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Effect of the National School Feeding Programme on Pupils' Enrolment, Attendance and Retention: A Case Study of Nyoglo of the Savelugu-Nantong Municipality, Ghana

Elijah Yendaw^{1*} and Frederick Dayour¹

¹Department of Community Development, Faculty of Planning and Land Management, University for Development Studies, Wa Campus, Ghana.

Authors' contributions

Author EY designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Author FD managed the analyses of the study and managed the literature searches. Both authors read and approved the final manuscript.

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ABSTRACT

The Ghana School Feeding Programme-GSFP is one of the social intervention programmes introduced to improve the educational standards of rural communities in Ghana. The main objective of the programme is to motivate parents to enroll their wards in basic schools, improve attendance, make pupils stay in schools and to improve the nutritional intake of children in rural areas. Nyoglo community of the Savelugu-Nantong Municipality which had the lowest pupils' enrolment, attendance and retention rates had been a beneficiary of this social intervention since 2005, yet, it appears no systematic academic inquiry exists looking at the effect of the school feeding programme-SFP on enrolment, attendance and retention. To fill this lacuna, the current study explored the contribution of the Programme on pupils' enrolment, attendance and retention using 150 respondents. The study was guided by the mixed method approach to research. Data for the

*Corresponding author: E-mail: eyendaw@uds.edu.gh;

study were collected using both interview schedules and in-depth interview guide. The results revealed that a higher percentage of the respondents viewed meals prepared for pupils to be of moderately low quality and quantity. This notwithstanding, it was discovered that the GSFP has contributed significantly to pupils' enrolment, attendance and retention compared to the period before the programme's implementation. The study, therefore, recommends that government and other stakeholders in-charge of the programme should remain committed to providing the needed resources for the smooth running of the programme so as to improve the educational infrastructure of rural communities.

Keywords: Effect; school feeding programme; enrolment; attendance, Savelugu-Nantong.

1. INTRODUCTION

According to [1], the only way to build a nation is to provide quality and adequate educational infrastructure for its youth. It is through education that the lives of people are shaped to become future political leaders, scientists, economists, artists and thinkers [2,3]. Education in its general sense is a form of learning in which knowledge, skills, and habits of a group of people are transferred from one generation to the next through teaching, training, research, or simply through auto didacticism [1]. Generally, it occurs through any experience that has a formative effect on the way one thinks, feels, or acts.

Despite the fact that access to education is steadily expanding across developing countries with enrolment in higher education rising sharply, a number of obstacles such as poverty and hunger still keep about 67 million children of primary-school age out of school, of which 53% of them are girls and almost 43% of whom are in sub-Saharan Africa [4,3]. Enrolment rates are slowing and being eroded by dropout, particularly in countries affected by armed conflict where over 40% of out-of-school children live. Progress in reducing the number of out-of school children of primary school age has slowed down since 2005 and stagnated since 2008 at around 61 million [2,5]. The estimated number of out-of-school children has risen in sub-Saharan Africa from 29 million in 2008 to 31 million in 2010 [3].

As early as 1790, a combined programme of teaching and feeding hungry children was first began in Munich, Germany, and later spread to France in 1867, where school lunch programme for needy children was established in about 464 areas [2]. There are as many types of feeding programmes as there are countries, but they can be classified into two main groups based on their modalities: First is In-school feeding, where children are fed at school, and second is a Take-home ration, where families are given food if their

children attend school. In-school feeding can, in turn, be divided into two common categories: Programmes that provide meals and Programmes that provide high-energy biscuits or snacks.

Over the past few years, WFP and other development partners have reported an increase in countries' demand for, and interest in school feeding. The sheer size and level of investment in school feeding is impressive. Almost every country seeks to feed its school children. This well-established programme is perhaps the largest safety net in the world. The coverage of school feeding programmes varies greatly among high, middle- and low-income countries. In high and upper-middle-income countries, generally all children have access to food through schools, and the most vulnerable children typically are entitled to subsidized or free meals. In low-middle and low-income countries, by contrast, programmes are generally only available to some children in certain geographic areas chosen according to vulnerability factors. Estimates suggest that coverage continues to be the lowest where the need is the greatest in terms of hunger, poverty and poor social indicators [6].

