

The Relationship Between Adequacy of Facilities and Teachers and Enrolment in Low-Cost Boarding Primary Schools in Kajiado County

Onesmus Kiminza
Catholic University of Eastern Africa
Department of Education

Majority of the ASAL counties have continued to register a Net enrolment Rate of below 50%; against the best performing County of that posted NER of 107.5% (2016). The County of Kajiado had a NER of 79.1% in 2016 which is below the national average of 91.1%. There was, therefore, need to evaluate the (Low Cost Boarding Schools) LCBPs program in Kajiado County to propose strategies that respond to the educational needs for Nomadic-pastoral communities. Eleven (11) of the (392) Kenya's LCBPs were in Kajiado County with an enrolment of 4,176 in 2016 and were under enrolled by the national standards. This process evaluation of the LCBPs used a combination of sequential mixed method, cross sectional and case study designs. The sample of the study was drawn from all pupils, teachers and head teachers in low-cost boarding primary schools in Kajiado County. Education officials and representatives of development partners supporting provision of education in Kajiado County provided useful information. Data was collected using questionnaires, interview schedules as well as observation of facilities. The findings of the evaluation established that LCBPs their present form did not respond to the educational needs of the nomadic and pastoral communities of Kajiado County. The schools were underfunded, had inadequate facilities, understaffed with teachers and other support staff. The food served was of low quality and inadequate. The study tested several hypotheses to support the findings. The test on relationship between the level of adequacy of facilities in the LCBPs and enrolment in Kajiado County showed a statistically significant relationship between the adequacy of electricity (Coeff = 0.001115; $p = 0.019$) and water (Coeff = 0.001252; $p = 0.013$) and enrolment. The relationship between the number of teachers in LCBPs and enrolment in the LCBPs in Kajiado was tested and showed a marginal relationship between the number of teachers and enrolment. However, these relationships were not statistically significant. This study recommends funding of LCBPs using a rationalised unit cost of maintaining a child in the school; Introduction of a national educational levy from resources generated by the nomadic production system and application of a multi-sectoral approach in the provision of educational services the nomadic pastoral communities.

Keywords: Low cost of schools, pastoral community, nomadic enrolment, facilities

Introduction

Kajiado is categorised as one of the 29 Arid and Semi-Arid lands in Kenya based on the national policy for sustainable development of the arid and semi-arid lands (Republic of Kenya, 2012). The ASAL counties have the lowest development indicators and the highest incidence of poverty in Kenya. The regions are characterised by extremely elevated temperatures, low and erratic rainfall which varies in both space and time. The ASALs (Arid and Semi-Arid Lands) also have varied ecological characteristics with pockets of mixed rain fed and irrigation agriculture. These regions also host protected areas such as game reserves, national parks and forest areas.

The communities living in the ASALs maintain a strong social system of resource sharing, borrowing, lending and gift exchange. The communities enjoy a well designated and extensive institutional cooperative framework for sharing resources and redistributing livestock when some members of the community lose their livestock to drought, disease or theft. Most of the ASAL population is organised into extended families and clans, which support each other during times of hardship (Republic of Kenya, 2012). These social structures are useful in planning education provision.

Kajiado County is in the southern range of Kenya with an aridity level of 30% to 84%. It comprises of 5 sub-counties namely Isinya, Kajiado Central, Kajiado North, Loitokitok and Mashuuru with an estimated population of 1, 117, 840 (about the population of Montana) people. It is occupied by the Maasai community whose dominant livelihood is pastoralism. People from other communities have settled in the county and started to influence the lifestyle of the pastoralists by engaging in Agriculture (Kenya National Bureau of Statistics, 2019).

Kajiado County is cosmopolitan with diverse economic activities that include pastoralism, agricultural farming, mining and tourism as well as small and large-scale businesses. The County experiences a bi-modal rain pattern and is categorised

as semi ASAL County.

