Equitable allocation and distribution of education bursary fund in Siaya County, Kenya

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ABSTRACT

Globally, there exist bursary schemes that are in place to enhance access and equity in the provision of education to the disadvantaged. In Kenya, there have been bursary schemes that enhances access and equity in the provision of secondary school education. With Siaya County's 16% of the population having secondary school education, below the neighbouring Kisumu county's 25%, Vihiga county's 20% and Kakamega county's 19%, coupled with inequity in bursary distribution, the County Government of Siaya came up with Siaya County Educational Bursary Fund (SCEBF) to help improve access and equity in the acquisition of secondary school education. The purpose of the study was to examine the extent to which the bursary scheme was equitably distributed in Siaya county. Objectives of the study were to determine the trend of allocation of bursary funds and to establish the extent to which bursary allocation to the recipient is equitably distributed in Siaya County. Lorenz Curve and Gini-coefficients were used as tools for determining inequalities in SCEBF allocations. The theoretical framework guiding the study was based on the socialist economics theory of Louis Blanc that aims to redistribute income to create equality of well-being. Descriptive survey and correlational research designs were used in the study. The study population was 204 secondary schools with 204 principals, 11,200 student beneficiaries of the scheme, 30 Ward Administrators and 1 County Executive Commitee Member for Education. A third of the principals' population which is 68 secondary school principals and 425 students sampled using Yamane's formular formed the study sample. The researcher established that Siaya County Educational Bursary Fund benefits majority of the needy cases underpriviledged/those in need, as it is allocated based on the needs of applicants. However, there was unequitable distribution of the bursary fund depicted by the Gini Coefficient of 0.39 due to political influence and inadequate funds.The fund aided to improved access to secondary school. The study recommends allocation of more funds to reach all needy cases and that it should be more equitably distributed.

Keywords: Equity, allocation, secondary education, distribution of education, bursary fund, access.

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INTRODUCTION

According to Armstrong and Allan (2009), the demand for schooling is influenced by economic, political, social, and cultural factors. Governments spend a significant part of their budget resources on education. While such outlays have led to a tremendous expansion on schooling, they have not reduced the level of disadvantage for many groups, especially those residing in rural areas, including poor people, women, ethnic or religious minorities and indigenous peoples.

In UK, Smith (2006 as cited by Opon, 2007) argued

that the complicated system of bursaries, grants and fees is no doubt confusing many students and their parents and is clearly not working and that some amount totaling to about 240 million pounds in bursaries that should have gone to students from disadvantaged group was left unclaimed since students were simply not aware of what was available.

In South Africa, user charges are identified as a barrier to education (Veriava, 2005). The South Africa Schools Act provides that majority of parents at a public school

may determine whether or not school fees are charged and amount to be paid. However, exemption exists for those who cannot afford to pay; exemption is extended to parents whose incomes are less than 30 times but not more than 10 times the amount of fees.

In Malawi, for one to benefit under the Ministry of Education Science and Technology bursary scheme, the expected beneficiary should be genuinely needy and already selected to a secondary school, in addition, one should be well behaved, not recipient of another scholarship, should have positive attitude towards education and must have completed a bursary application form (NOVOC, 2009).These are the policy guidelines that guide the provision of bursary schemes. This ensures that students are retained in the respective schools.

From 2003, the Government of Kenya started channeling bursaries to constituencies through Constituency Development Fund with an aim of reaching the needy students. Here, Constituency Bursary Committee was established and charged with the responsibility of giving bursaries to needy students. Oyugi (2010) on a study of Public Expenditure Tracking of Bursary Schemes in Kenya remarks that the major objective of the bursary scheme is to enable children from poor families' access education. However, there is no consistency in supporting children from poor families. This is because students seeking for bursary funding from the secondary education bursary fund are not guaranteed continuous funding to completion of high school education. These studies addressed the rationale of choosing needy students to be awarded bursaries, this needs to be investigated further to ensure that only needy students benefit from the bursary scheme especially SCEBF which is an objective in this study.

