THE INTERNATIONAL JOURNAL OF HUMANITIES & SOCIAL STUDIES

Assessment of Funding Mode as an Integrated Education Management Strategy on Pupils' Participation in Public Primary Schools in Kenya

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Abstract:

This study investigated the effectiveness of funding mode on pupils' participation on aspects of Enrolment, Retention and Academic Performance (ERAP) in public primary schools of Kakamega County, Kenya. The study period covering 24 years from 1995 to 2018 was divided into 3 periods of 8 years each. The study was based on 82 (30%) out of the 273 schools in 4 sub-counties of Kakamega County: Lurambi (20), Shinyalu (24), Mumias East (18) and Navakholo (20). The study used 414 respondents stratified into 82 Head Teachers, 164 Teachers, 164 Pupils and 4 Sub-County Directors of Education. Descriptive and inferential statistics at 5% level of confidence were used. The research found that mode of funding had negative impact on pupils' participation and recommends elaborate study to establish the unit cost of public primary education in Kenya and examine modalities of collaboration between schools and communities in the implementation of an affordable and all-inclusive education.

Keywords: Mode of funding, pupils' participation, enrolment, retention, dropout, public primary schools, Kakamega County, Kenya

1. Introduction

Comprehensive development of human capital demands for adequate investment in the formal education system of primary, secondary and tertiary training (Kariyana, Maphosa & Mapuranga, 2012; Lekhetho, 2013). OECD (2019) describes human capital as "the knowledge, skills, competencies and other attributes embodied in individuals or groups of individuals acquired during their life and used to produce goods, services or ideas in market circumstances". Formal education is admittedly a proven and sure approach to achieving economic stability for a nation (Grajcevcic and Shala, 2016). This education is delivered at structured levels through firm commitment by various governments (Mamoeketsi, 2013).

Kenya has committed itself to the above global declarations on education delivery which has led to continuous improvement of education in Kenya through such policy initiatives like the Sessional Paper No. 1, 2019 (Ministry of Education, Kenya (2019) and Directorate of Committee Services (2019). These policy documents provide guidance in the development of the entire education sector in Kenya. The Government of Kenya has made tremendous effort in conforming to the above commitments through major education policies, namely, the Free Primary Education policy in 2003 (Republic of Kenya, 2012) which followed the passing of the Children's Act in 2001 (Republic of Kenya, 2001).

The Kenya Government intervened through the Free Primary Education (FPE) Policy, but was still inadequate to completely support school programmes (Schmidt, 2006). Support from donor funding was not uniform across all schools. Some schools with elaborate networking with donors, especially church-based schools received more funding from these sources than those which were secular (Koech Committee, 1999). External donors too did not assist all schools uniformly across the board. Fund raising practices have not been highly successful due to poor philanthropic convictions and beliefs (Somerset, 2009). Support from school income generating activities has made insignificant impact.

This scenario affects pupils' participation in enrolment, retention, dropout and academic performance. Inadequate funding has a ripple effect such as to poor learning environment. Some schools completely lack proper sanitary facilities and access to potable drinking water. Resources for repair, maintenance and improvement (RMI) are grossly inadequate. This leads to poor state of education facilities (Ministry of Education Kenya, 2016).

Poor funding has resulted to inadequate assessment of pupils at school and regional levels which eventually affects final performance (Somerset, 2009). Due to low level of funding, adequate provision of learning materials to pupils including stationery as well reference materials for teachers have not been satisfactorily achieved.

2. Methodology

2.1. Research Design

This study required collection of both qualitative and quantitative data. According to Kothari (2005), qualitative methods provide greater in-depth of understanding about a limited number of subjects, while quantitative methods give a

less in-depth understanding, but cover a wider scope of subjects. By using mixed approach, one obtains a more comprehensive research (Guba and Lincoln, 2005). This study employed a descriptive survey research design. Mugenda and Mugenda (2006) on the other hand give the purpose of descriptive research as determining and reporting the status of issues.

