings

In week 5 the results and findings were presented to the WFP team and to all the key GSF P stakeholders, including GSF P National Secretariat with representatives from the Regional offices the oversight ministry, MoGCSP with the Deputy Minister in attendance, representatives from the collaborating ministries of GSF P, Development Partners, donors and the Media.

The Ghana mission is unique as until now it is the only mission where the team had to extend its stay until week 5 to be able to present to GSF P and

Government stakeholders who were not available for presentation on week 4.

### 3.4 Limitations And Constraints

The CBA model can be used as an effective advocacy and fundraising tool to quantify and project the expected value for money of school feeding. However, several caveats must be taken into consideration when dealing with the results.

First, it should be noted that the investment case is not designed for the planning and implementation of school meals programmes. It should not be used for comparing the profitability of school feeding (and the consequent resource allocation) across different countries.

This model is not designed for budget planning purposes as it quantifies the value created from a single beneficiary perspective, and not that of the implementing agency. This implies a different selection of outcome indicators and methodology

of quantification of benefits. For an estimation of the economic costs and benefits for a government, a more macro-economic approach should be taken by considering the eventual impact of the social safety net implementation on aggregate economic indicators.

Depreciation of assets was not taken into account in the model.

### 3.5 Educational Key Performance Indicators (KPIs)

Enrollment, attendance, and drop-out rates calculations are done based on the datasets provided by EMIS. While the team did its best to try and collect proof points during the field visits on week 2, most of the schools were not able to provide justified data on the enrollment and attendance rates. Drop-out rates were generally missing. The team has also done random headcount checks to compare the actual number of pupils in the class with the number of enrolled pupils.

### 3.6 GSFP SCHOOL MEALS

Menus have been developed and defined by GSFP in collaboration with the MMDAs to provide beneficiary pupils with school meals that will provide 30 percent of the Recommended Daily Allowance of nutrients (RDA) for carbohydrate-protein, fat, vitamin A, and iron. During the field visits it's been observed that caterers are not always following prescribed menus and there is no real control over the size of the portion. Examples of the "GSFP district menus" built by the GSFP and the actual menu are below:

#### 3.6.1 "GSFP district menus" Monday: Rice with groundnut soup ( main ingredients)

- Rice
- Tuna
- Tomato
- Cocoyam leaves
- Salt
- Pepper
- Groundnut paste

Actual menu on Monday: Waakye with tomatoes stew (main ingredients)

- Rice
- Beans
- Fresh Tomatoes
- Vegetable Oil
- Onions
- Fish powder

This comparison is provided for illustrative purpose, but similar situations have been observed in other regions and on other days.

Since pupils are not eating in a dedicated area (e.g. canteen, kitchen) it's also complicated to track the real meal consumption, i.e. what the actual quantity is that pupils consume. Due to these factors 25 percent of the RDA was used as a parameter for the CBA model.

### 3.7 Overall Costs

Due to the fact that the feeding process is handled by the caterers, they bear most of the related costs. This led to a specific cost structure that consists of 4 key cost items – "Food", "Transportation", "Cost of Personnel", and "Overheads".

### 3.8 Potential Effects On Ghana Agriculture

Homegrown feeding programmes typically lead to higher food-security and stimulate local agricultural production. While this has been confirmed during the qualitative interviews with caterers, they couldn't provide numbers that would help quantify the impact. This information is not available through other sources. As a result, the positive effect on the country's agriculture and food security is not reflected in the CBA model.



Promoting school attendance and retention is one of the key objectives of school feeding

# CHAPTER FOUR

## FINDINGS

### 4 .0 Cost-Benefit Analysis – Results

#### i. 4.1 Highlights

The cost-benefit analysis, conducted for GSFP, clearly shows a positive impact that the programme has on all the key stakeholders involved, including pupils, as major beneficiaries of the school feeding programme, as well as schools, parents, and local communities. This has been highlighted by interviewees in the qualitative interviews on the field and supported by return on investment numbers resulting from CBA model.

The CBA model quantifies the benefits and costs of the GSFP using the economic model and the methodology that has been developed by WFP together with Boston Consulting Group. The model relies on key macroeconomic and demographic data as well as pertinent educational indicators. The scope of the analysis included preschool (kindergarten) and primary schools as they are both covered by the GSFP that targets pupils of average age from 4 to 12 years (8 years of education in total).

