ASSESSMENT OF THE SCHOOL FEEDING PROGRAMME IN GHANA: A STUDY OF PRIMARY SCHOOLS IN THE ABURA-ASEBU-KWAMANKESE DISTRICT IN THE CENTRAL REGION OF GHANA

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ABSTRACT

The basic idea of the school feeding programme is to provide children in public primary schools and kindergartens in the poorest areas of the country with one hot, nutritious meal per day, using locally-grown foodstuffs. This study seeks to assess the impact of the school feeding programme in the Abura Asebu Kwamankese District in the Central Region of Ghana from the perspective of teachers including head teachers. A descriptive survey design was used for the study, and data were obtained from eighty teachers and head teachers in the beneficiary schools in the district. The study revealed that the school feeding programme has improved the nutritional status of pupils in the beneficiary schools in the district to some extent; even though it could not improve the body mass index and height of some pupils. Also, the programme has helped to improve the academic performance of some pupils in terms of pass rates, thinking ability, understanding, concentration in class and discipline. The study further revealed that the programme has helped to improve enrolments, attendance and retention of pupils in the beneficiary schools in the district. However, it has been plagued by several challenges including inadequate basic infrastructural facilities and lack of well trained cooks among others. Generally, the school feeding programme had a positive impact on the lives of the inhabitants of the district. It is recommended that adequate basic infrastructural facilities in the beneficiary schools in the district should be provided.

Keywords: Assessment; school feeding; primary schools, Abura-Aseibu-Kwamankese; Ghana

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Introduction

According to the 2007 Food and Agriculture Organization's (FAO) estimate, 923 million people in the world were chronically hungry, which was an increase of about 75 million people from the 2003-05 estimates (FAO, 2008). Many of these are children, and a vast majority of them are in developing countries. These numbers suggest that the Millennium Development Goals related to hunger and malnutrition may not be met by 2015 (FAO, 2008). The persistence of hunger, malnutrition, and micronutrient deficiencies can have long lasting effects on the health status and productivity of people and their nations. Early malnutrition can adversely affect physical, mental, and social aspects of child health, which in turn leads to underweight, stunted growth, lowered immunity, and mortality. Research has shown that the physical effects of malnutrition as measured by indicators such as body mass index (BMI), have a significant impact on an individual's productivity and wages (Broca & Stamoulis, 2003).

Jomaa, McDonnell and Probart (2011) state that childhood under nutrition imposes significant economic costs on individuals and nations, and that improving children's diets and nutrition can have positive effects on their academic performance and behaviours at school as well as their long-term productivity as adults. Alderman, Hoddinott, and Kinsley (2006) found that malnutrition led to delayed entry to school, less overall schooling, smaller stature, and 14% lower earnings as adults. The focus of the Millennium Development Goal (MDG) number 1 has been to eradicate extreme hunger and poverty. The sub goal formulated hereby is: by the year 2015 the proportion of people who suffer from hunger is halved as compared to 1990 (UN, 2005). To achieve this first Millennium Development Goal, School Feeding Programmes (SFP) are said to play a major role (Government of Ghana, 2006).

The Ghana School Feeding Programme was launched in September 2005 following African Union-New Partnership for Africa's Development (AU-NEPAD) recommendation to use home-grown foods, where possible, as one of the "Quick impact initiatives" to achieve the Millennium Development Goals, especially for rural areas facing the dual challenge of high chronic malnutrition and low agricultural productivity. Ultimately, the programme is expected to impact on the Millennium Development Goals (MDGs) 2 and 3, which respectively include the achievement of universal primary education, and the promotion of gender equality and women empowerment. The basic concept of the programme is to provide children in public primary schools and kindergartens in the poorest areas of the country with one hot, nutritious meal per

day, using locally-grown foodstuffs. The long term goal is to contribute to poverty reduction and food security in Ghana (NEPAD, 2005). Also, a 2007 review of school feeding programs throughout the world shows goals of increasing school enrolment, decreasing truancy, improving educational outcomes and for helping to relieve short term and long term hunger as well as nutritional deficiencies (Greenhalgh et al., 2009).

