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Effect of Food Programmes on Pupils' Participation in Public Pre-Schools in Mwingi Central Location, Kenya

By

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Abstract
The purpose of this study was to investigate the impact of preschool food programmes on pupils' participation in Mwingi Central Sub-county, Kenya. A descriptive survey research design was adopted. Census sampling of the 14 public primary schools in Mwingi Central Sub-county was done and the 14 head teachers were and teachers in the preschools were asked to respond to self-administered questionnaires. The study established that; the type and amount of food offered preschools in the sub county did not significantly influence the enrollment of pre-school children. From the findings of this study the researcher recommended that, the county government should get more involved in the provision of food to pre-schools and the school administration should consider giving softer food to the children and improve on quality of the eating environment.

Key words: School feeding programmes, Mwingi subcounty, Pre-school nutrition, Pupil participation, Early childhood Education

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Introduction

In 2000, the United Nations member states met in Dakar, Senegal, and committed themselves to the eradication of hunger and the attainment of universal pre-education. School feeding programs (SFPs) were identified as one of the main interventions chosen to address these challenges. School feeding falls squarely within the U.N. declaration, and specifically three of the Millennium Development Goals (MDGs), namely MDG 1 (to eradicate extreme poverty and hunger), MDG 2 (to achieve universal pre-education), and MDG 3 (to promote gender equality and empower women). Furthermore, the greater focus on educational objectives arising from the U.N. commitments has seen the number of SFPs (funded by governments, donors, and NGOs, mainly from Africa) increase greatly in the past five to ten years (Tomlinson, 2007).

Some governments in third world economies have overcome the problems of hunger and famine and currently have the capacity to meet the nutritional needs of the population, especially the vulnerable members of society. This remarkable achievement is a milestone in attaining Goal 2 of the Millennium Development Goals. However, extreme malnutrition and hunger are common occurrences that adversely impact the development of many countries. For instance, the United Nations (2019) maintains that over 790 million people suffered from chronic undernourishment in 2014, a factor that can be linked to the detrimental effects of drought. The organization asserts that over 158 million children aged below five years had stunted growth during the period, while over 50 million were underweight. Furthermore, approximately 25% of this population goes hungry in Africa (United Nations, 2019). Consequently, the purpose of the Sustainable Development Goals is to end the serious issues of malnutrition and hunger by 2030 to ensure that every member of society, particularly children and the disadvantaged persons, have constant access to nutritious and sufficient food.

Statement of the Problem

The government of Kenya in its effort to address hunger and to enhance learning in schools, especially for the nutritionally vulnerable children from low-income communities in the ASALS and unplanned settlements, initiated the School Feeding Program jointly with World Food Programme (WFP) in 1980. However, In May 2017 it was reported that the WFP would now withdraw from such programmes (wfp.org). According to the *School Feeding Programme Training Handbook* (2006), the objectives of the School Feeding Programme are to improve preschool's enrolment, enhance the attendance rates and reduce the dropout rates due to hunger; reduce the disparities in enrolment, attendance rates and gender; improve the children capacity to concentrate and assimilate information by relieving short-term hunger; contribute to improvement of nutrition intake and general health of the children from low income families;

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and enhance the participation rates and increase enrolment of children in the disadvantaged districts and urban unplanned settlements in Kenya. This study looks at the organization of school feeding programmes on the ground in an ASAL area, and investigated the effect of the food programmes on participation of children in public preschools. Participation was taken to include enrolment, and attendance in the preschool. To what extent does the organization of the school food program affect children's participation in the preschool?

Purpose of the Study

The purpose of this study was to investigate the effect of the organization of feeding programmes school on pupils' participation in public preschools in Mwingi Central sub-county, Kitui County, Kenya. This was translated to two objectives:

i) Determine the relationship between the amount of food served on pupils' and attendance in public preschools
ii) Establish the effect of quality of food on pupils' enrolment in public preschools in the region.

Literature Review

Preschool years are perhaps the most important in the life of children as food practices and choices made during these years affect the nutrition status of the concerned individuals later in life. Food is a basic biological need; Maslow (1970) has emphasized that human beings have a hierarchy of needs ranging from lower level needs (comprising food, survival, and safety) to higher needs. Thus, it is crucial to cater to the basic needs before focusing on the need for children to be motivated to learn. Lack of enough good quality food leads to malnutrition, which is defined as a state in which the physical function of an individual is impaired to the point where he or she can no longer maintain adequate bodily performance processes such as growth, pregnancy, lactation, physical work, and resisting and recovering from disease (The Sphere Project, 2004).