Ghana was among the first 10 countries in Sub-Saharan Africa that implemented a School Feeding Programme-SFP modeled according to the guidelines of the New Partnership for African Development (NEPAD). Its stated long term goal is to contribute to poverty reduction and enhancing food security in Ghana. Specifically, the programme strives to achieve its objectives of boosting domestic food production; Increasing school enrolment, attendance and retention among kindergarten and primary school children; And, thus contributing to the achievement of the Millennium Development Goals (MDGs) 1 and 2 which seek to eradicate extreme poverty and hunger and achieve universal primary education respectively [7].

The Savelugu-Nantong Municipality has been a beneficiary of this laudable feeding programme since its inception in 2005. Although the programme has been touted for a number of positive reasons especially on enrollment, it appears no single study has been conducted to establish the empirical effect of the programme on enrollment, attendance and retention in the Savelugu-Nantong Municipality. To fill this lacuna, the current study investigates the effect of the Ghana School Feeding Programme on pupils' enrolment, attendance and retention in the Savelugu-Nantong Municipality using Nyoglo community as a case study. It is expected that this study will provide useful information on the efficacy and challenges encountered in the implementation of the SFP, so that the government, NGOs, the Ghana Education Services and other stakeholders can take note and action where there is the need. Second, a study of this nature is envisaged to provide enlightenment to other researchers and policy makers, especially in other parts of the world on how such a social intervention is functioning in the African context, using Ghana.

1.1 HYPOTHESES

The following hypotheses are tested to support the finding of the study:

Hypothesis 1

H₀: There is no statistically significant relationship between people's perception of school meals' quality and quantity and school attendance among school children.

H₁: There is a statistically significant relationship between people's perception of school meals' quality and quantity and school attendance among school children.

Hypothesis 2

H₀: There is no statistically significant relationship between the SFP and school drop-outs.

H₁: There is statistically significant relationship between the SFP and school drop-outs.

1.2 Brief Overview of the Ghana School Feeding Programme

The GSFP, an initiative under the comprehensive Africa Agricultural Development Pillar 3, seeks to enhance food security and reduce hunger in line with the Millennium Development Goals (MDGs). In an attempt to reduce poverty; The

Government of Ghana with support from the Dutch Government commenced the implementation of the Ghana School Feeding Programme (GSFP) in 2005. The objectives of the GSFP are three fold: To increase school enrolment, attendance and retention, to reduce hunger and malnutrition and to boost domestic food production [8].

The GSFP commenced with 10 pilot schools, selected from each region of the country. By August 2006, the number of schools had been increased to 200 covering about 69,000 pupils in 138 districts. The basic concept of the GSFP is to provide pupils with one hot nutritious meal, prepared from home-grown food crops on every school going day [6]. The Ministry of Local Government and Rural Development has the oversight responsibility for the GSFP.

The GSFP has the following as collaborating partners: Ministry of Food and Agriculture (MOFA), Ministry of Education (MoE), Ghana Education Service (GES), Ministry of Health (MoH) and other Strategic Partners (Royal Netherlands Embassy, World Food Programme, Netherlands Development Organization and Food and Agriculture Organization). The Ghana School Feeding Programme (GSFP) is envisaged to become one of the core pillars of poverty reduction in poor rural communities in Ghana. This will ensure food security at the farmer household level to meet the United Nations MDG goal of eradicating extreme poverty and hunger-Goal 1. The strategy to feed school children with locally prepared food that is nutritionally adequate will focus 80% of the programme spending on local foodstuff and therefore cutting down on post-harvest losses and provide markets for farm output, impacting the economies of rural communities [8].

1.3 Concept of School Feeding, Enrolment, Attendance and Retention

School feeding program is defined as the targeted social safety net that provide both educational and health benefits to the more vulnerable children, thereby increasing enrolment rate, reducing absenteeism and improving food security at the household level [9,10]. Retention on the other is defined as the number of pupils who stayed in school up to the end of an academic year [11]. But in the context of this study, retention was measured looking at school dropout rates before and after the introduction of the GSFP.

According to [10], hunger is one of the most pervasive and damaging phenomena for millions of children today; It has far-reaching effects on the development of both individuals and nations. Hunger negatively affects the brain development of children and impedes their chances of educational success later on. Hunger, poverty and poor education are interdependent. When children are hungry, chances that they would attend school are limited, and without education, their chances of breaking the poverty trap are significantly reduced. [12] Also opined that both acute and chronic hunger affect children's access to school, their attention span, behaviour in class and educational outcomes. Studies have shown that children suffering from short-term hunger, as a result of skipping breakfast, for example, have difficulty concentrating in class and performing complex tasks.