In line with this, several studies were conducted nationwide to evaluate the impact of this ongoing programme. However, few of these studies were conducted in the Central Region in Ghana, specifically the Abura Asebu Kwamankese District which is one of the implementation districts in the region. Therefore, this study seeks to augment the inadequate literature on the impact of School Feeding Programme in the region and the nation as well. Furthermore, there are often several unforeseen consequences of school feeding programmes that necessitate continual evaluation of ongoing programmes. It is against these backdrops that the study seeks to assess the school feeding programme in the Abura Asebu Kwamankese District in the Central Region.

Literature review

One of the first papers that reviewed the impact of feeding children in school on education outcomes appeared in 1978 (Pollitt et al., 1978). The authors looked at the U.S. school feeding programs and noted that most of the earlier studies had lacked well-defined hypotheses, were ambiguous in the definition of variables and lacked valid and reliable data. The authors concluded that provision of breakfast seemed to benefit students emotionally and enhance their performance on school-type tasks but no conclusion could be drawn upon the long-term effects.

Pollit (1995) reviewed several studies conducted in Chile, United Kingdom and the United States from 1978 to 1995. The author concluded that brain function is sensitive to short-term variations in the availability of nutrient supplies. Such indication is particularly strong for undernourished children. For these children, omitting breakfast alters brain function, particularly in the speed and accuracy of information retrieval in working memory. This evidence has strong implications for the developing world where a large percentage of school children are nutritionally at-risk. Three rigorous studies conducted in Jamaica that investigated the impact of school feeding programmes on cognitive functions and learning outcomes provide evidence of the beneficial impact of school feeding on cognitive outcomes.

First, Powell and Grantham-McGregor (1983) examine 115 children aged 12 to 13 years who were enrolled in three classes in a poor rural area school. One class was served school breakfast with the other two classes serving as controls. The impact evaluation included: school achievement, attendance, and weight gain. School achievement was measured using tests that included arithmetic, spelling and reading. Children were followed over two semesters. After the first semester, the treatment group showed improved school attendance and arithmetic scores compared to the control classes, but no difference in weight gain. After controlling for school attendance, academic improvement remained significant showing some evidence that reducing hunger during school hours could affect learning in arithmetic.

Second, Simeon and Grantham-McGregor (1989) examine the effect of breakfast on cognitive functions among 90 children aged 9-10 years with different nutritional status. The study examined the effects of omitting breakfast on the cognitive functions of three groups of children: stunted, non-stunted control, and previously severely malnourished. Using a crossover design, the investigators tested each child on two mornings one week apart (where the first week the child had received breakfast and the second had not). In order to have greater control over the experiment, children's meals on the previous evening were standardized and children subsequently fasted until they received the treatment breakfast or the placebo. Fluency and digit span tests were conducted and results showed that there was a detrimental effect of missing breakfast. Results also indicated that cognitive functions were more vulnerable in poorly nourished children.

Third, Chandler et al. (1995) in Jamaica investigated the short-term effects of giving breakfast on cognitive performance in primary school children who were mildly undernourished as compared with adequately nourished children. The experiment took place in four primary schools in rural Jamaica. Children were randomly assigned to a group provided with breakfast or a quarter of an orange as a placebo. Researchers then administered four cognitive tests (visual search, digit span, verbal fluency and speed-of-information-processing tests). After a few weeks the treatments were reversed and the tests repeated. Undernourished children's performance improved significantly on a test of verbal fluency when they received breakfast. Adequately nourished children did not experience any significant improvement. These and the findings of Simeon and Grantham-McGregor (1989) indicate that targeting of school meals to undernourished children should achieve greater impact in terms of improving children's

cognitive ability. However, results from a study in Chile did not find omission of school breakfast to be detrimental to cognitive performance (Lopez, 1993).