Kajiado County like other ASAL and Semi ASAL Counties have not fully benefited from the governments general provision of educational interventions because of the nomadic and pastoral lifestyle of its inhabitants. The County chief Education officer – Kajiado explained that educational provision in the County is affected by a myriad of factors that include:

- Extreme poverty index
- Prolonged drought
- Cultural barriers
- High levels of illiteracy among adult population
- Mobile nature of the population
- Poor road network and high rural-urban migration
- Few schools scattered across the County leading to long distances to school

(County Chief Education Officer, 2016)

In efforts to achieve the national, regional and international commitments of providing quality education to all citizens, the Government of Kenya over time took affirmative action to ensure the minority and marginalised populations are provided with special opportunities in educational and economic fields. The first and the second National Development Plans of 1970-1974 & 1974-1978 committed the Government to provide budgets for establishment and support low-cost boarding primary schools (Republic of Kenya, 2012) (Republic of Kenya, 1970 & 1974). This initiative has continued to be supported by most of the educational commissions and committee appointed in Kenya since the second National Development Plan.

After the second National Development Plan, the Government of Kenya initiated national policies to support provision of education to the vulnerable groups including the nomadic and pastoral communities. There is no evidence that these interventions addressed the real factors inhibiting education access for children from nomadic and pastoral background. For instance, the capitation grants provided to all learners assumed a fixed

school for children and did not attract learners whose parents were moving with animals in search of pasture and water as observed by Dyer, 2015.

Statement of the Problem

The Low-Cost Boarding Primary Schools (LCBPs) were established in Kajiado County to address the challenges of educational access by children from the nomadic and pastoral communities living in the County. The LCBPs in Kajiado enjoy Government support of a capitation grant for boarding and a further per pupil grant per year for support staff in addition to the capitation provided for every child for instructional materials and repair and maintenance. It is estimated that 21% of school going age children are out of school in Kajiado County while all the LCBPs are under enrolled (Republic of Kenya, 2019). Despite the heavy Government and community resource investment, over time the enrolment of children from the local nomadic and pastoral communities has remained low and varies from school to school. Similarly, there is no evidence of any evaluation of the low-cost boarding programme in Kenya to ascertain whether it is achieving its intended purpose of serving the nomadic and pastoral communities as anticipated by the program objectives at inception.

Several studies have shown that facilities and number of teachers available at a school affect both quality of teaching and attendance rates. However, no study has examined the relationship between adequacy of facilities and number of teachers and enrolment at low cost boarding schools. Therefore this study investigated the relationship between adequacy of facilities and teachers at low cost boarding primary schools in Kajiado County and enrolment.

Research Questions

The study was guided by the following research questions:

1. To what extent are low cost boarding primary schools in Kajiado County achieving the objectives they were started to achieve?
2. To what extent are facilities in low cost boarding primary schools in Kajiado County adequate?
3. To what extent are teachers in low cost primary schools in Kajiado County adequate?
4. Is there a relationship between the level of adequacy of facilities and enrolment at low cost boarding primary schools in Kajiado County?
5. Is there a relationship between the number of teachers in a low cost boarding primary school in Kajiado County and enrolment?

Research Hypotheses

The paper also isolated the following hypotheses derived from the operational framework of the evaluation and were tested to determine the extent of relationship between the various variables in the evaluation.

H_1 : There is a relationship between the level of adequacy of facilities (water and electricity) in a low cost primary school in Kajiado County and enrolment at the school.

H_2 : There is a relationship between the number of teachers in a low cost boarding primary school in Kajiado County and enrolment at the school.

Significance of the Study

The findings of this Low Cost Boarding Primary Schools (LCBPs) have remained the best option for the provision of education in the regions prone to insecurity and practising pastoral and nomadic lifestyle. The findings of this study therefore provide information that helps to fill in the knowledge gap on the status of implementation of the programme. It also brings out the factors that affect the enrolment in LCBPs under the present arrangements and propose strategies to address the challenges. The study also examines the challenges faced by the management in operationalisation of the LCBPs in Kajiado County.