Statement of the problem

Secondary school education attracts various costs including tuition and boarding fee paid for by parents.Recent studies done indicates that school fees was the main reason why most of the secondary going age children were not in school. In the year 2000, the Ministry of Education issued fee guidelines for all public secondary schools in Kenya, however the guidelines were not followed by some principals who introduced their own charges.The introduction of free secondary education in 2008 was a blessing to many parents since the government decided to pay ksh 10,265 per year for each student, it had subsequently been increased to Ksh 12,870 per student in 2015. Unfortunately, the subsidy did not cover boarding expenditure, uniform among others hence making secondary education unafordable to the poor families. In Siaya county where 57.9% of the population live below poverty line and only 16% of the population have secondary school education, coupled with inequity in bursary allocation, access and

equity in the provision of secondary school education hence remains a great concern especialy among those families from poor background dispite the existence of some bursary schemes. To help improve access and equity in the provision of secondary school education, The County Government of Siaya in its annual budget continued to give bursaries to needy secondary school students. The amount given for bursaries are equaly distributed in the 30 county wards without any consideration in terms of county ward's level of need. It is on this background that a study on the contribution of county bursary fund on access and equity in financing secondary school education in Siaya county is taken.

Objectives

The research was guided by the following specific objectives:

i. Determine the trend of allocation of bursary funds for the period 2013 to 2016.
ii. Establish the extent to which Siaya County Educational Bursary Fund allocation to the recipient is equitably distributed in Siaya County.

Theoretical framework

The study was guided by theory of Socialist economics of education, pronounced by a French writer and historian Louis Blanc (Colander, 1994). This theory underlines the need to create an economy that redistributes income from the rich to the poor, so as to create equality of well-being (Baumol and Blinder, 1979). SCEBF will then be in place to aid the needy secondary school students in the county be in school just like other students from financially stable backgrounds. Lorenz curve, which is the geometric representation of the distribution of income among families in a given time, was used to calculate equality in the distribution of income.The Lorenz curve shows actual quantitative relationship between the percentage income of recipients and the percentage of the total income they did in fact receive during a given period (Todaro and Smith, 2006). In the study, Lorenz curve measured the cumulative percentage of SCEBF allocation to the poorest students and to the richest with male and female on the horizontal axis while cumulative percentage of SCEBF allocation will be plotted on the vertical axis. SCEBF is perceived as a social input whose aim is to equalize educational opportunities among students from low socio-economic status.

LITERATURE REVIEW

Equity is a characterised respectful treatment of all people regardless of age, gender, race, religion, life

orientation and creed.Equity therefore hinges on equal rights and opportunities (State of Saskatchewan, 1997). Equity in education refers to the way cost and benefit of educational investment are distributed among regions and wether males, females and different social, economic, or ethnic groups have equal facilities (Psacharopoulos and Woodhall, 1985).

In UK, a key priority of the Government is to eliminate the gap in attainment between those from poorer and more affluent backgrounds and to ensure every young person participates in and benefits from education and training known as YPLA Bursary Scheme. The Government provides funding to tackle the disadvantaged both through the YPLAs funding formula and through support to help young people meet the costs of participating in education and training (YPLA, 2012). This further helps students to be retained in schools. In Mexico, bursary program focuses on the most disadvantaged states. An international evaluation of the project documented that completion rates in project schools increased from 67% in 1994/95 to 80% in 2000/01, dropout rates declined from 6 to 2% and repetition fell from 10% to 8% (World Bank, 2006).

In Zambia and Malawi, studies show that close to70% of secondary school students are entitled to bursary schemes which are supposed to cover 75% tuition fees for most beneficiaries and up to 100% for vulnerable groups such as double orphans. Bursary schemes are also favored to improve retention of girls in the schools (Sutherland-Addy, 2008; World Bank, 2006). Even though bursary schemes are designed to improve retention of students in public secondary schools some students drop out of school because of extreme poverty levels which the scheme does not address like provision of uniform and other personal effects. In South Africa, schools are compelled to inform parents of the school fee exemption for poor learners. In 2006, the country undertook to develop a frame work which allows disadvantaged schools to receive subsidies if they enrolled non fee-paying learners as the number of exemptions granted to poor learners at certain schools was becoming a burden to school finances.