Furthermore, a study conducted in Malawi by World Food Programme showed that a small, pilot, school feeding programme over a three-month period led to a 5 percent increase in enrolment and up to 36 percent improvement in attendance (WFP, 1996). An evaluation of a school meal programme in Jamaica found that after the first semester, the treatment class showed improved school attendance compared to the control classes (Powell & Grantham-McGregor, 1983). Another evaluation of a school feeding programme in Burkina Faso found that school canteens were associated with increased school enrolment, regular attendance, consistently lower repeater rates, lower dropout rates, and higher success rates on national exams, especially among girls (Moore & Kunze, 1994). However, in a study conducted in Kenya, the investigators did not find a difference in the attendance rates between schools with and without the school feeding program (Meme et al., 1998).

School feeding programmes are likely to improve the nutrient intake of participating children. As such, a study in Huaraz, Peru shows that for children who received breakfast at schools, dietary intake of energy increased by 2 percent, protein by 28 percent, and iron by 4 percent compared to the control group (Jacoby et al., 1996). An evaluation of a school feeding program in Jamaica assessed the dietary impact of school breakfast consisting of a bun and half pint of milk. Results show that the program provided 32 percent and 45 percent of daily energy and protein requirements, respectively (Chambers, 1991). In Brazil, a study of a large school lunch programme examined the impact of the programme on consumption of calories and protein by school children in Sao Paulo. Participation in the programme was associated with an increased availability of 357 calories and 8.5 grams of protein (Dall'Acqua, 1991).

However, several studies show that food alone does not guarantee improved nutritional status. For instance, a study in Ethiopia found that differences in food availability and access had limited effect on the differences observed in child nutritional status (Pelletier, Deneke, Kidane, Haile, & Negussie, 1995). This could be because a child's nutritional status is a function of not only the quality and quantity of the dietary intake but also a function of morbidity, child caring and feeding practices, and household variables such as income and parental education. Further, in developing countries, poor health status of children is exacerbated by poor and inadequate health facilities and services, immunization, safe water and sanitation, and health education

programmes. Some reviews even show that food-based interventions alone have little measurable impact on nutritional status, morbidity or mortality levels except in crisis situations (Clay & Stokke, 2000).

Nevertheless, there is evidence from school feeding programme evaluations that some programmes do improve children's nutritional status. For example, a randomised, controlled trial of giving breakfast to undernourished versus adequately nourished children studied in Jamaica showed positive results: compared to the control group, both height and weight improved significantly in the breakfast group (Powell, 1998). In most developing countries, academic achievement is disappointing, especially at the primary education level. As a result, health and nutrition inputs have often been included in the strategies because poor health and nutrition are known to affect children's ability to learn. Children who have poor levels of academic attainment often have poor nutritional status (Pollit, 1990; Simeon & Grantham-McGregor, 1989). It is then likely that giving children a daily breakfast or a meal at school may improve their scholastic achievement through several mechanisms: increasing the time spent in school, improving certain cognitive functions and attention to tasks and, perhaps indirectly, improving nutritional status (Grantham-McGregor et al., 1998).

Besides studies based on experimental design, some studies have examined school feeding programs directly to determine the impact on academic performance. In 22 out of 30 provinces in Burkina Faso, the success rate on a national exam for sixth grade pupils was higher for schools that had school feeding programs (Moore & Kunze, 1994). Other studies of the determinants of academic achievement in Benin, Burkina Faso and Togo found that a school meal was positively related to children's performance on year-end tests. In Benin, children in schools with canteens scored 5 points higher on second-grade tests than did children in schools without canteens (WFP, 2001).

Material and methods

The Abura-Asebu-Kwamankese District (AAKD) was carved out of the Mfantseman, Ajumako and Akumfi Local Councils in 1984. It is bordered by Cape Coast Municipality and Lower Denkyira District to the west, Assin South District to the north, Mfantseman Municipal to the south and the east (AAKDA, 2007). A cross sectional survey design was adopted for the study. Data for the study were obtained from primary source. The primary data were procured from the

fieldwork by the researchers through the use of a three-point Likert scale questionnaire. The target population comprised all teachers including head teachers of public primary schools enrolled in the Ghana School Feeding Programme (GSFP) in the Abura Asebu Kwamankese District in the Central Region of Ghana. This is because teachers are closer to the pupils and directly interact with them, and for that matter have enough knowledge on the impact of the School Feeding Programme on the pupils.