The WFP further observed that school children are particularly vulnerable to short-term hunger, especially where diets of poor quality are consumed. Factors such as the long distances children walk to school, having to complete chores before going to school and poor quality and quantity of meals consumed at home, contribute to hunger in school children. Children who come to school hungry have diminished attentiveness, a greater likelihood of becoming distracted and a lack of interest in learning, resulting in failure, low achievement and repetition [10]. [13] Also opined that although a child may be at school, he may not pay attention to a learning task if he is hungry. Relieving a child's hunger may improve his ability to concentrate and thereby facilitate learning. Children's memory may also improve so that they are more likely to learn.

According to [14], school feeding programmes and other school-based nutrition and health programmes motivate parents to enroll their children in school and to see that they attend school regularly. [14] Further maintains that properly designed and effectively implemented SFPs can alleviate short-term hunger in malnourished or otherwise well-nourished school children. This helps to increase the attention and concentration of students producing gains in cognitive function and learning. When programmes effectively reduce absenteeism and increase the duration of schooling, educational outcomes (performance, dropout, and repetition) will be improved. Again, SFPs increase community involvement in schools, particularly where programmes depend on the community to

prepare and serve meals to children. Schools with their communities behind them are more effective than schools with less community involvement.

The number of hungry school-age children is unknown, but is likely to be a significant problem in various circumstances. Many factors contribute to hunger in school children: The long distances children have to travel to school, cultural meal practices that include no or small breakfasts or a lack of family time or resources to provide adequate meals to children before and/or during the school day. Simply alleviating this hunger in school children helps them to perform better in school. In Jamaica providing breakfast to primary school students significantly increased attendance and arithmetic scores, the children who benefited most were those who were wasted, stunted, or previously malnourished [15].

Evaluations of SFP in Burkina Faso found that school canteens were associated with increased school enrollment, regular attendance, consistently lower repeater rates, lower dropout rates in disadvantaged provinces, and higher success rates on national exams, especially among girls [10]. A small pilot school feeding program in Malawi was evaluated for its effect on enrollment and attendance. Over a three month period there was a 5% increase in enrollment and up to 36% improvement in attendance/absenteeism compared to control schools over the same period [10]. Niger has one of the five lowest school enrollment rates in the world; The school feeding program is intended to enhance attendance of nomad and transhumant families, particularly of girls. Beneficiaries receive the equivalent of the total daily recommended food intake (2,079kcal) in three meals per day. In addition, as an incentive for girls' participation in schools, some families receive an additional take-home ration. Evidence from past experience with the SFP shows that it contributes to its objectives: Whenever canteens have been closed, even provisionally, immediate and high absenteeism follows and children are withdrawn from school. In areas with nomadic and transhumant populations, the school year cannot commence until food stocks arrive [10].

1.4 Conceptual Framework

The theoretical framework guiding the study was adopted from [13] and [16]. It was adopted because the model titled framework on school feeding programme (Fig. 1) clearly analyzed the

relationships between school feeding programmes and school enrolment and attendance. The adoption was also deemed fit because some of the variables espoused in the framework (Fig. 1) involving short-term hunger alleviation, engaging in learning, improving children nutritional status, improving cognitive skills and behaviour and educational achievement, though were viewed unrelated to the current study objectives were considered as prerequisites for pupils enrolment and attendance which were the foci of this investigation. According to the model (Fig. 1), the potential impact goal of targeting children through Food for Education programmes is to increase their educational achievement so as to improve their potential future productivity and earnings. However, improvement in educational achievement due to serving food in SFPs is thought to occur through three pathways as

demonstrated in Fig. 1. First, FFE programmes increase school attendance by lowering the opportunity costs of attending school and providing additional incentives to engage in formal education [13]. This leads to more time spent in school and more time spent towards learning.

The second is through the alleviation of short term hunger which improves children’s cognitive functioning and attention span. The third path is through the improved nutritional status of children by providing them calories and nutrients in addition to their regular diet. This leads to better health and better resistance to infectious diseases and illnesses that would keep children attending school. Thus, better nutrition indirectly improves educational achievement by increasing school attendance by children [17].