Mellen (2004) in a study on the role of government bursary funds in enhancing girl child participation in Nyamira District found that the Ministry of Education bursary had not sustained any girl for four years. She too noted that it had failed to meet the gender equity objective and that boys received slightly higher bursaries than girls. This is contradicted by a study conducted in Kerio-Valley on the usage of CDF (Rono et al., 2010) that did reveal that there was equity in the distribution of CDF bursary.

Mwaura (2006) in his study on government bursary scheme and its role in enhancing secondary school participation of the poor and the vulnerable learners in Thika District found that the Constituency Bursary Fund was ineffective in that it was inadequate (thinly spread),

unpredictable and very few students had been retained by the fund up to Form Three in 2005. He also observed that the awarding criteria were not very clear especially on how to finally arrive at a student to be awarded a bursary in each category. This is also in line with another study by Otieno (2011) in Nyando District that revealed equitable distribution of CDF and highly unequal distribution of CDF allocation to secondary schools at a gini coefficient of 0.507.

A number of bursary schemes including MoE Bursary and C.B.F have been rolled out but the problem of equity and low access to secondary education continue to persist. Siaya County came up with an ambitious Bursary Scheme that would see off many students especially the disadvantaged to get opportunity to acquire secondary school education across the county, but how far these has aided to improve equity in the provision of secondary school education among the disadvantaged in Siaya county necessitated the study specifically looking at the distribution of the fund across all the 30 county wards in Siaya county.

METHODOLOGY

Descriptive survey and correlational research designs were adopted. Saunders et al. (2007) defines research design as a structure of research. It is the glue that holds all the elements in a research project together. It is the major type of discipline research which gives description of the state of affairs as they exist. Orodho and Njeru (2003) states that descriptive survey is a method of collecting information by interviews or administering a questionnaire to a sample of individuals to determine research statistics of a problem and justify current situation or condition. Descriptive survey design was deemed relevant to the study because the questionnaire constructed helped the researcher to solicit for the desired information. Correlational design was also deemed suitable because it gives a measure of extent to which value on one variable can be predicted from values of on the other variable (Cohen and Manion, 1992).

Permission was given by the Maseno University Ethics Review Committee. Ethical issues on anonymity, confidentiality, consent and plagiarism were dealt with. The respondents were encouraged to give honest and reliable responses as the data collected were to be used for research purposes only. The researcher avoided using the participants' names and school identity to avoid personalizing the research findings which could create prejudice in the research analysis and use in future research work.

RESULTS AND DISCUSSION

The researcher sought to establish the extent to which

SCEBF allocation to the recipient is equitably distributed in all the county wards. County executive committee member for education and ward administrators strongly agreed that there was no equitable distribution of SCEBF. Insufficient fund was cited as one of the major cause of inequitable distribution. The money received by the county was insignificant compared to the number of applicants. The executivecommittee member suggested that the government should increase the money allocated for bursaries for equity to prevail.Politics, nepotism and corruption were the other causes of inequitable allocation of bursary. These hindered fair distribution of SCEBF in all the county wards. Needy areas missed the funds due to being side-lined because of political reasons. Table 1 shows the trend of SCEBF allocation from the year 2013 to 2016.

Table 1 shows that the year 2015 had the highest amount of bursary given to student beneficiaries followed by the year 2016. The data from the table was used to aid in establishing how equitable the funds were allocated in respect to the students level of need. To measure degree of inequalities in SCEBF distribution it was neccesary to use the gini coefficients, to find these coefficients, Lorenz curve were to be drawn using cummulative percentages.

Values of commulative percentages in Table 2 were used to plot both the x and y axis of the Lorenz curves as shown in Figures 1, 2, 3, 4 and 5 respectively.

Table 1. Trend of SCEBF allocation.

Mid Point X	2013 (F)	2013 FX	2014 (F)	2014 (FX)	2015 (F)	2015 (FX)	2016 (F)	2016 (FX)
6500	174	1,131,000	182	1183000	162	1,046,500	171	1,111,500
9500	93	883,000	102	969,000	92	878,000	89	845,500
12500	60	750,000	46	575,000	56	700,000	66	825,000
15500	40	620,000	40	620,000	51	790,000	30	465,000
18500	31	573,000	28	518,000	38	703,000	42	777,000
	398	2,958,00	398	3,865,000	398	4,114,000	398	4,004,000

Table 2. Values of cummulative percentages for x an y axes for Lorenz curve (n = 398).