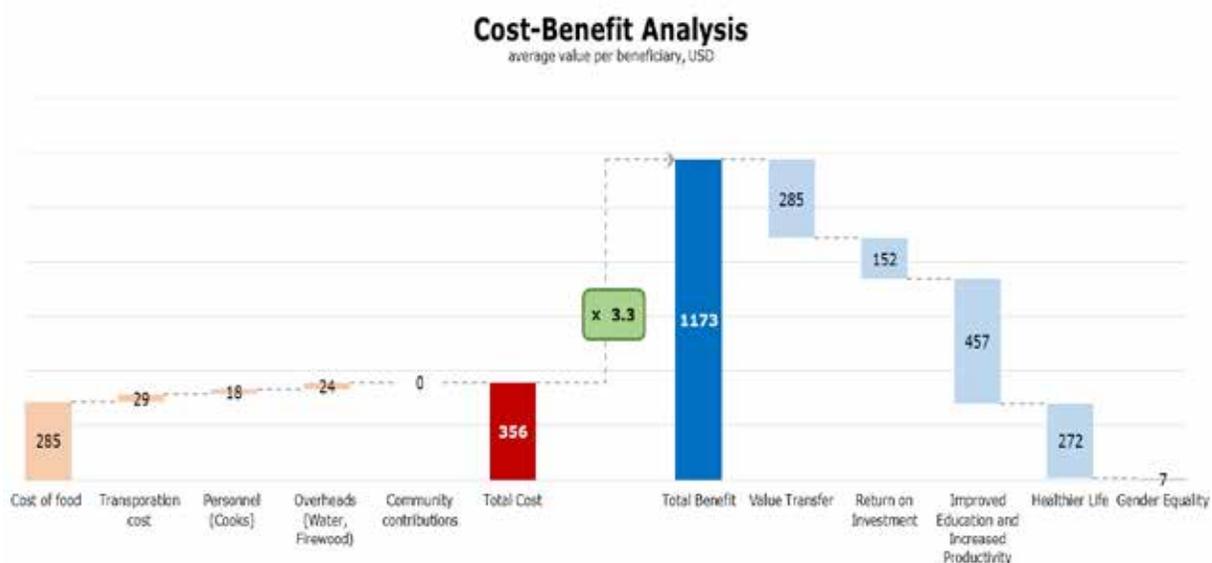
The following macroeconomic variables were used to parametrize the model:

Table 2 - Ghana macroeconomic and education indicators

Type of variable	Metric	Value
Macroeconomic	GDP growth rate, % (2017)	3.84%%
	Total GNI per capita (USD/year), 2007-2017 average, World Bank	1,369
	Average age of start of working life	18
	Average age at the end of working life	63
	Life expectancy at birth, years	63
	Exchange rate: GHS/USD (UN, 2018 average)	0.2147
	Discount rate, % (World Bank)	7.0%
Educational	Average age of beginning of school	4
	Average age of end of school, incl. KG*	12
	Years of primary school, incl. KG*	8

\*These averages were sourced from World Bank Macroeconomic and education indicators

Figure 2 – Summary of the Ghana CBA



**4.2 Investment case:** According to the model, by investing USD 1 (GHC 1) in school meals, an economic return of up to USD 3.3 (GHC3.3) is expected to be generated over the lifetime of a beneficiary of the GSFP.

**4.2.1 Costs:** The total estimated GSFP cost per pupil is USD 356 (GHS 1,708.8) per pupil for 8 schooling years, including kindergarten (KG1, KG2) and primary school (P1 to P6). It's also important to mention that the actual GSFP cost for the government may be lower due to the fact that caterer's expenses might exceed the actual allowance of 1.00 GHS /pupil/day that is provided by the government. The 1.00 GHS feeding grant is before deduction of 3 percent withholding tax.

**4.2.2 Benefits:** The discounted value (NPV) for each beneficiary is USD 1,173 (GHS 5,630.4) over the programme beneficiary lifespan. The key benefit drivers contributing to this cost-benefit ratio are Improved Education and Increased Productivity (1), Value Transfer to the households (2), Healthier Life (3), and Return on Investment (4).

## 4.3 Detailed overview

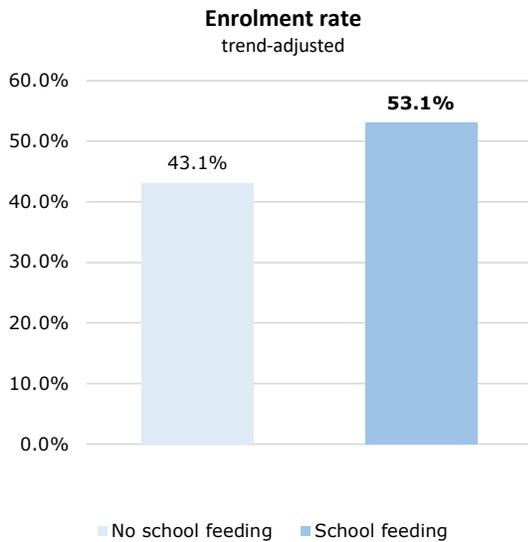
### 4.3.1 Scope of the CBA analysis

As part of the CBA of the GSFP, the team has done the data analysis of the current number of pupils eligible to receive school meals as part of the Ghana School Feeding Programme. As at the end of the 2016/2017 academic year, beneficiary pupils were 1,671,777. This information, together with data about treatment (schools that are part of the GSFP) and control schools (do not receive school meals), has been used to analyse enrolment, attendance, and drop-out rates as key input parameters for the CBA model. The enrolment, attendance, drop-out rates data have been provided by EMIS. Due to missing information and, in some cases, concerns about data quality, selected schools in the 5 regions were taken as a proxy for enrolment and attendance rates. Country average, based on the data from all the 10 regions, was calculated to compare drop-out rates in the treatment and control schools.