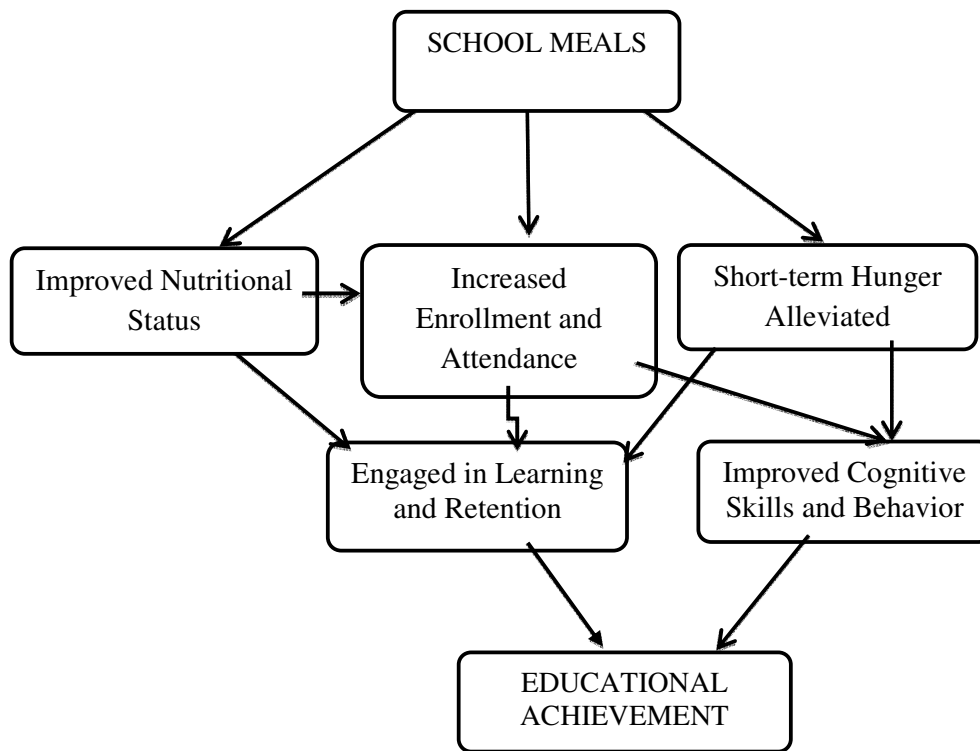


Fig. 1. Conceptual framework on school feeding programme

Source: Grantham-McGregor et al. [13] and Jacoby et al. [16]

Despite the advantages of the model in examining the potential effect of school feeding programmes on school enrolment and attendance, it fails to incorporate the relationship between school enrolment and overcrowding. Increases in enrollment without infrastructure expansion would lead to overcrowding and lowering the effectiveness of classroom time or stretch the limited amount of school resources such as books. Depending on how the SFP is set up, teaching time may be reduced if teachers are used in overseeing the meal time.

2. MATERIALS AND METHODS

The study was undertaken at Nyoglo community in the Savelugu-Nanton Municipality. This community was selected for the study for obvious reasons: One, it had the lowest enrollment rate in the district prior to the introduction of National School feeding programme and, two, enrollment soared after the introduction of the programme to being the highest in the district. Hence, it was not out of place to conduct a case study of this nature to ascertain whether it was the SFP that accounted for this sudden increase.

The Savelugu-Nanton Municipal was carved out of the then Western Dagomba District council which comprises Tamale, Tolon and Savelugu. The Municipal has its administrative capital at Savelugu. It shares boundaries with Tolon and Kumbungu Districts to the west, Tamale Metropolis to the south and Yendi Municipal to the south-east. Nyoglo is a small community found in Savelugu-Nanton Municipality of the northern region of Ghana. Nyoglo is located in the south western part of the district and is about 23km away from Tamale, the regional capital and 4km away from Savelugu the Municipal capital. The Bolga- Tamale road separates the community from Kanshegu to the west [18].

Nyoglo has a total population of 864 of which 399 males as against 465 females [19]. The main economic activity of Nyoglo is agriculture [19]. The major crops grown in the area include rice, yams, maize, and groundnut among others. They also rear animals such as pigs, goats, sheep, cattle and fowls. The community is also endowed with economic trees like Shea-nut and dawadawa trees. A few of the community members are also into various rural industrial activities such as shea butter extraction, and rice processing.