The findings of the study bring out internal inefficiency in the management of LCBPs as serious inhibition to access. It further advocates for referencing provision of education to nomadic and pastoral communities to their very strong social and administrative structures. Finally, the study provides information to policy makers on the LCBPs to support in making informed decisions on the LCBPs program in Kajiado County.

Theoretical Framework

This study is grounded in the human capital theory. The theory propagates the role of education in general development of society as well as in developing human capital using the existing social structures as they relate to the administration of societies (Schultz, 1971).

Strengths of Human and Social Capital Theories

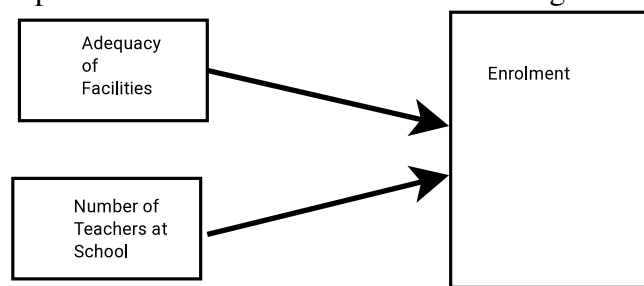
Human capital assumes that formal education is an instrument in production capacity of a population and an educated person is a productive person. It also holds that expansion of education accelerates economic growth and development. It further presupposes that an educated population is innovative and spurs development. Education contributes to improving people's lives and reducing poverty; helps people to become more productive and earn more, improves health and nutrition and promotes social development through strengthening social cohesion. While this is generally true it needs to be treated with caution when it is being applied in communities that have not been exposed to new ways of doing business. The policy makers need to undertake social mobilisation to progressively engage the opinion leaders within the nomadic and pastoral communities to sensitise them on the values of the education and relate education to their way of life.

On the other hand, the social administrative structures of the nomadic-pastoral communities provide the necessary bonding for the communities

to guide new generation on knowledge already accumulated by the previous generations. New generations learn how existing knowledge should be used to develop new products for the benefit of society. The appeal of the Human Capital Theory is based on assumed economic returns on investment at micro and macro levels. There is a mismatch between skills acquired through education as currently provided and the practical skills required by communities and hence the non-schooled nomadic children perform prescribed traditional tasks better than their schooled nomadic children. The educated nomads are not easily accommodated in the nomadic economies. This is a strong consideration in planning education for nomadic and pastoral communities.

Conceptual Framework

The following conceptual framework was used to guide the study in data collection and analysis and presentation and discussion of the findings.



Research Design and Methodology

This process evaluation study used a combination of mixed-method sequential explanatory, cross-sectional and case study designs. The blending of these three designs supported each other in exploring the environment in which the low-cost boarding primary school program was implemented in Kajiado County. According to Creswell (2003), the mixed-method sequential explanatory design entails collecting and analysing first quantitative and then qualitative data in two consecutive phases within one study. Both data sets were given equal weight, quantitative data was initially analysed and the results used to qualitative data and in-

tegrated during the interpretation phase to answer the research questions.

Sample and Sampling Procedures

Schools and teachers were sampled using the stratified random sampling procedure. Purposive random sampling was used in the qualitative strand.

Data Collection Instruments and Procedures

This study used the following data collection instruments, questionnaire, interview guide and a rating scale. The decision on the type of instruments was based on the type of data required to respond to the evaluation questions and hypotheses. Observation check list was developed and used to guide in identification of facility availability at school level.

Data Analysis

Data collected was analysed using appropriate analysis techniques. Qualitative data was coded and collapsed to establish emerging themes or patterns in relationship to the evaluation questions and hypotheses.

Quantitative data was coded, summarised and analysed using both descriptive and inferential statistics. Emerging trends were related to the evaluation questions; data was interpreted and reported appropriately. Statistical Package for Social Sciences (SPSS) was used to analyse data using frequencies, percentage, means, standard deviation, regression analysis tests were applied to test hypotheses.