Years	Type of axis	Cummulative percentages of recepients against amount of SCEBF allocation					
2013	X	0	28.58	50.9	69.85	85.57	100
	Y	0	7.79	17.89	32.97	56.34	100
2014	X	0	30.61	55.68	70.56	86.6	100
	Y	0	7.04	17.09	28.65	54.28	100
2015	X	0	25.44	46.68	63.7	82.91	100
	Y	0	9.55	22.36	36.43	59.55	100
2016	X	0	27.02	48.63	69.13	80.69	100
	Y	0	10.55	18.09	34.67	57.03	100
Entire period	X	0	27.91	50.47	68.31	83.94	100
	Y	0	8.73	18.86	33.18	56.8	100

Determination of Gini coefficient = Area of Half Square = $\frac{1}{2} \times$ base $\times$ height

$= \frac{1}{2} \times 100 \times 100 = 5000$

To find area below Lorenz curve, the Mid-ordinate rule was used as follows:

Mid ordinate rule = (Width of interval) $\times$ (Sum of Mid-ordinates)

$= h \times (y_1 + y_2 + \ldots\ldots\ldots + y_n)$
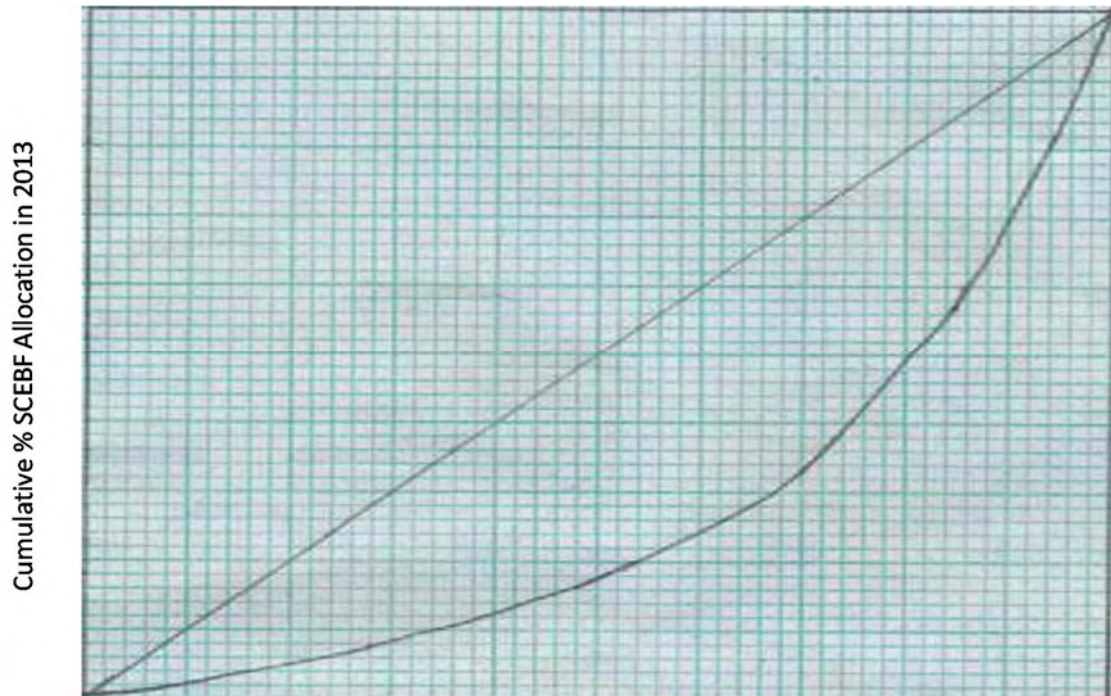
From Figure 1:

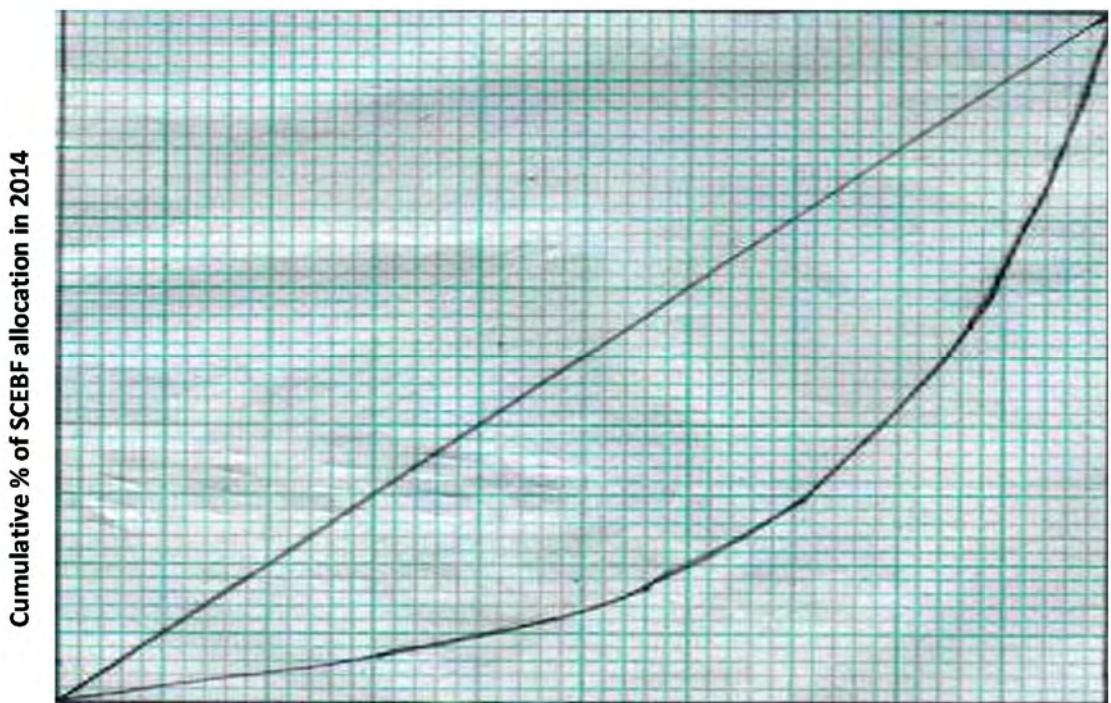**Figure 1.** Lorenz curve and Gini coefficient for the year 2013.

Figure 2. Lorenz curve and Gini Coefficient for the year 2014.

Area below Lorenz curve = 10 × (1.0 + 2.0 + 6.0 + 10 + 13 + 21 + 28 + 39 + 53 + 78)
 = 10 × 251 = 2510
Area between line of Equality & Lorenz curve = 5000-