With respect to formal education, the majority of people in Nyoglo are illiterates. Nevertheless, the people have acquired informal knowledge and skills that help them in their daily household activities and in agriculture. There is a kindergarten and a primary school which provide formal education for children both in Nyoglo and other surrounding communities. The community however has no Junior High School and lacks most of the social amenities enjoyed by other communities such as a market, community center, public library and electricity. This lack of social amenities has a linkage toll on educational development in the area. Nyoglo has no Community Health Planning Services (CHIPS) compound. There are few traditional healers who treat ailments like stomach pains, malaria and others.

The target population for the study was parents/guardians who had their wards enrolled in Nyoglo basic school. Through a reconnaissance survey, the total number of parents who had their children in school as at the time of the survey was 240. This was obtained from the Head Teacher of Nyoglo basic school through the school register. Given that the sample frame of 240 was too small to warrant any random sample selection, the census approach to research was employed in the data collection exercise. A census is an approach in which the entire study population of an empirical study is recruited and interviewed. The census approach has a number of advantages including the fact that it guarantees representativeness. But during the actual field data collection, only 150 respondents were willing to participate in the study while other questionnaires were not deemed useable because key aspects of them were not answered by the respondents giving a response rate of about 60%. For instance, out of a sample frame of 240 respondents who were targeted for the study, about 80 of them declined to be interviewed citing political, work and time related reasons. The unit of analysis for the study was the individual parent who had ward (s) in basic school. The respondents were contacted and interviewed at home or their workplaces during the field data collection.

In addition to the 150 respondents, five (5) key informants were also purposively selected and interviewed to further generate data and information to enrich the study. The key informants who were selected included the District Director for Education, School Management Committee Chairperson, the Head

Teacher of Nyoglo basic school, the Matron in charge of the school feeding programme, and the Assembly Member of the Nyoglo community.

The study was guided by the mixed method approach to research involving both qualitative and quantitative methodologies. The advantage of this method is that it provides strengths that offset the weaknesses of both qualitative and quantitative studies [20]. Both primary data and secondary information were collected for the study. The primary data was obtained from the respondents on the field using in-depth interview guide and interview schedule while the secondary information was obtained from books, internet, journals and records of Ghana Education Service and School authorities. Interview schedule is a set of structured questions in which answers are recorded by the interviewer. This instrument was used to collect the data and information from the respondents because most of them could not read and write in the English Language [19].

The instruments were structured into three sections namely A, B, and C. Section A focused on the socio-demographic characteristics of the sample (which included age, sex, marital status, educational status, occupation, and religion). Section B assessed the contribution of the school feeding programme on pupil's enrolment and attendance while the last section, which is section C, analyzed the effect of the National School Feeding Programme on pupils' retention in the study area. The instruments were pre-tested at Kanshegu, a community in the Savelugu-Nanton Municipality which has similar socio-demographic characteristics as the study area. Four respondents were selected for the pre-test. After the pre-test, the instruments were then restructured to cater for lapses and challenges that were likely to emerge during the actual field data collection.

The quantitative data was processed and analyzed using the Statistical Product and Service Solutions (SPSS) version 21 while the qualitative data were transcribed, thematically organized and manually analyzed. Descriptive statistics such as graphs, tables and percentages were employed to analyze the quantitative data. An inferential statistical technique such as chi-square test for goodness of fit was used to test the hypotheses stated. Ethical issues are important component of any empirical research.

In that regard, the current study religiously adhered to all standardized ethical concerns governing the conduct of social science research. In particular, issues such as informed consent, anonymity, privacy and confidentiality of respondents were given prominent attention. It is however imperative to caution at this point that the data of this study was restricted to one community within northern Ghana hence extrapolations from the study should be done with care.

3. RESULTS AND DISCUSSION

3.1 Profile of the Sample

Table 1 revealed that the respondents were predominantly females (58%) who were young (62.7% were 20-40 years) and were married (77.3%). The fact that more than half of the respondents were married was expected in view of the observation that a large proportion (62.7%) of them were aged between 20-40 years, the age at which it is considered ideal in most societies in Ghana for people to get married [21]. The results further showed that a higher proportion (64%) of the respondents had no formal education with only a few (36%) who attained basic, secondary and tertiary level education. The majority of the respondents were Muslims (58%) followed by Christians (39.3%). The study also suggested that about 121 out of the 150 respondents were farmers and traders representing 53.3% and 27.3% respectively (Table 1).