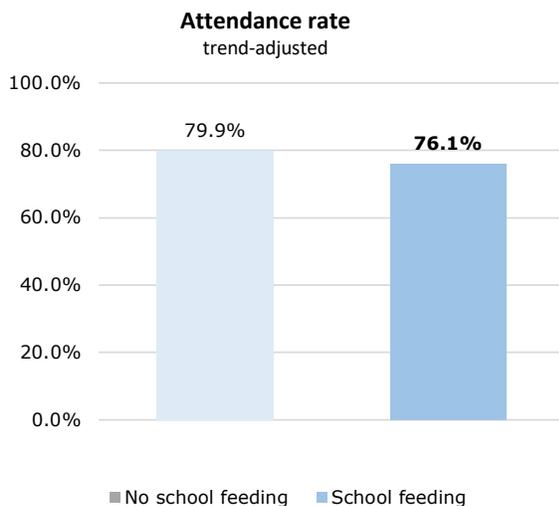
The school feeding programme has a clear impact on the enrolment rates for boys and girls. According to the EMIS data, average enrolment rate in treatment

schools is 7.3 percent higher than in the control group. The difference for boys is 8.6 percent and 6.0 percent for girls. This can be confirmed by the qualitative feedback from the interviews on the field. Teachers and parents unanimously mentioned that school feeding drives pupils' inflow to the schools and have a positive impact on the numbers.

**Figure 3 – Enrollment rate indicators for the model 2016/17**



According to the EMIS datasets, the average attendance rate is 4.8 percent lower in the treatment schools. This difference is slightly higher for girls (-5.8 percent) than for boys (-3.8 percent).

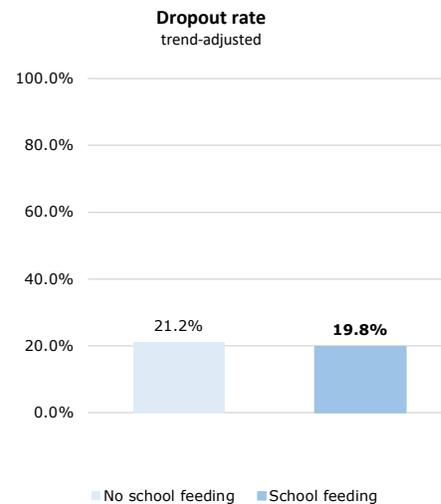


**Figure 4 – Attendance rate indicators for the model 2016/17**

EMIS DATA, 2016/17

Even though the attendance rate in control schools is higher than in treatment schools, the possible explanation can lie in the school's selection process. Treatment schools are located in the most deprived areas where the population in the communities are smaller. Children in beneficiary communities are usually vulnerable to the external factors and this naturally undermines their capability to attend school sometimes.

Treatment schools drop-out rate KPI overperforms the indicator in the control schools. Based on the EMIS datasets, school feeding has a marginally higher impact on drop-out rate reduction for girls (-2.4 percent) than for boys (-2.0 percent). The trend-adjusted average drop-out rate difference is 1.4 percent.



EMIS DATA, 2016/17

**Figure 5 – Drop-out rate indicators for the model 2016/17**

EMIS DATA, 2016/17

The detailed educational KPIs are presented in table 3 below.

**Table 3 - Feeding & Education Indicators for GSFP 2016/17**

<i>Key variables</i>	<b>Metric</b>	<b>Value</b>
<b>Feeding indicators</b>	Number of pupils	1,671,777
	Caloric intake – share of daily needs, %	25%
	Feeding days per year	195
<b>Education Indicators</b>	<b>Average Gross Enrollment Rate, Treatment</b>	<b>50.5%</b>
	Average GER, Treatment, Boys	51.7%
	Average GER, Treatment, Girls	49.3%
	<b>Average Gross Enrollment Rate, Control</b>	<b>43.2%</b>
	Average GER, Control, Boys	43.1%
	Average GER, Control, Girls	43.3%
	<b>Average Attendance Rate, Treatment</b>	<b>74.7%</b>
	Average Attendance Rate, Treatment, Boys	76.1%
	Average Attendance Rate, Treatment, Girls	73.2%
	<b>Average Attendance Rate, Control</b>	<b>79.5%</b>
	Average Attendance Rate, Treatment, Boys	79.9%
	Average Attendance Rate, Treatment, Girls	79.0%
	<b>Average drop-out rate, Treatment</b>	<b>20.9%</b>
	Average drop-out rate, Treatment, Boys	19.3%
	Average drop-out rate, Treatment, Girls	22.5%
	<b>Drop-out rate, Control</b>	<b>23.1%</b>
Drop-out rate, Control, Boys	21.3%	
Drop-out rate, Control, Girls	24.9%	