Results

Whether the Objectives of LCBPs were being Achieved

This study sought to establish whether the respondents were aware of the objectives of the low-cost boarding schools' program in Kenya and

whether the objectives were being achieved. Majority of the head teachers and opinion leaders reached and listed the objectives of establishing LCBPs as follows:

To improve retention of pastoral-nomadic children in school	Retention of pupils in school
To enhance access to education for ASAL children.	Improve participation Education
To reduce dropout from school.	Rescue girls from retrogressive cultural practices.
To ease the burden of having to look for schools on parents.	Improve quality of education.
To accommodate children as families, move from place to place looking for pasture and water.	Reduce distances travelled by children to school and back.

From the responses given by the respondents, it was clear that they knew the objectives of establishing LCBPs in Kajiado County.

The respondents were further asked to indicate which objectives were achievable and they indicated that all the objectives were achievable but most of them were not being achieved. When probed for reasons why the objectives were not being achieved, they gave the following explanations:

- Facilities including infrastructure particularly dormitories were inadequate hence limited access.
- The LCBPs were greatly understaffed with both teaching and non-teaching staff compromising the quality of services provided.
- Performance in KCPE was below average in majority of LCBPs because of understaffing and inadequate teaching learning materials.
- Food was inadequate and of low quality making the school environment unfriendly.
- Schools charged levies to all children irrespective of background thus defeating the inten-

tion of Government in establishing LCBPs targeting poor children from nomadic communities.

- Condition for admission of all children to LCBPs was pegged on ability to pay the charges hence making the schools out of reach for children from nomadic background.

The respondents were further asked to indicate in their view what should be done to achieve the objectives of LCBPs and they gave the following proposals.

- Increase the Government funding.
- Employ more teachers and support staff.
- Include all LCBPs in the School Feeding Program and make it more regular.
- Improve infrastructure and other facilities in the LCBP schools.
- Disburse capitation grants on time.
- Resource the LCBPs adequately and eliminate levies charged on learners.
- Improve the diet provided to pupils in the LCBPs and increase the quantity of food.
- Engage the communities to enrol children in school.

The respondents were further asked whether the objectives were realistic, and indicated that while the intention of establishing low-cost boarding schools was appropriate, the government has not developed a clear funding framework for operationalization of the LCBPs. The schools were seriously under-resourced. There was no rationalised budget informed by empirical evidence on the actual cost of keeping a child in a boarding school. One opinion leader from one of the NGOs supporting provision of education in the country observed that “The school boards of management resulted to charging parents fees to fill in the funding gaps because as long as children are enrolled the school management will have to keep them in school and they cannot be maintained on government grants because they are inadequate.”

Based on the information provided by the respondents and figures provided as funding levels, there are indications that the objectives of establishing LCBPs are unrealistic because develop-

ment plans, policy guidelines and subsequent budgets did not allocate adequate resources to actualise the LCBPs plan as articulated in Government plans.

The education field officers in their response indicated that the LCBPs were under resourced because the capitation to LCBPs is not rationalised and the Government has not revised the capitation grant in line with raising the cost of living and increased enrolment. One sub-county director of education in Kajiado said, “The Government has continued to provide support to a fixed number of LCBPs leaving out any newly established schools. The pupil’s capitations for LCBPs are based on the 1970 projections which were not appropriately rationalised and have not been revised in line with changing market trends. Registration of new LCBPs should be based on available funding and number of children. New LCBPs have been established when the existing ones are under enrolled. The MoE has continued to share the amounts allocated to the first lot of LCBPs with new upcoming LCBPs affecting the quality of services provide at school level.”

Information from head teachers indicated that the support staff salaries allocation have remained as low as of Kshs 3000 per month as of 2018. This is extremely low in relation to the recommended minimum salaries for domestic workers which have been pegged at between Kshs 7240.95 – Kshs 8636.30 per month according to the regulation of wages.