2.2. Study Area

The study area was carried out in Kakamega County in western Kenya (Figure 1)

Figure 1: Map of Kakamega County

Sources:

https://www.google.com/search?q=Map+of+Kenya&rlz=1C1CHZO_enKE921KE921&sxsrf=ALeKk02Jko8Sx5PyeaTKjk3i63EGH QJdmw:161830 and <https://Kakamega.go.ke/download/map-of-Kakamega-County/>

Kakamega County is divided into 12 Sub-counties: Lugari, Likuyani, Malava, Lurambi, Navakholo, Mumias East, Mumias West, Matungu, Butere, Khwisero, Shinyalu and Ikolomani sub-counties. Out of twelve sub-counties in Kakamega County the researcher selected four sub-counties using simple random sampling. This represents the required minimum of 30% of the sampled sub-counties in Kakamega County (Mugenda and Mugenda, 2006).

2.3. Target Population

This study targeted 273 public primary schools in the four selected sub-counties of Kakamega County, which represented 30.4% of public primary schools in Kakamega County as at 2017. The target population in each sub-County was the Sub-County Director of Education, Head Teachers of sampled schools, two (2) Teachers from each sampled school and two (2) pupils from each of the selected public primary schools.

2.4. Sampling Techniques and Sample Size

Kothari (2005), and Mugenda and Mugenda (2006) have recommended 30% as minimum sample from the target population. Four sub-counties were selected from Kakamega county with a total of 12 sub-counties. This represents a minimum of 30 % of sub-counties selected (Mugenda and Mugenda, 2006). The target population of 273 public primary schools in the four selected sub-counties represented 30.4% of the 898 public primary schools in Kakamega County. The

distribution of sample size in each sub-county was based on the total number of schools in each sub-county to constitute the 82 schools.

For example, Navakholo sample size was obtained as follows based on the 65 public primary schools in Navakholo;

$$\text{Sample size} = \frac{65}{273} \times 82 = 20 \quad \dots\dots\dots (1)$$

The proportionate distribution of sample size by sub-county is as shown in Table 1.

Sub-county	Number of Schools	Sample Size
Lurambi	66	20
Shinyalu	81	24
Mumias East	61	18
Navakholo	65	20
Total	273	82

Table 1: Proportionate Distribution of Sample Size by Sub-County

Similarly, the sample size for Mumias East with 61 schools was 18, Lurambi with 66 schools was 20 and Shinyalu with 81 schools was 24.

2.5. Validity and Reliability

2.5.1. Validity

According to Polit & Beck (2010), validity is the degree to which a test measures what it purports to measure. The type of validity investigated depends on the purpose of the measure (Waltz et al, 2010). A research instrument is regarded as being valid if its content is relevant and appropriate to set research objectives (Kimbo & Tromp, 2006). Burton & Mazerolle (2011) has outlined the following three types of validity: Content validity; Face validity and Construct validity. Content validity provides an evaluation of instruments' representativeness of topic to establish their credibility, accuracy, relevance and breadth of knowledge regarding the domain (Polit & Beck, 2010). According to Korb (2012), content validity reflects whether items on instruments adequately cover the entire content of what it should cover. Face validity provides evaluations of instruments' appearance by a group of respondents to establish their ease of use, clarity, and readability (Taherdoost, 2016). According to Oluwatayo (2012) face validity is the subjective assessment of the presentation and relevance of the measuring instrument as to whether the items in the instruments appear to be relevant, reasonable and clear. Construct validity determines the degree to which an operational measure correlates with the theoretical concept investigated and provides the researcher with confidence that a survey actually measures what it is intended to measure (Waltz et al., 2010).

According to Polit & Beck (2010) content validity of an instrument is improved through expert judgment. Content validity provides adequate coverage of the topic under study. A research instrument is regarded as being valid if its content is relevant and appropriate to set research objectives (Kimbo and Tromp, 2006). The pilot study helped to improve face validity of the instruments (Table 2).

Category of Respondent	Number of Items in Questionnaire	
	Before Pilot Study	After Pilot Study
SCDE	9	11
Head Teachers	10	9
Teachers	8	8
Pupils	10	8
Total	37	36

Table 2: Distribution of Items in Questionnaires and Interview Schedule

The content validity index CVI = 0.97, was computed as follows (Amin, 2005):

$$CVI = \frac{K}{N} = \frac{36}{37} = 0.97 \quad \dots\dots\dots (2)$$

Where CVI = content validity index, K = total number of items in the questionnaire after adjustment and N = total number of items in the questionnaires before adjustment.

