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**SCHOOL FEEDING PROGRAMMES AND ENROLMENT
RATES OF PASTORALIST PUPILS IN PUBLIC
PRIMARY SCHOOLS MOYALE SUB-COUNTY,
MARSABIT COUNTY, KENYA****Adan Aliow Mohamed & Joyline Mugero Muchiri***Department of Education, Chuka University
P.O. Box 109-60400, Chuka***Corresponding Author****Abstract**

Enrolment of pastoralist pupils in public primary schools has been and is still low. To mitigate this challenge the Kenyan government has initiated a raft of measures, one of which is the school feeding programme. The purpose of this study was to determine the relationship between school feeding programmes and enrolment rates of pastoralist pupils in public primary schools in Moyale Sub-county, Marsabit County. The study employed correlation research design. Stratified random sampling was used to create two zones. Simple random sampling was used to select 10 schools from the two zones. From each selected school, a head teacher, 10 teachers, 22 pupils and three parents' representatives were sampled. A total of 10 head teachers, 100 teachers and 220 pupils participated in the study. Data was collected by use of a questionnaire. Validity of the instrument was established through expert judgment by the University supervisors. Reliability was established through test re-test technique and reliability index of 0.812, was established. Both descriptive statistics (means, standard deviation and percentage) and inferential statistics (linear regression) were used in data analysis. Statistical Package for Social Science (SPSS) version 21 was used to do analysis. The findings of the study indicated that there was an increase in enrolment rate of pastoralist pupils as a result of steady and consisted provision of meals. The study concluded that providing school meals increases enrolment rate of pupils. The study recommended that

government and other stake holders should continue providing feeding programmes to pastoralist schools in order to attract more pupils.

Key Words: School Feeding Programme, Enrolment Rate, Pastoralist pupils, School Meals

Introduction

Provision of primary school education for pastoralist pupils has faced numerous challenges ranging from infrastructural, poor participation characterized with poor enrolment, attendance, and transition rate (Grantham, 2007). Enrolment of pastoralist pupils in primary schools is always a concern for the parents, governments and other education stakeholders. The Kenyan government has initiated a raft of measures to improve enrolment, one of which is the school feeding programme (Grantham, 2007).

The objective of school feeding programme is to provide meals or snacks to reduce short-term hunger in classroom so that the pastoralist learners can concentrate and learn better (Strupp, 2005). In addition, it aims at attracting pastoralist pupils to school. Countries such as United States, United Kingdom and Sweden have government or non-government funded school feeding programmes. These programmes aim to provide free healthy diets to children and thereby improve school feeding programmes and academic outcomes. This has witnessed increased enrolment and retention of 12.5% (Wilson & Parnell, 2006).

According to (Olusanya, 2010), Nigeria launched home-grown school feeding programme aimed at improving the nutritional intake by at least 25 million children of school age. The program not only increased school enrolment of children in rural communities and poor urban neighborhoods, but also stimulated local food production and boosted the income of farmers. In Tanzania, Navuri (2011) asserts that school meals greatly impact recipient pastoralist pupils' education status by increasing school enrolment and attendance, decreasing drop-out rates, and improving cognitive abilities and learning achievements. Sending pupils to a school in which school-meals are served offsets the financial and opportunity costs of schooling, and thus families are incentivized to send their children to school (Navuri, 2011). These assertions affirm the fact that school feeding programmes may serve as an incentive for pastoralist pupils to go to school to receive food rather than missing out on food by staying at home.

According to (Recheet *et al.*, 2012), school feeding programmes in Kenya have been in place since 1980s, primarily to incentivize the enrolment and retention of rural children and thus this contribute to realization of universal primary education. It was initiated to promote pupil's enrolment, in northern region of the country. Studies by Espejo (2009) and Finan (2010) indicate that rural schools in Kenya that provide meals show higher enrolment rates than schools that do not. The Kenya Education Support Programme (2005-2015) provides an institutional framework by including school feeding programme initiatives as one of the components of school health. The 2008 National School feeding programmes and Food Security policies includes a section on nutritious meals for school-going children (Ministry of Planning and National Development, 2010). Despite these interventions of school feeding programmes, enrolment of primary school pupils in Moyale sub-county is still low. There is therefore need to interrogate the relationship between the school feeding programme and enrolment rates of pupils.