2510 = 2490

Gini coefficient = $\dfrac{2490}{5000}$ = 0.498 = 0.50

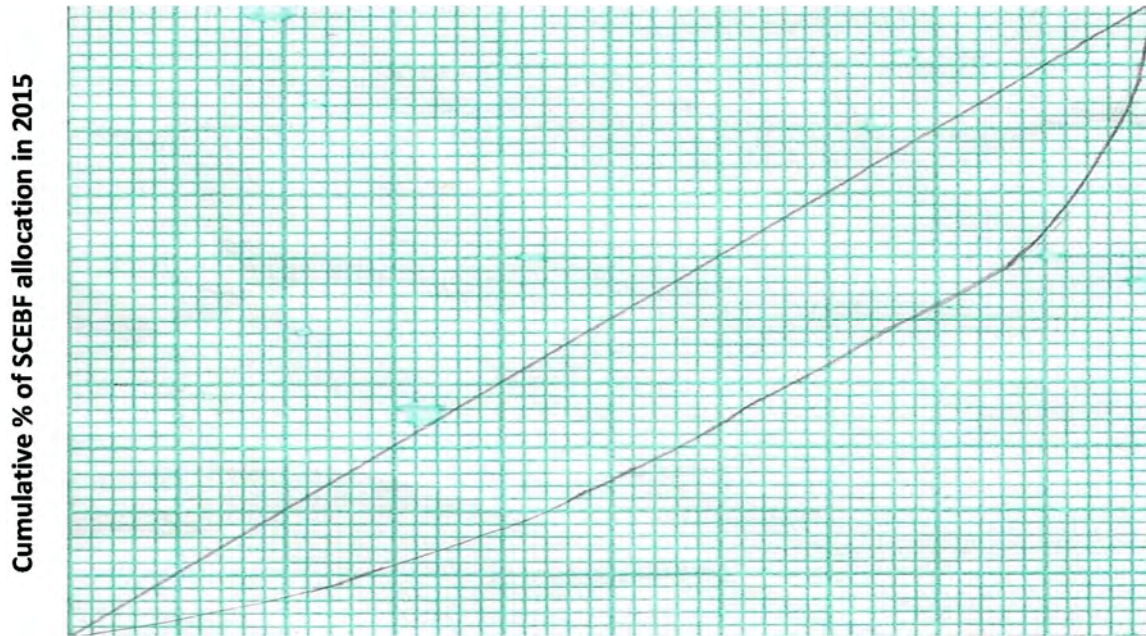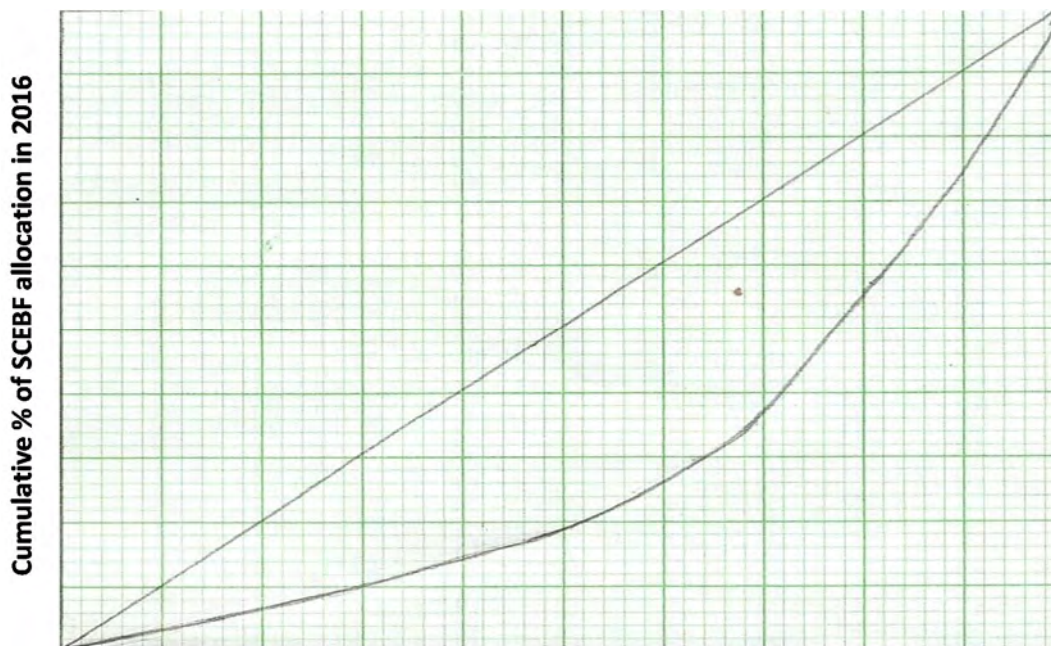**Figure 3.** Lorenz curve and Gini coefficient for the year 2015.

Figure 4. Lorenz curve and Gini coefficient for the year 2016.

Since the Gini coefficient was 0.50, it implies that there was relatively inequitable allocation of SCEBF to the recipient in the year 2013. Hence this means that the first SCEBF allocation was inequitably allocated to students at its inception.