Access to education significantly influences the future well-being, social skills, sense of belonging, and academic achievement of children, thereby affecting long-term outcomes in a myriad of professional, financial, and health contexts (Bakken, Brown, & Downing, 2017). Scholars maintain that a positive relationship exists between high educational performance and factors such as increased well-being, and improved health outcomes (Hahn & Truman, 2015). However, economic factors are important determinants of a child's access to education and often limit the ability of a person from disadvantaged families to reach his or her full potential (McKinney, 2014). These disparities are evident once a child enrolls in preschool. For instance, malnutrition has a devastating impact on children's education outcomes (Prado and Dewey, 2012). It restricts their cognitive development and reduces their ability to learn. Thus, early childhood education programs developed to ensure that pupils receive meals at school may act as a promising intervention.

In the long term, malnutrition can have a negative impact on earnings when children reach adulthood. The effects of the lack of proper nutrition on physical stature, the ability to do physical work, and cognitive development can lock children into poverty and entrench

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inequalities (Fund, 2013). In the study conducted by Save the Children, it was revealed that children who are malnourished eventually earn 20% less as adults than the children who are well nourished (Grantham, 2007). The direct impact of school feeding programs on nutrition has often been measured in terms of the diet of food consumed by the student over a 24-hour period, with a keen focus on the content and frequency of school meals.

According to Bowlby (1988), it is important to focus on food quantity and quality. Children should be given the right nutrients to enhance their growth, development, and survival in the community. He also asserted the importance of focusing on the frequency of the meals, maintaining that food should be served regularly and effective programs to be set in schools to accomplish this goal. The author also described that learning institutions should establish a department to deal with the issue of nutrition. Providing proper nutrition is a vital component in the lives of children since it enhances the development of the human brain. According to Ann (1986), the human body functions best when supplemented by the right kinds of food in the appropriate proportion. Food is a basic need and a right for survival for all humanity, especially for children whose rights are to enjoy the highest attainable standard of health, nutrition, and education.

Food for Education (FFE) programs help in increasing educational achievement and play an important role in achieving the nutritional goal (albeit for children that already passed the critical early childhood influencing phase). Food choices are usually limited for families facing poverty, resulting in nutritionally inadequate diets that are often deficient in vital micronutrients (Ash et al., 2003). Deficiencies of micronutrients such as iron or vitamin B-12 can result in increased vulnerability to infections, stunted growth, and diminished cognitive performance in school-age children (Arsenault et al. 2009). The most important period of growth and body composition occurs in the first few years of life, well before enrollment in a F.F.E. program. However, S.F.P. meals or snacks can be easily fortified to help provide micronutrients that are commonly missing from children's diets. This is especially important for school-age children, as the brain is sensitive to the lack of nutrients in the short term, especially among malnourished children (Pollitt 1995).

In the world today, nearly every country seeks to feed at least some of its school children through government-sponsored programs. Moreover, when the financial crisis emerged in 2008, the World Bank crisis asserted the need to strengthen support for school feeding programs. However, there remain questions about the evidence of its effectiveness, and there is a continuing struggle to identify what makes for a successful program (Espejo, 2009). The ASAL homes have suffered through the crippling social effects of recently intensifying droughts and food shortages. According to field studies, the "magnet effect" of the meal programs has greatly increased school attendance rates, especially among school-going children. Rural schools that provide meals show higher enrolment rates and lower initial dropout rates than those that do not (Espejo, 2009). With the improved school enrolment and the realization of the relationship between education and development and the power of education as a panacea for individual and societal problems, it was soon perceived that the low education participation rate needed immediate attention (Wahome, 2005). The government waived the tuition fees in preschools in the arid and semi-arid areas. When this did not elicit much response in terms of increased

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enrolment, the state recommended the establishment of boarding preschools and School Feeding Programme. Leaders had a lot of concern regarding low enrollment (Ministry of Education, 2010).

With school feeding program implemented for many years in Kenya, Finan (2010) found that the net preschool enrolment increased from 77% to 92% between 2002 and 2007, while enrollment in the ASALs rose from 17% to 29%. Thus, ASALs continue to lag behind their counterparts in the urban areas in terms of education expansion and accessibility. According to Galal (2005), children who receive meals are generally healthier, more receptive, highly energetic, and easier to teach than their peers. Following WFP recommendations, some ASAL school districts have begun providing fortified morning biscuits to facilitate the cognitive and nutritional benefits of feeding (Finan, 2010; Galal, 2005). Though significant gains have been achieved throughout the country in terms of educational expansion and accessibility, rural Kenyans continue to lag far behind their urban counterparts.