Where CVI = content validity index, K = total number of items in the questionnaire after adjustment and N = total number of items in the questionnaires before adjustment. A Content Validity Index in the range of 0.88 – 1.0 is considered to be good (Hidayati et al., 2019).

2.5.2. Reliability

Reliability refers to the consistency or stability in the measurements (Kothari, 2005). Best and Khan (2012) suggested that the Pearson product moment correlation is most often used because of its precision. Reliability should be

high to be desirable (Burton & Mazerolle, 2011). To test reliability of the instruments, the questionnaires were piloted to 5 Head teachers and 10 Teachers of public primary schools in Kanduyi Sub-County. The test instruments on Parental Involvement were administered to both Teachers and Head teachers (Section E of Appendix IV for Head teachers and Section E of Appendix V for teachers) in order to obtain two sets of responses on the same items (Hinton- Bayre, 2010). Pearson product moment correlation (r) was used to determine the correlation coefficient as shown in Table 3.

Items	Head Teachers (X)	Teachers (Y)	XY	X ²	Y ²
Homework	3.957	3.968	15.7014	15.6578	15.7450
Follow up Activities	3.694	3.768	13.9190	13.6456	14.1978
Co-curricular activities	3.869	3.779	14.6210	14.9692	14.2808
Sum	11.520	11.515	44.2413	44.2726	44.2240

Table 3: Computation of Pearson Product Moment Correlation Coefficient

The Pearson Product Moment correlation coefficient, r, was computed by use of Equation 3 (Hinton-Bayre, 2010):

$$r = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{(n(\sum X^2) - (\sum X)^2)(n(\sum Y^2) - (\sum Y)^2)}} \dots\dots\dots (3)$$

Where,

r = Pearson Moment Correlation Coefficient, n = number of paired scores, X = scores of Head Teachers, Y = Scores of Teachers, XY = product of the two paired scores. Substitution of values for X and Y from Table 3 gives r = 0.7879 which satisfies the minimum requirement of r = 0.7 (Bowling, 2002).

2.6. Data Collection Procedure

The researcher personally administered the questionnaires and the interview schedule to the relevant respondents by visiting the selected schools. The respondents were assured that strict confidentiality would be maintained in dealing with their responses. This study made use of descriptive findings which provided interpretations and analyses of responses. The researcher used questionnaires and interview schedules. Ethical considerations are mandatory to be observed by researchers since they provide protection of participants' rights by ensuring anonymity and confidentiality (Campbell, 2007). Gregory (2003) has justified why it is highly unethical for the researcher to share confidential information regarding the study with anyone else who is not associated with the study. The researcher observed highest integrity with regard to originality and quality.

2.7. Class Enrolment Statistics

The study analyzed class enrolment statistics of pupils from class 1 to class 8 based on three phases: The Pre-FPE phase; the First-FPE phase and the Second-FPE phase (Table 4).

Class	Pre-FPE Phase		First-FPE Phase		Second-FPE Phase	
	Year	Enrolment	Year	Enrolment	Year	Enrolment
1	1995	73	2003	78	2011	93
2	1996	59	2004	75	2012	93
3	1997	57	2005	63	2013	91
4	1998	51	2006	61	2014	85
5	1999	47	2007	61	2015	83
6	2000	45	2008	54	2016	79
7	2001	43	2009	63	2017	72
8	2002	43	2010	57	2018	72
Mean		52		64		84

Table 4: Class Enrolment Statistics

Source: Researcher, 2020

3. Results and Discussion

The issues assessed on mode of funding were views and descriptive statistics from Head Teachers, Teachers and Pupils on rule-based allocations and discretionary funding from the National Government Constituency Development Fund (NG-CDF) and other sources for Early Childhood Development Education (ECDE), public and private schools are shown in Figure 1. Status of pupil to text book ratio was obtained from both Teachers and Head Teachers. Teachers' satisfaction with the pupil: text book ratio was analyzed. The Teacher: pupils' ratio was obtained from Head Teachers and Teachers. Opinion on discretionary mode of funding was obtained from both Teachers and Head Teachers. Descriptive statistics was carried out for the adequacy of rule-based and discretionary allocation. An analysis of the apportionment of funding expenses for Class 1 and Class 8 pupils was carried out.