From Figure 2:
Area below Lorenz curve = 10 × (1.0 + 3.0 + 5.0 + 13.0 +

17.0 + 23.0 + 33.0 + 48 + 76)
= 10 × 227 = 2270
Area between line of Equality & Lorenz curve = 5000 - 2270 = 2730

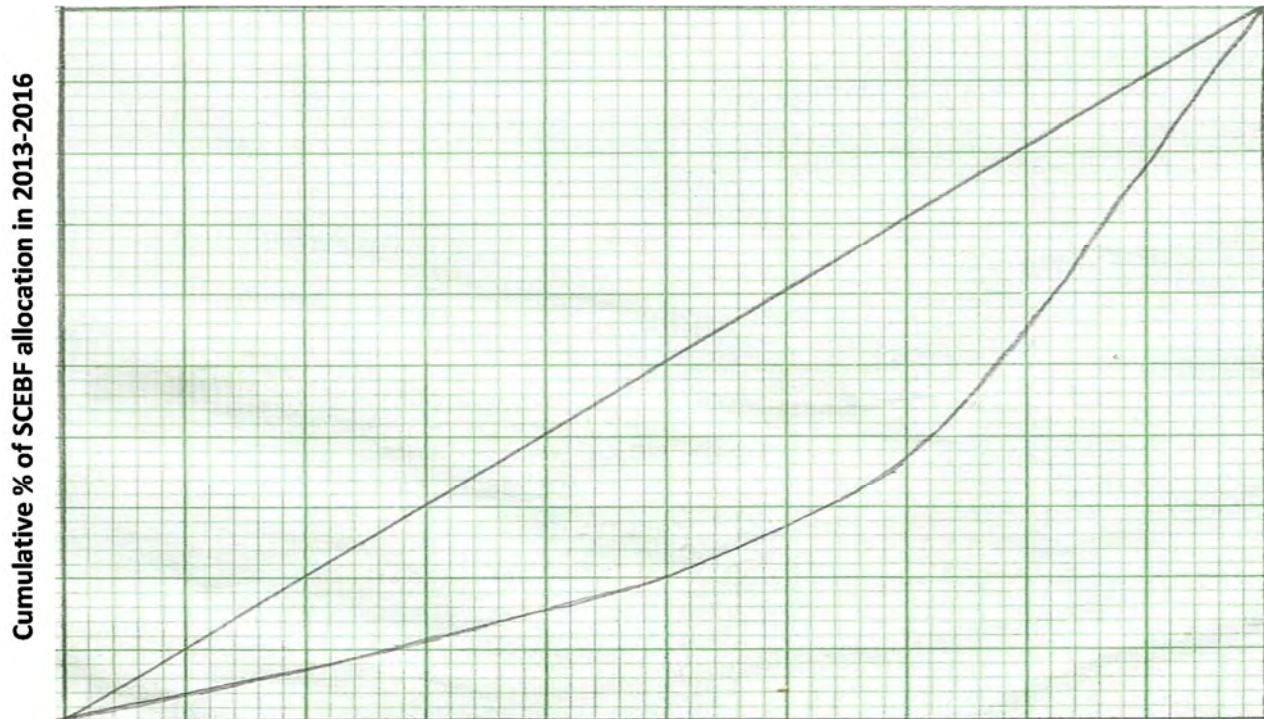$$\text{Gini coefficient} = \frac{2730}{5000} = 0.546 = 0.55$$

Figure 5. Lorenz curve and Gini Coefficient for the period between 2013 to 2016.

In the year 2014, the Gini coefficient of 0.55 implies that there was still relatively inequitable allocation of SCEBF, as compared to the previous year the rise in the Gini coefficient from 0.50 to 0.55 reflects an increase in the unfairness in the allocation of the bursary scheme of about 10% in the year 2013 and 2014.

From Figure 3:
Area below Lorenz curve = 10 × (1.9 + 5.0 + 9.0 + 12.0 + 21.0 + 29 + 39 + 48 + 57 + 75)
 = 10 × 296.9 = 2969
Area between line of Equality & Lorenz curve = 5000-2969 = 2031

$$\text{Gini coefficient} = \frac{2031}{5000} = 0.4062 = \text{Gini coefficient} = 0.41$$

The Gini coefficient for the year 2015 was 0.41 implying that the level of inequity in bursary allocation had slightly reduced from 0.55 in 2014. This represented a 25.45% decrease. Since the Gini coefficient was more than the range of 0.20 to 0.35 that represents equitable distribution as outlined by Todaro and Smith (2006), the allocation was still inequitable.