Convenient sampling technique was used to select five primary schools that have been enrolled on the School Feeding Programme for at least one year. Further, 16 teachers and head teachers were purposively selected from each of the five schools. In all, a total sample size of 80 teachers including head teachers were selected for the study. The data collected were processed using the Statistical Package for Social Sciences (SPSS) for windows (version 17.0). The results and findings of the study were presented in frequencies, percentages and tables for discussion.

Results and discussion

School feeding programme and the nutritional status of pupils

This section of the paper discusses the effects of the school feeding programme on nutritional status of pupils in the district. Various studies have recognised some impact of school feeding on the nutritional status of pupils (Pelletier et al., 1995; Grantham-McGregor et al., 1998; Powell, 1998). Using three-point Likert Scale statements, the study ascertained the views of respondents on the school feeding programme on a scale as follows: A= Agree; U= Undecided or Uncertain; D= Disagree. Table 1 presents the summary of the results. As indicated in Table 4, respondents showed agreement with some of the statements concerning the nutritional status of their pupils. Most of the respondents (75%) agreed that the children get food on daily basis in their schools while 15 percent disagreed and 10 percent were uncertain. The basic idea of the GSFP is to provide all children in public primary schools and kindergartens in the poorest areas with a hot, nutritious meal each day, using locally-grown food (Government of Ghana, 2006). Thus, the majority of the respondents thought that the

Table 1: Effect of SFP on nutritional status of pupils

	N= 80 Respondent agreement (%)		
Statement	A	U	D
The children get food on a daily basis in my school	75	10	15
Every child in my school gets food	78	15	7
All the children are satisfied with the food	20	18	62
The foods are given to the children according to the menu options	45	25	30
Some of the children have improved in body mass index and height	25	30	45
I am personally satisfied with the food service providers	30	15	55

Source: Fieldwork, 2013

school feeding programme in their schools has complied with this idea of the programme. Similarly, 78 percent of the respondents agreed that every child in their schools gets food. Only 7 percent disagreed with 10 percent being uncertain. The finding echoes the fact that in the three Northern Regions of Ghana, approximately 200,000 primary school children in 296 pre-schools and 967 primary schools received hot lunches on a daily basis (WFP, 2006).

The results in Table 1 also indicate that the majority of the respondents thought that all the children were not satisfied with the food being given them. Most of the respondents (62%) disagreed that all the children were satisfied with the food given them. Only 20 percent agreed while 18 percent were uncertain. However, Jacoby et al. (1996) in their study observed that increase in dietary intakes of iron by 46 percent increases energy and protein by 25 percent and 28 percent respectively. For this reason, it is important that children get enough food to eat at school increase their energy and protein levels. Furthermore, most of the respondents (45%) agreed that the foods given to the children were done according to the menu options while 30 percent disagreed and 25 percent were uncertain. More respondents believed that the school feeding programme in their schools follows the menu options.

Moreover, most of the respondents (45%) disagreed that some of the children have improved in body mass index and height while 25 percent agreed and 30 percent were uncertain. In line with this, some studies show that food alone does not guarantee improvement in nutritional status. For instance, a study in Ethiopia by Pelletier, et al. (1995) found that differences in food availability and access had limited effect on the differences observed in child nutritional status. Nevertheless, there is evidence from school feeding program evaluations that some programs do improve children's nutritional status. For instance, a study in Jamaica showed positive results when both height and weight improved significantly after comparing to a breakfast group with a control group (Powell, 1998). On the issue of personal satisfaction with the food providers, more than half of the respondents (55%) disagreed that they were personally satisfied with the food service providers while 30 percent agreed and 15 percent were uncertain. This implies that the majority of the respondents were dissatisfied with the food service providers.

School feeding programme and academic performance of pupils

This section discusses the effects of the school feeding programme on academic performance of pupils in the district. Using a three-point Likert Scale statements, the study ascertained the views of respondents on the school feeding programme on a scale as follows: A= Agree; U= Undecided or Uncertain; D= Disagree. Table 2 shows a presentation of the summary of the results. From Table 5, the majority of the respondents showed agreement with the statements concerning the academic performance of their pupils. The majority of the respondents (60%) agreed that the pass rate in their class has improved while 15 percent disagreed and 25 percent were uncertain. Thus, the school feeding programme has helped improve the pass rates of children in the district. This confirms what Simeon and Grantham-McGregor (1989), Chandler et al. (1995) and Moore and Kunze (1994) found that school feeding programmes achieve greater impact in terms of improving children's cognitive ability. However, Lopez (1993) in a study in Chile did not find any significant impact of school feeding programme on cognitive performance of pupils.