3.2 Profile of the Key Informants

A total of five key informants were also engaged for the study. Out of the five key informants interviewed, the results showed that four of them were males while one was a female. With regards to their age, the study showed that four of them were aged between 31-40 years with the remaining one aged 30 years. With respect to their educational background, three of them had formal education up to the tertiary level while one of them attained Senior High School education. The remaining one had no formal education. With regard to their occupational status, two of them were farmers, one was a Head teacher, and another one the Matron in charge of the school meals with the last one being the District Director for education.

Table 1. Profile of the sample

Background characteristics	Frequency	Percentage
Sex		
Female	87	58.0
Male	63	42.0
Age		
20-30	33	22.0
31-40	61	40.7
41-50	30	20.0
51-60	18	12.0
61+	8	5.3
Marital status		
Married	116	77.3
Single	21	14.0
Divorced	8	5.3
Separated	1	0.7
Widowed	4	2.7
Highest level of education		
No education	96	64.0
Primary	19	12.7
JHS/middle	10	6.7
Secondary	18	12.0
Tertiary	7	4.7
Religious affiliation		
Christianity	59	39.3
Islam	87	58.0
Traditional	4	2.7
Main occupation		
Farming	80	53.3
Trading	41	27.3
Artisans	12	8.0
Others	7	4.7
Total	150	100.0

Source: Fieldwork, 2014

3.3 Respondents' Perception of School Meals Quality and Quantity

One of the main objectives of the study was to explore the perception of the respondents towards the National School Feeding programme (Table 2). To begin with, issues regarding the quality and quantity of meals prepared at school were examined. The main objective was to seek the opinions of parents and guardians regarding the quality and quantity of meals served their children. This is important because how parents view the quality and quantity of meals prepared has the propensity to affect the scheme operation in the area. From the study, it was revealed that more than half (55.4%) of the respondents saw the food served at school to be of moderate and low quality and quantity while 44.6% saw the meals prepared for the pupils to be of high quality and quantity (Table 2). This

implies that most of the respondents have a negative perception about the SFP in particular meals quality and quantity. The fact that a higher proportion of the respondents perceived the meals to be of moderately low quality and quantity calls for worry and requires immediate attention from authorities to reverse these negative perceptions from the public. This is necessary because if left unchecked can have future ramifications for the programme's sustainability in the area since it has the potential to breed discontent among the community members. The current evidence was buttressed by the Head Teacher of the school aged 40 years as follows:

Table 2. Respondents' perception of school meals quality and quantity

Quality/quantity of meals	Frequency	Percentage
High	67	44.6
Moderate	19	12.7
Low	64	42.7
Total	150	100.0

Source: Fieldwork, 2014

Head Teacher: *"Look my brother, the government does not release money to the school on time, so the matron cannot do her best to provide good food. You see, the food sometimes is not that fine and even the quantity is sometimes small but what for do, the matron cannot use her own money to cook for the children. We just have to pray that the government increases the support (40 year male Head Teacher).*

Management Committee Chairman...*"You see, the problem is with the government bringing in money early. There are times the school Matron doesn't have enough money to cook quality food, but we are looking at whether the community members can also help. (49 year male School Management Committee Chairman).*

3.4 The School Feeding Programme and Frequency of School Attendance

As part of the study objectives, the study also tried to look at whether the introduction of the national school feeding programme has contributed to an improvement in pupils' attendance in school. From the results (Table 3), it was found that before the implementation of the programme, only 22% of pupils attended school throughout the week while 36.7%

attended school three times in a week. While after the introduction of SFP, pupils' attendance to school throughout the week (65.4%) tremendously improved. The result in Table 3 implies that the implementation of the school feeding programme in the study area has actually resulted in a phenomenal increase in pupils' attendance in school. In that regard, the sustenance of the programme would, therefore, go a long way to help improve the educational standards in the study community. The present revelations are said to be in tandem with what [12] and [16] had observed in their study that school feeding programmes increase pupils school attendance by lowering the opportunity costs of attending school and providing additional incentives to engage in formal education. Evaluations of SFPs in Burkina Faso and Malawi further confirmed the current evidence where school canteens were associated with regular school attendance [10].

The current findings were further supplemented with qualitative evidence from the field. For instance, the Assemblyman in the study area has this to say about school attendance and time spent in school as seen below:

Assemblyman....*"My good friend, the school feeding programme has come at the right time, for this community in particular you know is a key farming community and the people don't like going to school. But now that the school feeding programme has been introduced, almost all children are now in school, let me add that now children stay in school longer and learn than before. Before the programme was implemented most children report at school and run back home but it is no longer so because they know they will miss their meals if they run home, so it is a good programme and we are all working hard to improve the programme"* (38 year male Assemblyman).