Objective of the Study

The objective of the study was to determine the relationship between school feeding programmes and enrolment rates amongst pastoralist pupils in public primary schools in Moyale Sub-county, Marsabit County, Kenya.

Study Hypothesis

The study was guided by the following hypothesis:

H0₁: There is no statistically significant relationship between school feeding programmes and enrolment rates amongst pastoralist public primary school pupils in Moyale Sub-county, Marsabit County, Kenya.

Methods and Materials

Research Design

Correlation research design was used in the study. This design involves collection of two or more sets of data from a group of respondents with an attempt to determine the subsequent relationship between those sets of data (Kothari, 2005). Correlational research is used to analyze the degree of relationship between two variables (Mugenda & Mugenda, 2005). In this study, an attempt was made to determine the relationship between school feeding programmes related factors such as availability of food, feeding patterns, number of meals on participation rates of pastoralist pupils in terms of enrolments rates in public primary schools.

Data Collection and Analysis

The target population for the study comprised of 34 Headteachers, 204 teachers, 442 parents' representatives and 5100 pupils all totaling to 5780 as shown in Table 1.

Table 1: Target Population

| Zones | Headteachers | Teachers | Parents' Representatives | Pastoralist Pupils | Total |
|---------------|--------------|----------|--------------------------|--------------------|-------|
| Butiye Zone | 24 | 136 | 250 | 3200 | 3610 |
| Gurumusa Zone | 10 | 68 | 192 | 1900 | 2170 |
| Total | 34 | 204 | 442 | 5100 | 5780 |

Source: Moyale Sub-County Education Office (2017)

According to sample size determination charts by Krejcie and Morgan (1970), the normal sample size for a population of 5780 is between 357 and 361. The study used a sample size of 360. Stratified random sampling was used to create two zones. Simple random sampling was then used to select 10 schools from the two zones. From each selected school, the head teacher was selected. Ten teachers were randomly selected from each of the participating schools. In the sampled schools which had less than 10 teachers, a census was done. Three parent representatives and 22 pupils from each selected school were selected randomly. This sampling procedure realized a sample of 360 respondents distributed as shown in Table 2.

Table 2: Sampling Grid

| Zones | Headteachers | Teachers | Parents' Representatives | Pastoralist Pupils | Total |
|---------------|--------------|----------|--------------------------|--------------------|-------|
| Butiye Zone | 7 | 66 | 17 | 139 | 220 |
| Gurumusa Zone | 3 | 33 | 13 | 81 | 140 |
| Total | 10 | 100 | 30 | 220 | 360 |

A questionnaire was used to collect data from the respondents. The questionnaire was divided into two sections: section A consisted of information on respondents' demographic profiles, while sections B contained information on enrolment on Likert type scale. To ascertain the suitability and the clarity of the questions in the questionnaire, a Pilot study was carried out amongst 36 respondents from Sololo Sub-county. The validity of the instruments

was assessed by supervisors and research experts in the department of education. Reliability of the instrument was estimated using the test retest method. The correlation coefficient obtained for head teachers, teachers, parent's representatives and pastoralist pupils' questionnaires were 0.849, 0.782 and 0.804 respectively. An average coefficient of $r=0.812$ was obtained which indicated high internal reliability. The questionnaires were therefore deemed to be reliable for use in data collection.

The researcher booked appointments with the headteachers, teachers and parents representatives of the participating schools. The researcher administered questionnaires during these appointments. Permission for students to fill the questionnaires was sought from the teachers who organized the convenient time for their administration. These were later collected by the researcher. Data was analyzed using both descriptive and inferential statistics.

Results and Discussions

Demographic Information

The study sought demographic information of the respondents which included gender and their level of education. The data was analyzed based on responses from 312 respondents.

Gender of the Respondents

The distribution of the respondents by gender is presented in Table 3.