Also, 58 percent of the respondents agreed that the children's understanding of teaching lessons has improved while 12 percent disagreed and 30 percent were uncertain. Thus, more children easily understood teaching lessons and have improved in the learning process (Powell & Grantham-McGregor, 1983). Table 2 also indicate that most of the respondents (63%) agreed

that children can now effectively think in class during lessons. However, 12 percent disagreed while 25 percent were uncertain.

Table 2: Effect of SFP on academic performance of pupils

	N= 80 Respondent agreement (%)		
Statement	A	U	D
The pass rate in my class has improved	60	25	15
Children's understanding of teaching lessons has improved	58	30	12
Children can now think effectively in my class during lessons	63	25	12
Children's concentration during teaching lessons has improved	65	20	15
Discipline on the part of the children has improved	56	24	20

Source: Fieldwork, 2013

This implies that the school children now think more effectively than before. Further, 65 percent of the respondents agreed that the children's concentration during teaching lessons has improved while 15 percent disagreed and 20 percent were uncertain. That is, there was more concentration among the children than before. Likely, this may improve children's scholastic achievement through increasing the time spent in school, improving certain cognitive functions and attention to tasks (Grantham-McGregor et al., 1998). Furthermore, on whether discipline on the part of children has improved, more than half of the respondents (56%) agreed that discipline on the part of the children has improved while 20 percent disagreed and 24 percent were uncertain. Thus, more respondents were of the opinion that the school feeding programme has really helped in instilling discipline in the children than before, which echoes what Grantham-McGregor et al. (1998) have found in their study.

School feeding programme and the enrolment, attendance and retention of pupils

This section also discusses the effects of the school feeding programme on enrolment, attendance and retention of pupils in the district. Using three-point Likert Scale statements, the study

examined the views of respondents on the school feeding programme on a scale as follows: A= Agree; U= Undecided or Uncertain; D= Disagree. The summary of the results has been presented in Table 3 bellow. It can be observed from Table 3 that, the majority of the respondents showed agreement with the statements regarding the enrolment, attendance and retention of the pupils. From Table 3, 75 percent of the respondents agreed that their class has recorded an increase in the enrolment of pupils as a result of the feeding programme while 17 percent disagreed and 8 percent were uncertain.

Table 3: Effect of SFP on enrolment, attendance and retention of pupils

	N= 80	Respondent agreement (%)	
Statement	A	U	D
My class has recorded an increase in pupils enrolment	75	8	17
There has been an improvement in pupils attendance in my class	65	15	20
There has been an increase in pupil-teacher ratio in my class	53	22	25
There has been a decrease in the dropout rate in my class	55	15	30

Source: Fieldwork, 2013

This implies that the school feeding programme has encouraged more children to enrol in school than before. The school feeding programme is seeking to improve school enrolment and children's health and development (Government of Ghana, 2006). Consequently, Moore and Kunze (1994) and WFP (1996) similarly found improvement in the enrolment of school children as a result of school feeding programme. However, in a study conducted in Kenya, the investigators did not find a difference in the attendance rates between schools with and without the school feeding program (Meme et al., 1998).

Similarly, most of the respondents (65%) agreed that there has been an improvement in attendance in their classes. However, 20 percent disagreed with 15 percent being uncertain. This shows that class attendance has actually improved in the schools in the district and for that matter

supports what Powell and Grantham-McGregor (1983) found in their study. From Table 3, the results also indicate that more than half of the respondents (53%) agreed that the pupil-teacher ratio in their class has increased while 25 percent disagreed and 22 percent were uncertain. Thus, more respondents admitted that their class sizes have increased and therefore had to deal with more pupils than before (Meme et al., 1998). Further, most of the respondents (55%) agreed that the dropout rates of pupils in their classes have decreased while 30 percent disagreed and 15 percent were uncertain. Thus, the school feeding programme has helped to reduce the dropout rates among pupils in the district. This is therefore consistent with the lower repeater rates and dropout rates found by Moore and Kunze (1994) in their study in Burkina Faso.