Methodology

A descriptive survey design was adopted to obtain information concerning the current status of the variables under investigation and generalizations from the facts observed (Lukesh, 1991). Kothari (2004) stated that descriptive research involves describing the characteristics of variables of interest. A population from the fourteen public schools in Mwingi Central Sub-County was targeted (EMIS Data-2016). Public primary schools have a preschool unit within them, often ran independently but under the supervision of the primary school head teacher. The census sampling of the 14 public primary schools in Mwingi Central Sub-county was completed, and 14 head teachers and pre-school teachers were included in the study. Questionnaires that entailed closed-ended and open-ended questions were used to collect data from the respondents. Data were collected from head teachers and Pre-school class teachers concerning enrolment, feeding programme, food source, and challenges encountered in the management of their feeding programme. Data collected were coded and analysed based on the research questions.

Results and Discussion

All schools investigated had implemented feeding programs for between one term and three years; thus, they had the necessary experience to give information about the impacts of the programmes on children participation.

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Table 1: Class Enrolment

Enrolment	Frequency	Percentage
20-30	2	14.3
31-40	7	50.0
41-50	1	7.1
Over 50	4	28.6
Total	**14**	**100.0**

Source: Survey.

The majority (64.3%) of schools had an enrolment of 31 to 40 students. This enrolment was in line with the Ministry of Education recommendation that a preschool class should have between 35 and 40 pupils to ensure effective teaching (MoE, 2017). The class size is much higher than that in developed countries. For example the American National Association for the Education of Young Children and Head Start program recommend that each teacher should have up to twenty children aged between four and five years. A person would expect less than 20 children in a class at this level (ChildCare.Gov).

All schools were found to have a feeding programme that was sponsored by the government, parents, or other organizations. The schools serve a mug of food (about 300 ml). On the question of the age of feeding programes, it was found that the feeding programmes were relatively young having been implemented for up to three years previously, whereas the primary school feeding programme had been executed for up to seven years. In the past, preschool children would stop classes at about noon and go home immediately. The introduction of the feeding in preschool means that children leave at 1 p.m. after taking lunch or at 3 p.m. after eating and sleeping. Ordinarily children leave school

Parents sponsored the majority (71.4 %) of feeding programmes. The national government funded two school programmes (28.6%), while the remaining initiatives were financed by other institutions, that is, the Kasiki AIC Church and the Mulango Children's Home. Foodstuffs, especially maize, rice, beans, and cooking oil, were provided by the government and other institutions, whereas parents occasionally contribute money for salt and paying the cook. The government often provided money to supplement children feeding, rather than provide the foodstuffs. Children carry firewood, and parents provide water. Cooks receive a salary of Sh. 4,000. They prepared meals and served them under the supervision of teachers. Children who failed to bring firewood are asked to carry a five-litre can of water, which they considered heavier than firewood. Children do not get lunch when the food supply is delayed. The sponsors bring foodstuffs such as maize, beans, and salt.

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The majority (71.4%) of preschool feeding programmes got their food from the parent's contribution. In this arrangement, parents meet with school and agree on the quantities of foodstuffs to be contributed per child. Typically, parents bring 6kg of muthokoi (pounded maize to remove outer skin and make it softer than maize) and three kilogrammes of legumes such as cowpeas, pigeon peas, or beans (nzooko, nzuu, or mboso) per month. These foodstuffs are poured into a bag stored in the school store. Parents contribute money to provide salt, firewood, and water. Food is usually boiled since oil is not included in the budget. Similar to the government feeding programmes, parents contribute to buy water and pay the cook.

The respondents were requested to indicate the challenges they encountered in the implementation of school feeding programmes. It was reported that most schools were experiencing problems with the supply of foodstuffs. There was reported inconsistency in the supply as results of uncooperative parents. There were problems with delayed supplies in instances where the government supplied food. Additionally, the amount provided in some cases was not adequate, forcing some schools to give small quantities of food per day. The management of the supplied food was also a challenge since some committee members were not cooperative, making it difficult for the food to be provided effectively.

Amount of Food Served and Pupils' and Attendance

Almost all schools served about one mug (about 250g) of food at lunch, except for one preschool where children only took a cup of porridge at midmorning and went home at about 12:30. This quantity was likely to be enough bearing in mind that preschool children are small and may need little food. One Way Analysis of Variance (ANOVA) was used to determine whether there was a significant difference between pupil attendances in schools offering different amounts of food. The relationship between the amount of food and school participation (enrolment, attendance) was not significant (F=.708, df =2, 12= .708, P> .05 .108). This finding, however, does not contradict Espejo (2009) and Finan (2010), who argued that the meal programmes had greatly increased school attendance rates, especially among school-going children. According to them, rural schools that provide meals show higher enrolment rates and lower initial dropout rates than schools that do not. As mentioned, Finan (2010) established that the net preschool enrolment rose from 77% to 92% between 2002 and 2007, while enrollment in ASAL increased from 17% to 29%, demonstrating that ASAL lag behind their counterparts in the urban areas concerning education expansion and accessibility.