Management Committee Chairman: *"Oh! now the children here don't joke with school going at all because of the food they cook for them. They know if they don't go to school they will miss their food"* (49 year male School Management Committee Chairman).

Table 3. The school feeding programme and frequency of school attendance

Pattern of attendance	Frequency	Percentage
Attendance before the programme		
Once in a week	16	10.7
Two times in a week	46	30.7
Three times in a week	55	36.6
Throughout the week	33	22.0
Attendance after the programme		
Once in a week	11	7.3
Two times in a week	24	16.0
Three times in a week	17	11.3
Throughout the week	98	65.4
Total	150	100.0

Source: Fieldwork, 2014

3.5 Perception of Meals Quality and Quantity and Frequency of School Attendance

The perception of respondents regarding the quality and quantity of food prepared in school has demonstrated a very high influence on the school attendance patterns of pupils in the study area. As shown in Table 4, a highly positive perception of the food quality and quantity has resulted in an increase in school attendance among pupils. For instance, while 70.1% of children attend school throughout the week as a result of meals quality and quantity, as much as 63.2% of pupils attend school once a week due to negative perception about the quality and quantity of food prepared in school. This implies that the quality and of food prepared for pupils should be enhanced so as to boost enrolment and high attendance rate among children in the area. Furthermore, chi-square test of the hypothesis that there is no significant relationship between respondents' perception of food quality and quantity and the frequency of school attendance was rejected indicating a significant relationship at ($\chi^2=2.932$, $df=5$, $P=0.023$) between respondents perception of food quality and quantity and the frequency of pupils' school attendance.

Table 4. Perception of meals quality and quantity and frequency of school attendance

Perception of meals quality & quantity	Frequency of school attendance				Chi-Sq.	P-value
	Once a wk (%)	Twice a wk (%)	Thrice a wk (%)	throughout wk (%)		
High	0.9	9.0	11.9	70.1	11.932	0.023
Moderate	7.8	18.8	12.5	60.9		
Low	63.2	15.8	21.1	0.0		
Total	71.9	43.6	45.5	131		

Alpha level = ≤ 0.05 , Source: Fieldwork, 2014

3.6 School Feeding Programme and Pupils' Enrolment

The study further assessed the contribution of the national school feeding programme towards pupils' enrolment and retention in the study area. Concerning the issue of enrolment, it was examined by looking at two periods where parents enrolled their wards. That is before and after the implementation of the school feeding programme-SFP. The results (Table 5) indicated that enrolment before the introduction of the SFP stood at 35.8%, but increased phenomenally to 64.2% after the implementation of the programme. Results from a qualitative interview with one key informant lend support to the current revelations. For instance, District Director for Education further has this to say about the contribution of the SFP on school enrolment in the study area:

Education Director: "I can confidently say that there is no child of school age in this community who is currently not in school as I speak, there are even under aged children who come to school because of the food prepared" (47 year male District Director).

The increase in enrolment figures (Table 4) indicate that the school feeding programme if well maintained has the potential of eradicating illiteracy in the study area and the entire country as a whole. The present observations are in conformity with findings by [15] and [10] where school feeding programmes and other school-based nutrition and health programmes motivate parents to enroll their children in school and to see that they attend school regularly.

3.7 The School Feeding Programme and School Drop-outs

The study also explored the contribution of the national school feeding programme on pupils' retention in the study area. This was done by looking at the dropout rates of pupils before and

after the implementation of the school feeding programme. From the results (Table 6), it was discovered that school dropout rates (73.8%) was higher among pupils before the introduction of the SFP compared to the period after the introduction of the programme with only 26.2% dropout rate. A Chi-square test of the hypothesis that there is a statistically significant relationship between the implementation of the Ghana school feeding programme and school dropout rates among pupils gave ($X^2=29.767$, $df= 4$, $P=0.000$) indicating that the operation of the programme has significantly improved pupils' retention in school compared to the period before the introduction of the programme.