Table 3: Gender of the Respondents

| Gender | Headteacher | | Teacher | | Parents | | Pupils | |
|--------|-------------|------|---------|------|---------|-------|--------|-------|
| | F | % | f | % | F | % | f | % |
| Male | 5 | 62.5 | 52 | 57.0 | 16 | 57.14 | 104 | 56.52 |
| Female | 3 | 37.5 | 40 | 43.0 | 12 | 42.86 | 80 | 43.48 |
| Total | 8 | 100 | 92 | 100 | 28 | 100 | 184 | 100 |

Table 3 indicates that 62.5% of the sampled headteachers were males and 37.5% were females. As for teachers, 57% of the respondents were males while 43% were females. 57.14% of parent representative were males, while 42.86% were females. 56.52% of the pastoralist pupils were males while 43.48% were females. This information revealed that there was gender parity in the study.

Respondents' Level of Education

The respondents were asked to state the level of their education. The results are presented in the Table 4.

Table 4: Respondents' Level of Education

| Level of Education | Headteachers | | Teachers | | Parents | |
|----------------------|--------------|------|----------|------|---------|------|
| | F | % | f | % | f | % |
| No Basic Education | 0 | 0.0 | 0 | 0.0 | 12 | 42.9 |
| Certificate | 2 | 25.0 | 40 | 43.5 | 7 | 25.0 |
| Diploma | 2 | 25.0 | 25 | 27.2 | 7 | 25.0 |
| Bachelor's degree | 4 | 50.0 | 15 | 16.3 | 2 | 7.1 |
| Post Graduate degree | 0 | 0.0 | 12 | 13.0 | 0 | 0.0 |
| Total | 8 | 100 | 92 | 100 | 28 | 100 |

From Table 4, 25% of the headteachers had Certificates, 25% had Diplomas and 50% had Bachelor Degrees. The level of education for teachers with Certificates, Diploma and Bachelor's Degree and Postgraduate Degrees was represented by the following percentages; 43.5%, 27.2%, 16.3% and 13.0 % respectively. As for parent representatives, 42.9% had No basic education, 25% had Certificates, 25.0% of them had Diplomas and 7.1% of the respondents had a Bachelor's degree level of education.

School Feeding Programme

Extent to which School Feeding Programme Promote Pupils' Concentration

The study sought to investigate whether presence of food affects pupils' concentration. The responses of the respondents are presented in Table 5.

Table 5: Extent to which Provision of Meals Promote Pastoralist Pupils Concentration

| Concentration level | F | % |
|---------------------|-----|-------|
| Very low extent | 8 | 2.6 |
| Low extent | 11 | 3.5 |
| Average extent | 59 | 18.9 |
| Great extent | 97 | 31.1 |
| Very great extent | 137 | 43.9 |
| Total | 312 | 100.0 |

Table 5 shows that 6.1% of all the respondents, agreed that the extent to which provision of meals promote pastoralist pupils concentration was very low. 18.9% agreed that it was of average extent, 75.0% of the respondents agreed that provision of meals promote pupils' concentration at a great extent. These results are in agreement with the assertions of Strupp (2005) that the objective of school feeding programme is to provide meals or snacks to reduce short term hunger in classroom so that the pastoralist learners can concentrate and learn better.

Pastoralist Pupils' Level of Happiness with School Feeding Programme

The study sought to determine the level of happiness that school feeding programme induce to pupils in pastoralist schools. The results are presented in Table 6.

Table 6: Level of Happiness of the Pastoralist Pupils

| Level of happiness | F | % |
|--------------------|-----|-------|
| Very low | 32 | 10.3 |
| Low | 51 | 16.3 |
| Average | 94 | 30.1 |
| High | 130 | 41.7 |
| Very high | 5 | 1.6 |
| Total | 312 | 100.0 |

Table 6 shows that 26.6% of the respondents indicated low level of happiness of pastoralist pupils, 30.1% average and 43.3 % pointed out that the level of happiness was high. These results lend credence to the assertions of Bundy (2008) that school feeding programme is a well-organized safety net that transfer significant value to household with pastoralist pupils enrolled in school or with school-age children.

Adequacy of Meals taken by Pastoralist Pupils

The study sought to determine the adequacy of meals taken by pastoralist pupils in schools. The results are presented in Table 7.