Sources: GSFP & EMIS Data

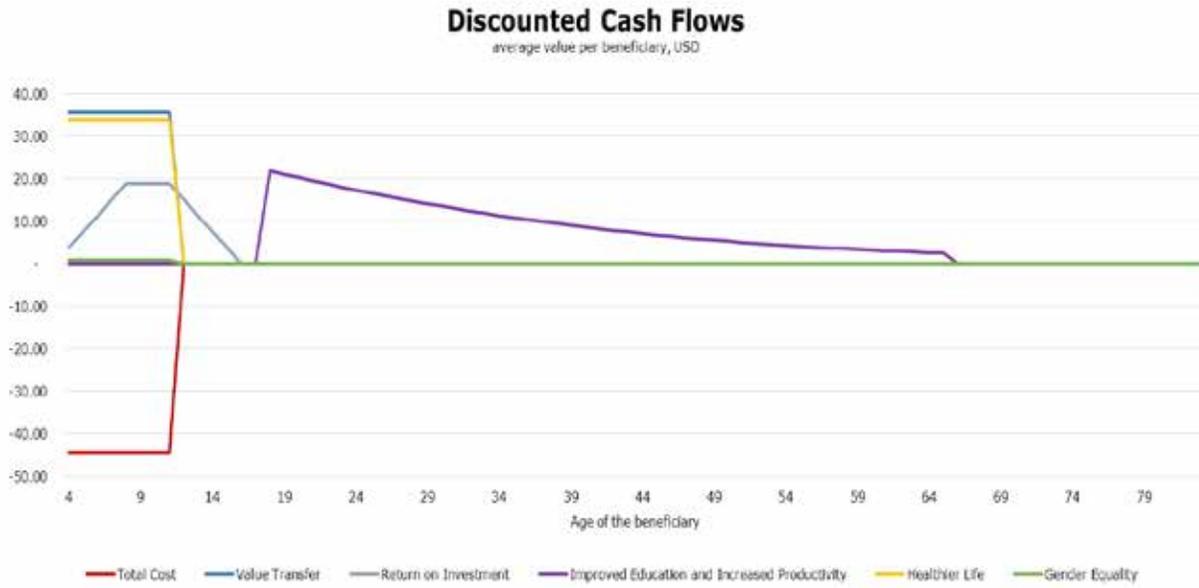
### 4.3.2 Cost Overview

The total costs, associated with GSFP, amount to USD 74.2 million (GHS 356,160 million) per annum. As mentioned in the previous sections, the costs are calculated based on the information obtained in field visit interviews and on actual expenses that caterers / other stakeholders need to bear in order to maintain the school feeding programme.

The cost breakdown by category based on field interview with caterers is as follows:

- “Food”- 80 percent
- “Transportation cost” – 8 percent
- “Personnel (Cooks)” – 5 percent
- “Overheads” (Water and Firewood) – 7 percent

Figure 6 – Discounted Cash Flows view through the CBA lens



The total cost per pupil of the GSFP is GHS 207.00 or USD 44 per year. With 195 school going days per year this gives a daily cost of a meal per pupil of GHS 1.06 or approx. USD 0.23.

The average cost/pupil (GHS 1.06/pupil) is higher than the GHS 1.00 feeding grant paid by the government to caterers. Hence, the total programme cost is higher than the actual government expenditures. Notwithstanding, the purpose of the model is to analyze and measure a return based on the actual costs carried out by the stakeholders.

These costs were averaged and later extrapolated to the entire eligible population in order to calculate the total cost of the GSFP as well as the individual cost of key cost components.

Table 4 – Overview of the annual programme cost per pupil

Key variables	Metric	Value, USD	Value ( )
VALUE TRANSFER	Food (USD/Year/Pupil)	35.59	170.8
PROGRAMME COST	Transportation cost	3.59	17.2
	Personnel (Cooks)	2.25	10.8
	Overheads:		
	Water		
	Firewood	2.97	14.3
WASH	Sanitation infrastructure, e.g. Water, Soap	Yes	
DEWORMING	De-worming interventions*	Irregular	

The total operational cost taken into account for this CBA is inclusive of the following cost drivers:

### 4.3.2.1 Cost of food

As the category name suggests “Food” includes the actual cost of raw products/ingredients, used by the caterers to cook the meals. Food cost includes the total cost of the food purchased and distributed at its actual price. All the calculations were made with the real prices taken from the field visits. The rations are built based on the GSFP district menu which includes rice, beans, gari, fresh and tomato paste, fish (salmon, anchovies), pepper, salt, vegetable oil, vegetables, eggs etc.