From Figure 4:
Area below Lorenz curve = 10 × (2.0 + 5.0 + 8.0 + 12.2 + 16 + 22 + 31 + 46 + 64 + 86)
 = 10 × 292.2 = 2922
Area between line of Equality & Lorenz curve = 5000 –

2922 = 2078

$$\text{Gini coefficient} = \frac{2078}{5000} = 0.4156 = 0.42$$

The Gini coefficient for the year 2016 was 0.42 which implies a relatively unequitable allocation of SCEBF. The percentage increase from the year 2015 was 2.4%, this also implies that the level of inequity between the two years was almost the same.

From Figure 5:
Area below Lorenz curve = 10 × (2.0 + 6.0 + 9.0 + 13.8 + 17.8 + 23.7 + 31 + 45 + 66 + 90)
 = 10 × 304.3 = 3043
Area between line of Equality & Lorenz curve = 5000 - 3043 = 1957

$$\text{Gini coefficient} = \frac{1957}{5000} = 0.3914 = 0.39$$

The average gini coefficient for the year 2013 to 2016 was 0.39. This implies that there was inequitable allocation of SCEBF to students. The gini coefficient is far above the 0 value, implying that there is complete inequity in the allocation of SCEBF to the students and therefore the bursary fund does not benefit most needy students. This finding concurs with a study by Odebero (2002) on bursary allocation in Busia District that revealed that the allocation was not equitable. According

to the study, recipeint from high economic backgrounds received more bursary support than those from humble background.This is also in line with another study by Otieno (2011) in Nyando District that revealed a highly unequal distribution of CDF allocation to secondary schools at a gini coefficient of 0.507.

Table 3 shows the correlation between economic background and SCEBF allocation. From the findings in Table 3, it is clear that there was a positive significant correlation between the amount of SCEBF distributed and the students economic background (r = .318, p = .000). This implies that the better the economic background the more the funds the learner received. On the other hand, there was no relationship between the amount distributed and the learner's merit. These findings imply that there was bias in fund distribution and it could imply that the beneficiary could be different from the actual needy students.

Simple linear regression model was also used to establish the effect of economic background on the amount of SCEBF distributed. Therefore, SCEBF

distributed was regressed against the economic background and the results coefficients presented as shown in Table 4.

The findings show that economic background has an effect on the amount of SCEBF distributed among the beneficiaries (β = .318, p = .002). Thus, an improvement in the economic background of the beneficiary automatically leads to an improvement in the amount they received. The findings were significant at 0.05, and therefore this implies that for students or beneficiaries to benefit from the SCEBF funds, their background was to be good. Summary model results were also presented for the percentage change or variance in the amount accounted for by the change in the economic background of the beneficiary. The findings are presented as shown in Table 5.

The findings in Table 5 indicates that economic background accounted for 10.1% change in the amount of SCEBF distributed among the beneficiaries (R square = .101, p = .002). Thus, economic background has an influence on the amount that was distributed.

Table 3. Correlations between economic background and SCEBF allocation.

		Economic back	Amount SCEBF fund	Merit
Economic back	Pearson Correlation	1	.318**	.242**
	Sig. (2-tailed)		.000	.003
	N	398	398	398
Amount SCEPF fund	Pearson Correlation	.318**	1	.191*
	Sig. (2-tailed)	.000		.018
	N	398	398	398
Merit	Pearson Correlation	.242**	.191*	1
	Sig. (2-tailed)	.003	.018	
	N	398	398	398

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 4. Effect of economic background on SCEBF distributed.

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.335	.375		11.567	.000
	Economic background	.293	.090	.318	3.267	.002

a. Dependent Variable: SCEBF distributed.

Table 5. Amount of SCEBF distributed.

Model	R	R square	Adjusted R square	Std. error of the estimate	Change ctatistics				
					R cquare change	F change	df1	df2	Sig. F change
1	.318[a]	101	.092	.859	.101	10.675	1	95	.002

a. Predictors: (Constant), economic background.

Conclusions

SCEBF allocation to the recipient was not equitably distributed in all the county wards due to lack of enough funds, politicians influencing allocation, corruption and nepotism. This means that the bursary fund failed to enhance equity in its allocation. From the Lorenz curve, gini coefficient was calculated at 0.39 implying that the fund was not equitably distributed to the applicants.

RECOMMENDATION

Proper mechanisms free from politics, corruption and nepotism should be established for equitable distribution of funds in all deserving areas.

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