Table 7: Adequacy of Meals taken by Pastoralist Pupils

| Meal adequacy | F | % |
|-----------------|-----|-------|
| Inadequate | 19 | 6.1 |
| Very Inadequate | 20 | 6.4 |
| Moderate | 97 | 31.1 |
| Adequate | 119 | 38.14 |
| Very adequate | 57 | 18.26 |
| Total | 312 | 100.0 |

Table 7 shows that 6.4% of the respondents indicate the meal were very inadequate. 6.1% of the respondents revealed that meals provided was inadequate, 31.1% of the respondents revealed that meals provided was moderately adequate, 56.40% of the respondents indicated that meals provided was adequate. These results are in agreement with the assertion of WFP (2006) that provision of lunch at school provides a strong incentive to make parents take children to school.

Balanced Diet Provision in Pastoralist Schools

The study sought to investigate whether pastoralist schools provide balanced diet to pupils or not. The results are presented in Table 8.

Table 8: Levels of Agreement with Balancing of Diet

| Level of agreement | F | % |
|--------------------|-----|-------|
| Strongly disagree | 41 | 13.2 |
| Disagree | 94 | 30.1 |
| Not sure | 7 | 2.2 |
| Agree | 141 | 45.2 |
| Strongly agree | 29 | 9.3 |
| Total | 312 | 100.0 |

Table 8 shows that 43.3% of the respondents disagreed that the meals provided are well-balanced diet, 2.2% of the respondents were not sure, 54.5% of the respondents agreed that the meals provided are of well-balanced diet.

Agreement on whether School Runs smoothly when School Feeding Programme is Available

The study determined whether school runs smoothly or not when school feeding programme is available. The findings are represented in Table 9.

Table 9: School Runs Smoothly when School Feeding Programme is Available

| Level of agreement | F | % |
|--------------------|-----|-------|
| Highly disagree | 7 | 2.2 |
| Disagree | 23 | 7.4 |
| Not sure | 6 | 1.9 |
| Agree | 175 | 56.1 |
| Strongly agree | 101 | 32.4 |
| Total | 312 | 100.0 |

Table 9 shows that 9.6% of the respondents disagreed that the school runs smoothly when school feeding programme is available, 1.9% of the respondents were not sure, 88.5% of the respondents agreed that the school runs smoothly when school feeding programme is available. These results lend credence to the assertions of Ahmed (2004) that school meals increased the pupils' participation in school and improve performance as compared to their counterparts where feeding programmes were not available.

Frequency of Feeding Programme in Schools

The study investigated how frequently meals are provided in pastoralist schools. The responses are presented in Table 10.

Table 10: Frequency of Feeding Programme in Schools

| Food frequency | f | % |
|-----------------|-----|-------|
| Daily | 123 | 39.4 |
| After two days | 81 | 25.9 |
| Weekly | 52 | 16.7 |
| After two weeks | 37 | 11.9 |
| Monthly | 19 | 6.1 |
| Total | 312 | 100.0 |

Table 10 shows that 39.4% of the respondents revealed out that the meals are provided daily, 25.9% of the respondents noted that meals are provided after two days, and 16.7% of the respondents indicated that the frequency of providing meals is weekly. 11.9% of the respondents noted that meals are provided after two weeks, and 6.1% of the respondents pointed out that feeding frequency was monthly. These results are in agreement with the World Bank (2009) that there is need to provide adequate meals to children before and during the school day.

The School Feeding Programmes and Enrolment Rates

Enrolment Rate of Pastoralist Pupils in Schools

Respondents were asked to state the general enrolment of pupils in pastoralist schools. The results are presented in Table 11.

Table 11: General Enrolment of Pupils

| Enrolment rate | F | % |
|----------------|-----|-------|
| Very poor | 37 | 11.9 |
| Poor | 46 | 14.7 |
| Average | 135 | 43.3 |
| Good | 78 | 25.0 |
| Very good | 16 | 5.1 |
| Total | 312 | 100.0 |

Table 11 shows that out of the 312 respondents, 26.6% noted that the enrolment rate was poor, 43.3% noted that enrolment rate of the pastoralist pupils was average, 30.1% of the respondents indicated the enrolment of pastoralist pupils was good.

Extent to which Enrolment Rate is attributed to School Feeding Programme

Respondents were asked to state the extent to which enrolment rate is attributed to school feeding programme in pastoralist schools. The results are presented in Table 12.