Important note: none of the rations included meat and during the interviews ‘adding meat’ was highlighted as a potential opportunity to bring the GSFP to the next level. However, there were other alternative sources of protein used ie. Fish, beans, soya beans, melon seeds (agushie) etc.

### 4.3.2.2 Transportation cost

“Transportation cost” constitutes expenses caterers bear to deliver purchased foodstuffs to the school or their place of preparing the meals. Caterers typically use their own car or public transport for the conveying of foodstuffs. Sometimes caterers have to bring the food from the market to the house first and, then, to the school, where the actual meal is prepared.

### 4.3.2.3 Cost of Personnel

Usually, a caterer has 2 -3 cooks who help prepare and/or serve the meal. Cooks’ salary is included in the “Personnel” category. Cooks are recruited from the beneficiary communities to boost the household income.

### 4.3.2.4 Overheads

Water, firewood, LPG and other sources of energy for cooking are the cost components for “Overheads”. Caterers have to bear most of these costs as part of the meal preparation process. According to the interviews, local communities are

not bearing any expenditure, except in unique cases where pupils sometimes have to bring water to the school, a gesture from the community which is not compromising on child labour.

### 4.3.2.5 Management & Administration and Capital Cost

No specific management, administration or capital expenses (eg. Record-keeping, financial management) were highlighted by the caterers during the interview process.

## 4.4 Benefit overview

The GSFP modality creates a value of USD 1,173 (GHS 5,63.4) per beneficiary over his / her primary educational lifetime. (i.e 8 years from KG – P6)

The main benefit factors are:

- Improved Education and Increased Productivity (39 percent of the total benefit)
- Value transfer (24 percent)
- Healthier Life (23 percent)
- Return on investment (13 percent)

### 4.4.1 Improved education and increased productivity

School Feeding has effects on both the quality and the quantity of education. One of the main drivers is the Gross Enrollment Rate (GER), which is defined as the number of pupils enrolled in a given level of education regardless of age, divided by the population of the age group which officially corresponds to the given level of education.

Based on the EMIS data, school feeding has a positive effect on enrollment (+8.6 percent for boys and +6.0 percent for girls) and drop-out rates (-2.0 percent for boys and -2.4 percent for girls). Attendance KPIs are lower for treatment schools (-3.8 percent for boys and -5.8 percent for girls). The logical explanation would be the selection criterion for treatment schools that are typically located in

the most deprived areas of the country and region where the total population of some communities is lower than non-beneficiary communities.

The GSFP motivates parents to send their children of school going age to school, drives new pupils' inflow to the school and creates an additional argument for parents to keep their children in school for a longer period of time. Thereby, pupils tend to have a higher number of educational years than pupils with a similar background who do not receive school meals. According to the CBA model for Ghana, treatment group boys should spend 0.26 years and treatment group girls should spend 0.12 years more in school than pupils from the control group. These assumptions were validated during the field visit interviews by headmasters, parents and caterers.

Due to the feeding programme, pupils get stronger ability to follow the courses and concentrate more. This is especially relevant for pupils who have to travel up to 5 kilometres to reach the school. During the interviews, it came out that many of them may not even have breakfast at home. That makes a school meal an essential component for providing the necessary energy to concentrate and understand the lessons.

The CBA model uses the Gross National Income (GNI) per capita of the population's lowest quintile as the base wage for the increase in productivity. Any increase in income or increase in working years is calculated based on GNI figure. The GNI for Ghana in 2007 – 2017 was between USD 1,160 and 1,490 per capita with an average GNI of USD 1,369. According to the World Development Indicators, the lowest quintile of the Ghanaian population only takes about 5.4 percent of all income, which translates to a GNI per capita of USD 369.7 for the population's lowest quintile.

The total productivity increase generates a lifetime NPV of USD 457, which accounts for 39 percent of the overall benefit of school feeding.

#### 4.4.2 Value Transfer

Value transfer considers the value of the food provided to the eligible pupils based on local food prices. It equals the cost a family would need to bear in order to provide an equivalent meal to their child. The GSFP creates a value transfer of USD 285 (GHS 1,368) per pupil or 24 percent of the total value provided. Totals are not discounted because we consider these amounts to represent value and not price. If the price of the commodity increases in 5 years, we will pay more for it, but the value, in today's Dollars/Ghana Cedis, will remain the same.

The calculation is done according to the average meal composition, based on the interviews with caterers.

#### 4.4.3 Healthy Life

Nutritious and regular meals allow treatment pupils to overcome under-nutrition and poor health, this meal makes a big difference. According to the feedback that was received during the field visit interviews many pupils are not having sufficient nutrition. For instance, up to 50 percent of pupils are not having breakfast at home. So, the GSFP meal makes a real impact on pupils' nutrition, growth and quality of education.