One head teacher of one of the boarding schools remarked, “Even with this low salary the funds are not released regularly, we have not paid our workers for the last two months and we are not sure when the Government will release the funds, these people you see here are very frustrated. We just plead with them to continue providing the services hoping one day their salaries will be reviewed upward and funds to school made available on time.”

Based on the information adduced from the respondents while the idea of establishing LCBPs was not a noble one, there are no funding criteria

developed based on realistic assessment of the how much it will cost to establish and operationalise LCBPs in Kenya. This scenario affects the morale of both teaching and the support staff as well as the quality of life in LCBPs and the enrolment of learners.

Respondents were asked to indicate the level of adequacy of facilities in a scale of 1-5, 1 being very inadequate and 5 showing very adequate. The respondents indicated that majority of schools did not have adequate facilities. Out of the seven schools visited, all of them indicated that their facilities were greatly inadequate. One boarding master in one of the schools said, "If there is one thing the Government has not rationalised, it is the provision of boarding facilities in majority of the LCBPs. Walk to any and you find the situations in the dormitories really bad."

During the observation of facilities and interviews with teachers on the facilities, it emerged that some pupils shared a bed and a mattress. School dormitories were congested and some mattresses were torn as can be seen in the photo-1 of a dormitory in one of the schools visited. Based on the information obtained from the observation of facilities in the LCBPs there were instances where pupils slept on the floor of the dormitory. The mattress stalked on one of the beds in the photo shows that they were perhaps the ones children slept on the floor at night.

When asked whether parents were aware of the pupil's living conditions in the dormitories, a teacher from one of the schools said, "I am not sure because parents were only allowed access up to the head teacher's office during school visit. But I think they talk to their children, so I suppose they are aware of the living conditions in the dormitories."

Living conditions in dormitories of schools visited for the evaluation were bad. Similarly, there were a few LCBPs that had no dining hall and learners took their meals under trees or in the classrooms in case of rain. In other schools the water taps were dry and when asked where they got their

water from a matron said, "The children fetched water from a nearby stream after school." This situation makes life hard for children because they must spare time to draw water for the school's domestic use and their personal use.

When asked who provided the basic resources to support the boarding cost in the LCBPs, all schools indicated that parents and the school community provided for the classrooms, dining hall, dormitories, beds and mattresses. This scenario negated the initial concept of starting low-cost boarding schools' program where the Government and the Development Partners committed to provide infrastructure. In all the schools visited the management boards had initiated additional charges for boarding inputs on all children to supplement the Government grant.

According to information from the respondents, the LCBPs are highly under provided and are unable to enrol pupils from the local nomadic communities because most of them are unable to pay the required charges. To date LCBPs in Kajiado County have admitted children from non-nomadic regions to fill in places otherwise made for locals. These children are admitted at a fee though not commensurate to the total cost of keeping a child in a boarding school. Such children are also supplemented by government grant at the expense of the children from nomadic pastoral background who do not enrol.

One head teacher from one of the LCBPs said, "We admit children in LCBPs from outside the nomadic areas to fill in vacant places not taken up by children from nomadic communities because many nomadic children are not presented for enrolment and the schools are uneconomical to operate with low enrolment. Worse still those children enrolled from nomadic communities often drop out of school."

In most of LCBPs visited however, these facilities are provided by parents and communities who in most cases are unable to afford to pay the required funds and in return the schools provide the bear minimum facilities to facilitate registra-

tion. The LCBPs are hardest hit because in the first place they are situated in regions where the communities are nomadic-pastoralists and do not traditionally prioritise provision of sanitary facilities because of their migratory lifestyle.

Low cost boarding schools were predominantly established to address the challenges of educational access and participation of children from pastoral and nomadic backgrounds. Enrolment in LCBPs in Kajiado County shows serious disparities and enrolment varies from 854 pupils per school to 237 as at 2016 giving a mean class size of between 54 (2 streamed schools) and 28 pupils in (single streamed schools).

