EFFICIENCY IN UTILIZATION OF SCHOOL RESOURCES AS A COST SAVING MEASURE IN PUBLIC SECONDARY SCHOOLS IN NAIROBI COUNTY, KENYA

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ABSTRACT
This paper discusses efficiency in utilization of school resources as a cost saving measure in public secondary schools in Nairobi County, Kenya. The objective was to establish the extent of efficiency in utilization of school resources as a cost saving measure in public secondary schools in Nairobi County, Kenya. The research employed descriptive survey design. The research instruments used were questionnaire, interview and document analysis guides. Validation of both instruments was done by the expert judgment review by supervisors from the Department of Educational Administration and Planning of the University of Nairobi. Descriptive statistics was used to analyze the data. It was concluded that there was efficiency in utilization of school resources as a cost saving measure. It was recommended that the Ministry of Education, Science and Technology should strengthen the monitoring and supervision of the management of funds in schools through annual audits and impromptu audit inspection.

Key Words: Cost, Efficiency, Resources**,** Utilization

1. INTRODUCTION

Background to the study

Ayot and Briggs (1992), noted that all over the world over the years countries have experienced rising costs of education. The ever growing demand for education, the resultant expansion of education systems, rising costs in education because of inflation and the need for more and more sophisticated equipment have all led to massive increase in spending in education all over the world. However, the rising costs of education are more of a burden in developing countries as compared to developed countries that is GDP is relatively high. The budget for education in Sub Saharan Africa has been on the increase. In 1960 the world spent 3.2 percent of the world GNP on education.

In 1974 the world spent 4.8 of the world GNP on education. The cost of education has therefore been on the increase due to various factors like inflation, modern technologies, expansionary trends by the government and population explosion. UNESCO (1989), indicated that America, Cuba and Germany's public expenditure in education as a percentage of the GNP was more than 9 percent while Kenya's was 4 percent. Kenya's 4 percent, however, represented about 35 percent of the government's current expenditure which is a very high population compared with others. There

is therefore, need for countries especially developing ones to efficiently utilize available resources to help minimize the increasing expenditure in education. Finance, manpower and physical facilities should be efficiently utilized to minimize costs. This may also enhance access to education and savings made could be used to improve the quality of education. Kenya has one of the highest ratios of education and training expenditure in Africa as reflected in Table 1.

Table1: Public expenditure on education as a percentage in both government expenditure and GNP in selected African countries 1995

Country	**Public expenditure in education**			**Gross enrollment (%)**	
	Real per capita GDP (PPP)	**% of** total **government expenditure**	**% of GDP**	**Primary**	**Secondary**
Botswana	5, 367	20.5	9.6	115	56
Burundi	608	–	2.8	70	7
Comoros	1, 366	21.1	3.9	78	19
Egypt	3, 846	13.8	5.6	100	74
Ethiopia	427	13.0	4.7	31	11
Gambia	938	16.0	55.0	73	22
Kenya	**1, 404**	**23.7**	**7.4**	**85**	**24**
Lesotho	1, 109	-	5.6	99	28
Malawi	694	15.0	5.7	13	5 6
Mauritius	3, 172	17.3	4.3	107	62
Morocco	3, 681	22.6	5.6	83	39
Namibia	4, 027	21.3	9.4	133	62
Senegal	1, 596	33.1	3.6	65	16
South Africa	4, 291	20.5	6.8	117	82
Swaziland	2, 821	21.7	8.1	122	52
Tanzania	656	-	-	67	5
Zambia	962	-	1.8	89	28
Zimbabwe	2, 196	-	6.5	116	44

Source: UNESCO's Publication, World Education Report 1998

The data in Table 1 shows the nearest comparator countries in terms of real per capita GDP such as the Comoros, Lesotho and Senegal spent far much less of their GDP on education while countries like Egypt, Morocco and South Africa whose percentage GDP allocations are a comparable to Kenya's have almost twice as high as real capita GDP. Ministry of Education, Science and Technology share of GDP at 7.4 percent is high against a background of prevailing declining economic growth and increasing household poverty.

World Bank (1988), stated that there is substantial potential in most countries to reduce unit costs at the secondary level by improving efficiency within the existing system. African leaders need to implement firm policies in this regard. Given the high demands on public resources in Africa and the competing claims of these resources by other parts of the education system, the key to satisfying the high demand for secondary education in Africa is cost sharing at this level combined with substantial reductions in costs. Reduction in unit costs is achieved through efficiency in utilization of resources.