By increasing the beneficiary's health throughout his/her life, school feeding contributes to reducing the necessary cost for both private and public healthcare.

The menu helps address specific nutritional needs and deficiencies such as Vitamin A or iron. According to the 'GSFP district menus' average nutrition value calculations, pupils who have a meal at school, as part of the GSFP, receive every week +48 percent of Vitamin A and +21 percent of Iron. School meal has an average energy of 400 kcal. As mentioned earlier, these numbers are calculated based on the 'GSFP district menu' nutrition facts. We've also

applied a 0.8 multiplier to adjust it to the actual nutrition values as, based on the field visits, caterers may be interpreting the 'GSFP district menus' in a slightly free manner.

The GSFP nutrition value calculator (GSFP meal planner developed with PCD) does not have iodine as a parameter, while the actual iodine value might be higher than 0, this is not reflected in the 'GSFP district menus' and it's recommended to include it into the calculation methodology.

Though deworming exercises take place in schools, it was however observed that this exercise has not been done in the past 2-3 years in many of the schools visited. Based on the open source data, about 15 percent of children, aged 5 to 14 years were dewormed. We used that indicator for the purpose of the CBA model.

**Table 5 – School meal nutrition facts**

<i>Key variables</i>	<b>Value</b>
Daily nutrition intake covered by the programme	25%
Micronutrition daily need covered by the programme:	48%
• Vitamin A	Not Available
• Iodine	
• Iron	21%

The calculated healthier life benefit is USD 272 (GHS1,306) or 23 percent of the total benefit of the school feeding.

#### **4.4.4 Return on Investment**

School feeding serves to alleviate some of the cost of children's feeding and schooling. It thereby works to offset the cost of food for the family as well as alleviate the opportunity cost of lost labour to the family. Food-insecure individuals typically spend the majority of their income on food. By providing their children with a daily meal at school, poor families can save the meal cost and use some of the freed income for small investments, e.g. in livestock like chicken, which will offer additional food (i.e. eggs) to the family over a certain period of time. The model counts with 15 percent<sup>3</sup> of the saved income used for these micro-investments with five years duration and 54 percent<sup>4</sup> return rate.

The total return on investment created a value of USD 152 (GHS 729.6) per beneficiary pupil or 23 percent of the total benefit.

<sup>3</sup> Growth Theory through the lens of development economics, Massachusetts Institute of Technology Department of Economics Working Paper Series, December 2004

<sup>4</sup> Average from evidences in Banerjee Duflo studies on Return on Investments (2004)

## 4.4.5 Gender Equality

It's generally a common practice for men to be prioritized when it comes to food access and distribution within the household. There is sometimes a perception that the main responsibility of women is to take care of household work, including caring for and feeding the children. Hence, girls often end up with less leisure and study time than boys.

According to the data analysis, in the schools where no school meal is provided, educational indicators display lower enrollment rates for boys and girls. The school feeding increases enrollment rates for both genders in a higher proportion for boys. Drop-out rates are higher in the control schools and attendance rate is lower in the treatment group, this is as a result of the high number of controls than beneficiary schools in relation to the coverage of the GSFP.

While GSFP targets both genders, the programme seems to have a similar impact on boys and girls. Enrollment and attendance KPIs are delivering a more significant impact on boys and the impact of school feeding is higher on the reduction of the drop-out rates for girls.

## 4.4.6 Sensitivity Analysis

The sensitivity analysis shows a difference in NPV between USD +1,102 to -433 if illustrating a "better" and "worse" case scenario compared to "base" case. A baseline scenario is the one that the model is based on. In order to illustrate the potential variations we've also created 'worse' and 'better' scenarios, so the audience can understand possible fluctuations and what may be the impact if the parameters/conditions change. For example, if the base wage changes to USD 250 (worse scenario), this would reduce the overall NVP to USD 1,025 (right scale). If the lifetime of an investment goes from 5 to 7 years (better scenario), this would change the overall NPV to USD 1,233

#Figure 7 – GSFP sensitivity grid

	Parameter	Worse	Base	Better	Cost-Benefit Ratio		Net Present Value (\$USD)	
Individual parameter analysis	Discount Rate	9%	7%	5%	2.8 (-0.5)	4.3 (+1.2)	987 (-146)	1,534 (+401)
	Rate of investment on household income	10%	15%	20%	3.2 (-0.1)	3.4 (+0.1)	1,122 (-111)	1,223 (+90)
	Return on investment from saved assets	25%	54%	75%	3.1 (-0.1)	3.5 (+0.4)	1,091 (-42)	1,235 (+102)
	Lifetime of an investment	3	5	7	3.1 (-0.3)	3.7 (+0.4)	1,112 (-22)	1,233 (+100)
	Base wage	\$250	\$370	\$500	2.9 (-0.1)	3.7 (+0.43)	1,025 (-108)	1,334 (+201)
	Rate of return to education	10.0%	12.5%	15.0%	3.2 (-0.1)	3.4 (+0.1)	1,126 (-7)	1,219 (+108)
	Increase in wages per 1 SD increase in test scores	9.0%	11.0%	13.0%	3.2 (-0.1)	3.4 (+0.1)	1,132 (-1)	1,213 (+80)
Output	Cost-Benefit Ratio	2.1	3.3	6.2				
	Net Present Value (\$USD)	\$740	\$1,173	\$2,275	2.1 (-1.2)	6.2 (+2.9)	\$740 (-433)	\$2,275 (+1,142)