Table 5. School feeding programme and pupils' enrolment

Pupils enrolment	Frequency	Percentage
Before the programme	54	35.8
After the programme	96	64.2
Total	150	100.0

Source: Fieldwork, 2014

The findings obtained above showed that the SFP is achieving its intended objective of improving pupils' retention in schools [6]. The results further buttressed what has been indicated in the conceptual framework (Fig. 1) that SFPs lead to more time spent in school and more time spent towards learning. The Head teacher of the school aged 47 made these remarks about pupils' dropout:

Head Teacher: "My brother, what the programme needs now is serious commitment from the government. You know this is rural community and what they do best is farming. Before this programme was introduced most of the pupils use to engage in their farming activities especially during the rainy season and return to school in the dry season. But with the inception of the programme we do not experience much dropout rate now." (40 year male head teacher).

Table 6. The school feeding programme and school drop-outs

Period of dropout	Experience of drop-out			
	Yes (%)	No (%)	Chi-square	P-value
Before the implementation	73.8	28.9		
After the implementation	26.2	71.1	29.767	0.000
Total	100.0	100.0		

Alpha level = ≤ 0.05 , Source: Fieldwork, 2014

4. CONCLUSION

The objective of the study was to examine the effect of the GSFP on pupils' enrolment, attendance and retention using Nyoglo community as a case study. The study showed that despite the negative perceptions parents have cultivated towards the quality and quantity of food prepared for pupils, it was discovered that the programme implementation has significantly contributed to high enrolment rates and regular school attendance in the study area. For instance, while enrolment before the SFP stood at 35.8%, enrolment rate shot up to over 64% after the programme. Also, while only 22% of pupils attended school regularly throughout the week before the programme implementation, over 60% of pupils' attend school regularly throughout the week after the programme operation.

The above revelations were further corroborated with results from a chi-square test for goodness of fit where respondents' perception of food quality and quantity and regular school attendance were significantly correlated at ($X^2=11.932$, $df=5$, $P=0.023$). Considering the important role the SFP is playing with respect to enrolment and attendance, it is imperative that the programme be continued and supported in the community so as to cause an improvement in educational standards in the area.

It was further discovered that the SFP has contributed to a significant reduction in school dropout rate in the study area. That is, while dropout rate before the programme implementation stood at 73.8%, it dropped phenomenally after the programme implementation to as low as 26.2%. The current evidence was also supported with results from a Chi-square test statistic ($X^2=29.767$, $df= 4$, $P=0.000$) of the hypothesis that there is no significant relationship between the implementation of the SFP and school dropout rate among pupils. This showed that the operation of the programme has improved pupils' retention in school compared to the period before

the introduction of the programme. In conclusion, the study has made significant contributions to the growing body of literature on SFPs in Ghana and the rest of the world in a number of areas: One, a statistically significant relationship was established between school meals quality/quantity and school attendance among pupils and two, a strong linkage was found between the implementation of school feeding programmes and pupils' retention in schools. What this means is that the strategic policy direction of stakeholders involved in running the programme needs to take into account the above key findings contained in the current investigation.

5. POLICY RECOMMENDATIONS AND FURTHER RESEARCH

The study has revealed a number of interesting findings based upon which useful decisions could be made. Among other things, the study has shown that a higher percentage of parents perceived meals given to their wards to be of moderately low quality and quantity which is not too good for the programme's sustainability. In that regard, it is recommended that the quality of meals served should be enhanced so as to dispel this negative perception and ensure that all children irrespective of their family background eat meals prepared at school. This is important because if left unchecked could ruin the scheme's objective of improving rural educational quality in Ghana.

More so, as revealed from the study, the programme has brought about tremendous increases in enrolment figures and regular school attendance in the study area. What this means is that if the programme is well maintained it would go a long way to help improve rural educational infrastructure, bridge the rural-urban literacy gaps and ultimately reduce rural poverty levels in the country. But this can only happen if more governmental support is directed at increasing more funding and other resources to the SFP. Beyond this, the study further recommends that rural community members should be educated

on the importance of the programme so as to encourage their full support for the programme operation. For instance, parents and the general community members could support the programme with labour, food items and others so as to supplement the efforts government is already making. This is needed because given the current huge developmental burden on the government and the financial difficulties facing the nation lately, it is practically impossible for the state alone to continue to shoulder the burden of feeding children in Ghana.

Meanwhile, given the limited geographical scope of this study, it is recommended that similar academic inquiries nationwide should be replicated in other rural settings where the programme operates to ascertain the actual gains the programme is making, the challenges facing the scheme as a whole as well as the effect of the scheme on pupils performance so as to generate wider and more reliable national representative data base so as to improve practice on the programme implementation throughout the country.

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COMPETING INTERESTS

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