UNDP (1991), noted that Human Development Report showed that the opportunities for cost saving are considerable in education. The report revealed that a study for the World Conference on Education For All considered that, a feasible package of reforms could reduce the recurrent costs of education systems by 25 percent. The percentage consists among measures to reduce repetition, more efficient use of community resources, multiple shifts, selective increase of class sizes and some reduction of costs of recovery at the tertiary level. The quality of education should never be sacrificed to obtain savings in unit costs.

Ayot and Briggs (1992), asserted that boarding costs is a major element among other costs other than teachers' salaries. Other costs include school operations, school equipment and purchase of books. Looking at boarding schools costs in relation to day schools, it is observed that without boarding schools, government could at least double the number of students covered for the same amount of funds expended for both capital and recurrent costs.

World Bank (1995), pointed out that the transition from a system of boarding schools to one of secondary day schools is another approach to reducing both the capital and recurrent costs of secondary education. It adds that the government expenditure per a student tends to be much higher in boarding than day schools for example by as much as three and a half times in Somalia. The result is that for a given amount of money the government can offer much fewer places.

Wolf (1984), stated that today with cost sharing policy adopted, most governments have left most boarding costs to be met by the beneficiaries. Costs made through higher student-teacher ratio, considerations should be given to utilize a portion of savings to provide teacher support services such as laboratories, libraries and workshop assistants, duplicating machines and other teaching aids.

Kamunge (1999), recommended that single and double streams secondary schools be expanded to a maximum of three-stream schools as a more effective way of increasing enrolment. The schools will increase enrolment and also more economical to run in terms of optimum use of teachers and school facilities. However, the expansion and increase in enrolment should be up to optimal size. Beyond optimal size savings start decreasing.

Nafukho (1992), carried a research in which he established that the optimal size for secondary schools in 1989 in Kakamega District was 574. He concluded that at this level of enrolment schools in Kakamega District would be able to lower units cost. Consequently, the findings revealed that economies of scale were a reality in the operations of secondary schools in the county. Savings that would be realized by increasing enrolment from 250 to 500 would be Kenya shillings 635.25 per pupil. If the school size exceeds the optimal size, fewer savings would be realized. Heyneman (1994), argued that among the options for future of education in Europe and Central Asia regions is more efficient use of current resources. This can be achieved by rationalizing and downsizing the number and variety of programmes duplications, sharing common facilities across neighbouring institutions such as libraries and laboratories using rewards to encourage and reward good institutional management and by reducing wasted time.

Republic of Kenya (1993), indicated in Sessional Paper No. 6 outlined the need to cost efficiently use resources at the disposal of schools including land, teachers, time, facilities and equipment to bring about efficient provision of quality and relevance in education. UNDP (1991), noted that to use teachers with less formal training and to seek more help from the community. In Senegal assistant teachers have been introduced in greater numbers, their salaries are well below those of regular teachers yet the quality of education has not fallen. In Columbia too increasing the role of teacher helpers has reduced the cost of education. World Bank, 1974), indicated that in a study in a Latin American country students do as well as when studying under normal school trained teachers as they do when they are taught by university

graduates. However, care has to be taken especially in subjects and areas which require specialized staff at secondary level.

UNDP (1991), argued that achievement tests show no significant difference between children in classes of 25 and those in classes of 40. World Bank (1974), noted in Education Sector working Paper, advocates effective utilization of teachers and points out that the research findings tend to challenge some of the assumptions concerning the relationship between class sizes, level of training of teachers and student achievement. In a study on student achievement in secondary schools in some twenty countries including four developing ones, it was reported that there was no significant correlation between class size (within reasonable ranges) and student performance in certain subjects. It may also be argued that providing learning materials including textbooks to larger classes is a better alternative to improving performance that reducing the class sizes. The Republic of Korea and Singapore, for example, maintain an average class size of more than 40 in basic education. Although this may seem high, it enables resources to be assigned to other inputs such as books, materials and computers. Education research across a large range of countries support the view of Korea and Singapore that this trade off is cost effective. Lowering average class sizes below 40 should not be a priority use of resources in low-income countries.

World Bank (1995), observed that establishing an education infrastructure that provides access to good education for all students is made more expensive by inefficiencies in the flow of students which is caused by dropouts and repetition. When students repeat grades, extra resources are required for them to complete the primary school cycle. This primary situation may be similar to secondary school level. Heyneman (1994), has similar views. Dropouts and repetition are costly in terms of resources required to produce a successful graduate of the system. The cost of education in Vietnam for instance could be reduced to the extent that “flow through efficiency” is improved by reductions in dropouts and repetition rates.