 Better Scenario

 Worse Scenario



The joy is evident in the faces of these girls from eating the meals provided in school

# CHAPTER FIVE

## OBSERVATIONS

### 5.0 Observations

On top of a quantitative data, a qualitative feedback was captured during the interviews with key stakeholders:

- School headteachers
- Caterers
- Parents and PTA
- Government Officials
- WFP employees
- GSFP

This data may help further develop the GSFP and, hopefully, provide useful insights about existing opportunities and challenges for the programme. Even though it is something that is beyond the scope of the CBA model analysis, we thought that it might be a good opportunity to share some of the takeaways and insights about current on the field performance of the programme.

### 5.1 Programme Coverage

As at December 2017, the GSFP has a beneficiary coverage of 1,671,777 pupils, representing approximately 30 percent of the public schools under GES. (GSFP, 2017) During the interviews in both treatment and control schools, it has been confirmed that GSFP has a high level of recognition amongst parents and management of the schools. In beneficiary schools, parents confirmed that a school meal is one of the very important factors for them to send children to the school and for many

children this meal is extremely important for their daily nutrition. It's been also mentioned that GSFP helps increase enrollment rates and serves as an argument in the school selection process.

All control schools visited showed interest to be a beneficiary of the programme except one school in Koforidua. Some of the schools have already submitted their application, but it appears that the application consideration process takes time. A shorter application review turnaround time can make the GSFP even better recognized and well-received by the community.

### 5.2 Quality Of Data

It has been observed that many schools do not have a well-defined process of tracking enrollment and attendance rate. Schools were not able to provide data for the drop-out rates. They all have estimates that are often close to the real situations (based on the random headcount checks, that we have done), but it may be worth considering an introduction of the process that would encourage schools to better track these important KPIs on a daily basis. Moreover, bringing better visibility around these important KPIs, it may also benefit the GSFP and help generate cost savings, so the government does not have to pay for pupils who were not present in school during the day. A classic example would be a lower attendance rate on a rainy day as parents are usually not comfortable to send children to the school, especially those who live in remote villages.

### 5.3 Cost Management

According to our observations, some caterers are not on top of their cost numbers and can provide meals at a cost that is higher than the allowance they receive from the government. This may happen for 2 reasons:

- Weak financial management on the caterer's part
- The 'GSFP district menu' actual cost of ingredients is higher than GHS 1.00 feeding grant provided by the government

Some of the caterers perceive their work as 'social responsibility' and 'return to the community', rather than a real business. This has both pros and cons. On the pros side, such an approach makes caterers unwitting contributors to the GSFP as they provide some extra value without additional funding from the government. As for the cons, it is worth mentioning an increased burden on caterers profit and loss and limited ability to extract revenue.

It might be worth to consider providing caterers with additional information (training) about menus and their actual costs as well as to explain the key variables they need to look after in order to manage the profit and loss.

### 5.4 Frequency And Timeliness Of Payment To The Caterers

According to the feedback from caterers they are often paid sometimes 3-4 months after vacation from the actual meal delivery date. While they are still happy about getting the payment, it is clear that this process creates some additional complexity for them. Some caterers have to borrow money, pay interest to the bank and enjoy lower margins if any. They may be investing money from another business (if they have it) with an expectation that they will be paid later for the meal provided to pupils. All of them will appreciate the reduction of the payment turnaround time. Notwithstanding, caterers have the responsibility to pre-finance their services at

least for an academic term as stated in Section 2, sub-section 2.4 of the GSFP Catering Contract

### 5.5 Community Participation

The feedback from the interviews indicates that there is low involvement of some parents and the community of the GSFP.

### 5.6 Water

Some schools visited did not have potable water and had to use water from the nearest community. In such cases, the schools either have to involve parents to fetch water for the school's needs, or to have the pupils themselves fetch the water. Other schools have water tanks for rainwater harvesting and storage but some were inoperable (missing spouts) or just did not have enough storage to last during a three-month-long dry spell.



**Agavenya (Nyerede) R/C Primary&KG School New Juabeng Municipal, Eastern Region. Pupils using a borehole tap for hand-washing.**



**In some schools, pupils were using tap water for both drinking and handwashing.**

### 5.6.1 Handwash and hygiene

In all the visited schools, pupils were using soap to wash their hands prior to having a meal. Sometimes they have to wash their hands in a basin filled with water.