Relationship between the Level of Adequacy of Facilities (Water and Electricity) in the LCBPs and enrolment in Kajiado County

The third evaluation question sought to determine the relationship between the level of adequacy of facilities (water and electricity) and enrolment in LCBPs in Kajiado County; it showed that schools with water and electricity had higher enrolment than those without these facilities.

The Relationship between Number of Teachers in a Low Cost Boarding Primary School and enrolment

The researcher wanted also to know whether there was a relationship between the number of teachers in a low cost boarding primary school and enrolment at the school. Information from head teachers showed that there is a positive relationship between the number of teachers and enrolment. This implies that the government should do everything possible to improve the teaching staff levels in all LCBPs.

A regression analysis between adequacy of various facilities and enrolment showed a statistically significant relationship between the adequacy of electricity (Coeff = 0.001115; $p = 0.019$) and water (Coeff = 0.001252; $p = 0.013$) and enrolment. This indicates that facilities available at low cost board-

ing primary schools are related to enrolment. The researcher also wanted to find out whether there is a significant relationship between the number of teachers at LCBPs and enrolment. The researcher advanced the following null hypothesis.

H_{02} : There is no significant relationship between number of teachers in a low cost boarding primary school and enrolment.

Tests of Hypotheses

The researcher wanted to know whether the relationship between adequacy of facilities and enrolment is statistically significant. He advanced the following null hypothesis:

H_{01} : There is no significant relationship between adequacy of facilities (water and electricity) in the LCBPs and enrolment, the number of teachers at a low cost boarding primary school and enrolment. A simple linear regression analysis showed that the observed relationship was not significant.

Conclusions and Recommendations

Most objectives of low cost boarding primary schools were not being achieved because of inadequate facilities and shortage of teachers.

Based on the findings of the study the following recommendations are made:

1. There was need to review the concept of establishing LCBPs and enrich it to an institutional framework to guide the standards of resources, cost and sources of resources including strategies for social mobilisation of stakeholders and households. Such institutional framework was to facilitate mobilisation of nomadic and pastoral communities to participate in the planning of education for ownership and enable the Government and development partners to adequately resource the LCBPs with human, facilities and equipment for decent boarding living conditions.

2. Rehabilitated and equipped the already established LCBPs and enhance the facilities that resonate with the needs and aspirations of the nomadic-pastoral way of life. The operations of

the low-cost boarding schools need to be monitored and supervised more closely for improved quality and standards of education.

3. Review that staffing levels of LCBPs, deploy successful institutional managers and incentivise them and teachers willing to serve in the ASAL Counties for improved management of LCBPs.

4. Explore and initiate discussions with local opinion leaders on integration of the Islamic Religious programs of the Madrassa and Duksi to the secular curriculum to allow children who attend the mandatory early morning religious teaching to easily transit to secular curriculum.

5. The Government and partner to explored modalities of expanding school feeding programs to all children in nomadic communities to supplement the school's food supply.

6. Establish a data base with real time data updates for the children of nomadic and pastoral background to facilitate appropriate planning by both Government and partners.

7. Use educated elite from the nomadic-pastoral communities as role models on the value of education.

8. Establish structures for orientation of teachers deployed to ASAL regions on the nomadic culture and encourage the communities to accept them.

9. Adopt a more realistic funding formula for LCBPs and enhance the capacity of the Boards of Management (BOMs) for improved accountability at school level.

10. Establish a clear coordination and account-

ability framework for all partners funding education in the ASAL to reduce duplication of funding.

11. Review the operational framework of the National Council for nomadic education to reinvigorate its service delivery on its mandate. The National Council for nomadic education could work with county education boards to develop the 10% county curriculum contribution as provided by the 2015 national curriculum reform policy and support teachers in-service training to seamlessly integrate the County specific curriculum to the teaching of the national curriculum.

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