Table 12: Extent to which Enrolment Rate is Attributed to School Feeding Programme

| Level of extent | f | % |
|-------------------|-----|-------|
| Very low extent | 29 | 9.3 |
| Low extent | 21 | 6.7 |
| Average extent | 93 | 29.8 |
| Large extent | 145 | 46.5 |
| Very large extent | 24 | 7.7 |
| Total | 312 | 100.0 |

Table 12 shows that 16.0% of the respondents noted that the extent to which enrolment rate is attributed to school feeding programme is low, 29.8% of the respondents indicated that the extent was average and 54.2% of the respondents noted that extent to which enrolment rate was attributed to school feeding programme was of large.

Relationship between School Feeding Programme and Pastoralist Pupils' Enrolment

The study sought to investigate the relationship between school feeding programme and enrolment rate of pupils in pastoralist schools. The results are presented in Table 13.

Table 13: Relationship between School Feeding Programme and Pastoralist Pupils' Enrolment Rate

| Relationship of SFP | f | % |
|---------------------|-----|-------|
| Strongly disagree | 9 | 2.9 |
| Disagree | 30 | 9.6 |
| Undecided | 67 | 21.5 |
| Agree | 156 | 50 |
| Strongly agree | 50 | 16 |
| Total | 312 | 100.0 |

Table 13 indicates that 12.5% of the respondents disagreed that school feeding programme has relationship with enrolment rate of pastoralist pupils, 21.5% of the respondents were undecided, and 66% of the respondents agreed that the school feeding programme has relationship with enrolment rate of pastoralist pupils. These results are in agreement with Ahmed and Ninno (2002) that school feeding programme impacts on enrolment.

Test of Hypothesis on Relationship between School Feeding Programme and Enrolment Rate in Schools

The study sought to test the hypothesis that there is no statistically significant relationship between school feeding programme and enrolment rate among pastoralist pupils in public primary schools in Moyale Sub County, Marsabit County. The analysis of variance was carried out and results are presented in Table 14.

Table 14: Analysis of Variance on Relationship between School Feeding Programme and Enrolment Rate

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|--------|------|
| 1 | Regression | .9197 | 1 | 9.197 | 57.194 | .000 |
| | Residual | 58.053 | 311 | 0.161 | | |
| | Total | 67.250 | 312 | | | |

a. Dependent Variable: Enrolment Rate of Pastoralist Pupil

b. Independent Variable: School Feeding Programme

From the Table 14 the results indicated that the model was significant at an F-statistic value of 57.194 with a p-value of $0.000 < 0.05$. Therefore, the null hypothesis that there is no significant relationship between school feeding programme and enrolment rate was rejected. Therefore, there was a significant relationship between school feeding programme and enrolment rate. These results are in agreement with Bundry (2008) that School feeding programme is a well-organized safety net that transfers significant value to household with pastoralist pupils enrolled in school or with school-age children.

To further test for the hypothesis, linear regression was carried out as shown in Table 15.

Table 15: Coefficients of Variables on Relationship between School Feeding Programme and Enrolment Rate

| Model | | Unstandardized Coefficients | | Standardize Coefficients | t | Sig. |
|-------|---|-----------------------------|------------|--------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.585 | 0.223 | | 11.587 | .000 |
| | Relationship between feeding and enrolment rate | 0.380 | 0.050 | 0.370 | 7.563 | .000 |

Independent Variable: School Feeding Programme

The obtained $p = 0.000$ and $t = 7.563$, $0.000 < 0.05$ and $7.563 > 2.00$ therefore, the null hypothesis that there is no statistical significant relationship between school feeding programme and enrolment rate was rejected. The results are in agreement with Navuri (2011) that school meals greatly impacts recipient's to pastoralist pupil's education status by increasing enrolment rate.

Conclusion and Recommendation

Conclusion

Based on the objective of the study on enrolment rate, it was noted that there was increase in enrolment rate of pastoralist pupils because of steady and consistency in provision of meals by World Food Programme to schools in Moyale Sub-County. It was also noted that provision of meals act as a strong incentives to make parents take their children to school. Providing school meals increases the enrolment rate of pupils who may not have enrolled previously due to malnutrition related social health factors. Therefore, school feeding programme has relationship with enrolment rate.

Recommendation

The study recommended that government and other stakeholders should continue providing school feeding programme to pastoralist schools in order to attract more pupils to schools especially in socio economically disadvantaged regions.

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