Metallic veronica buckets with pipe borne water for drinking and handwashing in Kanda Cluster of Schools in the Greater Accra Region.

In some of the schools (both treatment and control) toilets were not available and there may be a problem of open defecation.

In some schools, spoons were not provided and pupils had to eat with their fingers which is culturally permitted in the consumption of some delicacies



**Pupils enjoy school meals at Koblimahgu Sobria Islamic, Tamale Metro, Northern Region.**

### 5.7 Deworming

All the headteachers mentioned that they are aware of deworming, however, they do not maintain the records of pupils who may complain about possible infestation. It has also been mentioned during the interviews that deworming interventions are not happening on a regular basis. In some schools, it took place 7 months ago, while some have not got it for more than 2 years. The deworming effect can be maximized only through regular treatments and, based on the feedback received, there is an opportunity to implement and reinforce a more regular and controlled deworming treatment in the schools. It is worth noting that, the neglected tropical diseases through Ghana Health Service (GHS) periodically conduct deworming exercises in high prevalence areas to reduce the incidence rate.

Other complimentary interventions provided by GHS to pupils include Iron Folic Acid (IFA), Vitamin A supplements, Multiple Micro-Nutrients Powder (MMNP) among others.

## 5.8 School Gardens

Only one of the visited schools had a school garden. They plan to sell vegetables and use the money for school-related investments or activities. School gardens seem to be a clear and low hanging opportunity for all the schools. They usually have a large plot that can be used for cultivation and growing crops. Though, it may also depend on the quality of land and soil.

## 5.9 School Infrastructure

The majority of schools had challenges related to the school infrastructure. In some cases, there were not enough school desks for the number of pupils because of the increase in enrolment due to the feeding programme in the school.



Inadequate infrastructure at Abirika Primary School (Treatment school) in Techiman Municipal, Brong Ahafo Region

Some of the storerooms are not secure and are susceptible to theft. In some schools' pupils eat in their classrooms thus impacting on valuable instructional hours is lost due to a clean-up need. Several teachers expressed a desire to have a separate space for pupils to eat their meals.

## 5.10 Kitchens / Canteen

In 50 percent of the visited schools, there is a dedicated kitchen for preparing the meals. In the other 50 percent of schools, food was cooked in an open space. Kitchens usually have two wood-fired stoves, depending on the size of the school. In some schools, meals were cooked on an open fire. Only one school had dedicated canteen where pupils could eat indoors.



Firewood, cooking pot and traditional kitchen for school meals in Tamale Metro, Northern Region



Girls stay in school longer and progress to Junior High School and beyond when there is school feeding



Primary school boys enjoying meals prepared with locally grown ingredients

## CHAPTER SIX

# CONCLUSION AND RECOMMENDATIONS

### 6.0 Conclusion And Recommendations

It is hard to overestimate the impact the school feeding is having on children and families. For many years and in numerous countries it is seen as a safety net for pupils, as a programme that may give to many of them an opportunity for a brighter and more prosperous future. The Ghana Mission is mission Number eighteen (#18) of the great partnership between WFP and MasterCard Foundation and the CBA results can be considered as additional proof to the statement about the positive impact that school feeding efforts can generate.

School feeding programmes are complex and they cannot be considered in isolation from other important aspects of the education process. Eventually, the objective of school feeding is to increase the quality of education by enabling better cognition and absorption of the information in the classrooms. It is really important to continue the integration effort to ensure school feeding delivers a maximum synergy to all the key stakeholders of the education process – government, Metropolitan, Municipal, Districts Assemblies (MMDAs), schools, pupils, parents, caterers and farmers.

Caterers are key intermediaries in the school feeding process in Ghana and it is fundamentally important to ensure their compliance with programme rules and procedures. Special attention needs to be paid to caterers' financial management to facilitate better

control over expenses on their catering activities and get a clear sense of tangible return that this job brings to their household. Another important component is the timely payment of the feeding grant for effective and efficient service delivery.

Consistent monitoring of the programme performance combined with an ongoing and comprehensive analysis should form a solid foundation for efficient and sustainable development of the school feeding programme.

The Ghana CBA builds a really compelling financial case for school feeding. It is important to remember that not all the programme benefits are quantifiable. Many positive benefits connected to school feeding were reported by headteachers, teachers and parents.

Today's pre-primary or primary school pupils will form the future of Ghana in 10-15 years or even earlier than that. This makes investment in the school feeding programme a real case for building the future of Ghana. To create a successful and sustainable journey it is always important to focus on the basics and really hard to find a more attractive and rewarding business case than the investment into the young generation who will soon be responsible for the future and prosperity of Ghana.

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School Feeding  
enhances pupils  
attendance and  
retention rate