Challenges of the school feeding programme in the district

This is the last section of the paper, and it discusses the challenges hindering the efficient running of the programme in the district. Using three-point Likert Scale statements, the study ascertained the views of respondents on the school feeding programme on a scale of 1 to 3 as follows: A= Agree; U= Undecided or Uncertain; D= Disagree. Table 4 presents the summary of the results.

Table 4: Challenges of the school feeding programme

	N= 80	Respondent agreement (%)	
Statement	A	U	D
There has been lack of basic infrastructural facilities for cooking in my school	64	22	14
The cooks in my school have not undergone any training in nutrition and hygiene	55	20	25
Foodstuffs were not obtained directly from farmers in the beneficiary districts	48	25	27
There is poor monitoring and evaluation of school feeding programme	56	20	28

Source: Fieldwork, 2013

Table 4 indicates agreement with all the statements concerning the challenges facing the school feeding programme. Most of the respondents (64%) agreed that there was lack of basic infrastructural facilities for cooking in their schools. Only 14 percent disagreed while 22 percent were uncertain. Thus, the majority of the respondents thought that the school feeding programme in their schools was facing basic infrastructural challenges. This confirms what SEND Ghana (2009) found that the state of basic infrastructural and health services was low relative to expectation in the study area.

Furthermore, more than half of the respondents (55%) agreed that the cooks in their schools have not undergone any training in nutrition and hygiene while a quarter (25%) disagreed and 20 percent were uncertain. That is, more cooks under the school feeding programme did not have adequate training in nutrition and personal hygiene which is a bane to the smooth running of the scheme. This supports what SEND Ghana (2009) found that cooks operating in some of the beneficiary schools have not undergone any training in nutrition and hygiene and as a result, basic health standards were not observed in the preparation and serving of food to pupils in the affected schools.

The results in Table 4 also indicate that almost half of the respondents (48%) agreed that foodstuffs for the programme were not obtained directly from farmers in the beneficiary districts while 27 percent disagreed and 25 percent were uncertain. Thus, more respondents thought that the bulk of foodstuffs used for the feeding programme were procured from the open markets within and outside of the districts. This is in support of what SEND Ghana (2009) that although in some cases, certain ingredients for the feeding programme were not locally available or produced in sufficient quantities, the programme failed to buy from farmers in cases where foodstuffs were available. Lastly, more than half of the respondents (56%) agreed that there is poor monitoring and evaluation of school feeding programme while 28 percent disagreed and 20 percent were uncertain. The main implication of this finding is that the school feeding programme among the beneficiary schools in the district had seen poor monitoring and evaluation. This really poses a major setback to the smooth running of the programme in the district.

Conclusions

Generally, the school feeding programme had positive impact on the lives of the inhabitants of the district to some extent. The scheme had impacted positively on the nutritional status of pupils in the beneficiary schools; even though it could not improve the body mass index and height of the pupils. The programme further helped improve academic performance of the pupils as well as enrolments, attendance and retention of pupils in the beneficiary schools in the district. However, the school feeding programme was plagued by myriads of challenges that impinge on the effective achievement of its main purpose.

The study recommends adequate provision of basic infrastructural facilities in the beneficiary schools in the district. These basic infrastructural facilities may include good kitchen structures, adequate stock of kitchenware especially plates and cups, good dining halls as well as toilet and urinal facilities. The local implementation committee of the scheme in the district should employ well trained cooks to cook for the pupils in the beneficiary schools or better still, provide adequate training for the cooks in terms of nutrition and personal hygiene. The bulk of foodstuffs for the school feeding programme should be procured from the local farmers in the district as stipulated by the scheme in order to help boost local agricultural activities in the district; and a regular but effective monitoring and evaluation of the programme is recommended in order to stimulate a smooth and efficient running of the scheme in the district.

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