TThe difference in findings may arise because food is available at home, anyway, making the majority of parents to prefer running their feeding programmes through material contribution than to contributing funds for the same. Officially, pre-school children study half day, so they could easily go home and eat there than stay in school and eat. Food cooked in school is likely to be less tasty and harder to eat than at home. The githeri (maize and legumes) requires ample time, say two hours on medium heat, to boil for it to be well done. This study did, not, however, dwell on aesthetics or the doneness of food served to the children.

Perhaps another the reason why this study did not find a significant difference in enrolment across the schools is because the school feeding programmes seemed to be modeled after the primary school food programmes in terms of the funding and organisation. Preschool

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children require regular smaller meals in the day rather than one big meal at the lunch hour. Only two schools in the zone gave porridge as a mid-morning snack. Part of the reason why children are fed in school is to introduce good eating habits. Although the githeri eaten in school is wholesome and nutritious, the food eaten in school was also the main diet eaten in the community, so there was little incentive for children to come to eat in school. No school served vegetables of fruits. Further such diet is likely to miss Vitamin A important for children's healthy growth.

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Food type and Enrolment of Pre-School Children

The second objective for this study was to establish the effect of type of food served in school on pupils' enrolment in public preschools in Mwingi central Sub-County. This objective was achieved by requesting the respondents to indicate the type of food provided by the schools. Mainly two foods were served in the preschools: githeri and rice. Githeri was more common and sourced from childrens' homes whereas rice is bought from shops and thus more exotic. Githeri offers a balanced meal; the githeri contains a high carbohydrate, fibre, protein and potassium content, and little fat and sugar. It was established that most schools (64.3%) fed children with githeri (boiled maize and beans) or muthokoi (a mixture of shelled boiled maize and legumes such as beans, cowpeas or pigeon peas). Maize and beans are the more readily available staple in the community. This was followed by 21.4% of schools that provided their pupils with rice and beans. It was also noted that 14.4% of the institutions were giving the preschool children porridge only as a midmorning snack. Thus, all schools in the study offered distinct types of food. The type of food was related to the sponsor of the feeding programme. Githeri/mutholoi food was more likely to come from parent self-sponsored feeding programmes while rice and beans was likely to come from the Kenya central government. One Way Analysis of Variance (ANOVA) was used to determine whether the enrolment differed by the type of lunch offered in the school. The results were not significant with $F(2,12) = .708$, $p > .05$, which essentially means that different types of lunch did not make a difference to enrolment. Consequently, parents bring children to study and rarely consider food quality in their placement of a child in school.

Challenges

When asked about the challenges to the school feeding programs, the head teachers gave responses which were categorized into four as shown in Table 2.

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Table 2 Challenges to Feeding Programmes

Challenge	Frequency	Percent
water	2	14.3
funds	9	64.3
illiteracy	1	7.1
firewood	2	14.3
Total	14	100.0

Source: Survey.

These responses represent the major challenges to the feeding programmes highlighted in Mwingi Central Sub-county. Funding for the school feeding problem was the biggest headache to head teachers in the preschools. Two schools cited water as a big challenge. In schools visited it was found that water was a significant expense as water was bought and poured into a storage tank. When no water was available the small children had to carry the water from home in plastic containers. Water is likely to be a challenge considering that Mwingi Central location is an ASAL with the heaviest rain water available in April and November when children are out of school (en.climate-data.org), and practically no precipitation in the second term of school. Firewood was also either bought or children brought pieces to school. Parents preferred to contribute materials than pay cash towards the school feeding programmes, but head teachers claimed children do not like carrying firewood and water to school in the morning. Parents either contributed funds to buy food stuffs or brought the food stuffs to school. Illiteracy mentioned by one head teacher seemed as a result of her frustration in convincing parents to contribute to the school feeding programme in time. In cases where, materials necessary for food production are not available, the children went without a meal.

Conclusions from the Study

This study looked at children enrolled in preschool vis-à-vis the types and amount of food offered in the school feeding program. Based on the findings of this study, the researchers found that the amount of food and type of food offered in preschools did not significantly influence the enrollment of preschool children. Part of the reason was that the school feeding programmes were organized very nearly the same, mimicking their bigger primary schools but at a smaller scale. The school feeding programmes have some way to go in their efficiency and effectiveness in addressing children nutritional needs. Based on the findings of this study, it is recommended that:

i. The county government should support preschool feeding programmes and participate in monitoring their efficiency. This measure would improve the enrolment of pre-schools.

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ii. Schools should provide softer food to children, possibly by offering them rice instead of maize, or the maize be chipped to make it softer for little children to eat after it is boiled.

iii. The national government intensify their effort on ensuring that preschool children are not deficient in Vitamin A that was likely to be missed in the regular preschool feeding programme diet in Mwingi Central location.

iv. Head teachers of schools be educated and supported to provide nutritious meals for children focusing beyond the immediate need of alleviating hunger.

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