World Bank (1988), argued that there is potential in many African countries for development and use of new designs that meet minimum standards but are much cheaper than those typically used at present. The use of local materials reduces building costs. Greater reliance of local materials is also a way of improving the quality of construction. For example in Niger, the cost of a classroom made of concrete is five times that made of “banco”, the most commonly used

construction materials in rural areas, yet the latter is cooler in summer and warmer in winter than the former. Republic of Kenya (1993), noted in the KESI Conference, cost effectiveness and cost reduction is realized through ensuring that quality goods are ordered and received from the cheapest suppliers, procuring when in season and storing safely for use, stores accountability and thrift/careful use for the purposes for which they are ordered for and effective procedures for issue, repair and replacing appropriately.

Koech Report (1999), pointed out that compared with other countries in the region. Kenya spends considerably more in Education in relation to the total government spending. In addition, the proportion of the GDP spent on education is much higher for a country at her level per a capita income It is possible to improve outcomes in the education sector without increasing the share of government expenditure on education by improving efficiency in the utilization of resources. The report therefore, recommended that the budget of the Ministry of Education, Science and Technology be properly rationalized to ensure that the vast amount of resources allocated to the education sector is much more efficiently and effectively utilized. Also, the report decried poor financial management in educational institutions, which has contributed to increased costs and poor returns for amount spent.

2. STATEMENT OF THE PROBLEM

In Kenya education budget has been on the increase since independence in 1963. The education recurrent expenditure compared with the government recurrent expenditure has also been on the increase meaning that education has taken a larger amount of the total expenditure. It becomes worse when school fees are raised. Therefore, alternative ways for government funding of education should be sought. Heyneman (1994), stated that efficiency implies obtaining maximum output with minimum resources.

3. RESEARCH OBJECTIVE

The research addressed the following objective:

To establish the extent of efficiency in utilization of school resources as a cost saving measure in public secondary schools in Nairobi County, Kenya.

4. RESEARCH METHODOLOGY

The research employed descriptive survey design. The target population was 46 Principals of the public secondary schools in Nairobi County, Kenya. Brewerton and Muliward (2001), noted that a researcher can choose to use

questionnaire, interview and document analysis guides instruments to collect data. Wisker (2001), stated that these instruments could be used individually or collectively depending on the study objective. The research instruments used to collect the data were the questionnaire, interview and document analysis guides. Cresswell and Plato (2007), stated that the validity in research determines whether the accounts provided by the research and the respondents are accurate, can be trusted and credible to the population. Validation of the instruments was done by the expert judgment review by supervisors from the Department of Educational Administration and Planning of the University of Nairobi.

Best and Khan (2009), indicated that a research instrument is reliable to an extent that it measures whatever it is measuring consistently. The reliability of the instruments was determined by piloting. The study utilized 5 out of the 46 secondary schools for piloting but the whole 46 target population was used in the study. Best and Khan (2004), noted that data analysis entails making sense of the massive amount of data, reduces volumes of information, and identifies significant patterns and constructing a framework for communicating the evidence of what the data revealed. Descriptive statistics was used to analyze the data.

5. RESEARCH FINDINGS AND DISCUSSION

The study established that the school farms were self sustaining, school facilities and buildings were fairly maintained, there was disposal of obsolete school facilities, goods were purchased in bulky and when in season, they used cheap source of transport and communication, students carried out specified manual work and study programmme, harvested rain water, multitasking of staff, hired out school resources, used energy saving bulbs and fuel like firewood. These measures saved costs.

6. CONCLUSION

Based on the findings of the study, it was concluded that there was efficiency in utilization of school resources as a cost saving measure in public secondary schools in Nairobi County, Kenya.

7. RECOMMENDATIONS

It was recommended that the Ministry of Education, Science and Technology should strengthen the monitoring and supervision of the management of funds in schools through measures such as annual audits and impromptu audit inspection exercises to ensure efficiency and cost effectiveness in the utilization of resources and in-service Principals of secondary schools on efficient utilization of school resources.

The Ministry of Education, Science and Technology to intervene to make education affordable by reduction of wastage, improved efficiency which include efficient financial management, rationalization of reading and learning materials and improved cost effective curriculum design, production of reading materials to cover several classes (consolidated books)

cost effective evaluation and examinations, sharing of resources among schools, rationalization of unit cost per student, accountability and transparency and rational mixture of both day and boarding schools.

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