Figure 2: Mode of Funding for Primary School Education in Kenya

Source: Researcher, 2020

3.1. Views on Mode of Funding

Head Teachers, Teachers and Pupils were asked if mode of funding had a positive impact on pupils' participation in relation to enrolment, retention and academic performance. Results of their responses are presented in Table 5.

Aspect	Head Teachers		Teachers		Pupils	
	Frequenc y	Percen t	Frequenc y	Percen t	Frequenc y	Percent
Strongly Disagree	2	3.6	10	8.5	26	22.2
Disagree	7	12.5	13	11.0	30	25.0
Undecided	2	3.6	10	8.5	23	19.4
Agree	30	53.6	55	46.6	25	20.8
Strongly Agree	13	23.2	27	22.9	13	11.1
Total	54	96.4	115	97.5	117	99.2
System	2	3.6	3	2.5	1	0.8
Total	56	100.0	118	100.0	118	100.0

Table 5: Views on Mode of Funding

A larger proportion of the Head Teachers agreed and strongly agreed 43(86.8%) that mode of funding had a positive impact on enrolment, retention and performance of pupils. Only 9 (16.1%) of the Head Teachers disagreed or strongly disagreed that mode of funding had a positive impact on enrolment, retention and performance of pupils. A larger proportion of Teachers 82(69.5%) agreed and strongly agreed that mode of funding had a positive impact on enrolment, retention and performance of pupils. A total of 23(19.5%) disagreed and strongly disagreed and 10(8.5%) of the teachers were undecided.

More pupils strongly disagreed or disagreed 56 (47.2%) that drop out resulted from mode of funding compared to those who agreed and strongly agreed 38(31.9%). Teachers were asked to comment on the adequacy of Government fixed grant per pupil. Results of their responses are presented in Table 6.

Comment on Government Fixed Grant Per Pupil		
Response	Frequency	Percent
Highly Inadequate	17	14.4
Inadequate	80	67.8
Adequate	21	17.8
Total	118	100.0

Table 6: Teachers' Comments on Government Fixed Grant per Pupil

A majority of the Teachers 80(67.8%) felt that the Government fixed grant per pupil provided through FPE was inadequate. Seventeen Teachers (14.4%) indicated that the grant was highly inadequate and 21 (17.8%) commented that the grant was adequate.

The Sub-County Directors of Education (SCDE) were asked for their views on whether mode of funding had a positive impact on pupils' participation through enhanced enrolment, retention and academic performance. It was observed that all the respondents had reservations on the level and timeliness of funding which implied that if the level of funding was adequate and timely, then pupils' participation would be enhanced. A suggested figure was that the Government funding could be increased to Ksh. 10,000 (USD 98.04) per pupil per year. The researcher's determination of unit cost showed that if such level of funding were adopted, the Government support would cater for all tuition expenses for Class 1 pupil who required only Ksh. 1950 (USD 19.12) for tuition per year. The same allocation would also

cater for all the tuition expenses of a Class 8 pupil who required Ksh. 8,900 (USD 87.25) per pupil per year. The figure of Ksh. 10,000 (USD 98.04) by the SCDE was in close agreement with the results of this study.

The first respondent said, "There is inability by the Government to provide enough funds towards creation of more room for learning", the second respondent said, "Funding is inadequate", the third said, "Increase the tuition funds to Ksh. 10,000 per pupil per year", while the fourth respondent said, "Funding should be timely and reliable".

Head Teachers and Teachers were asked on their satisfaction with rule-based allocation and whether the allocation for medical and salaries was adequate. Descriptive statistics showing results on their responses are presented in Table 7.

Descriptive Statistics for Adequacy of Rule-based Allocation for Teachers										
Responses	RP	N	Min.	Max.	Mean	Std. Dev.	Skewness		Kurtosis	
			Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Rule based allocation to teachers(salaries) is adequate	HT	52	1.00	5.00	2.1613	1.26746	1.042	0.421	-0.058	0.821
	TR	117	1.00	5.00	2.0571	1.23452	1.038	0.341	-0.061	0.647
Rule based allocation to teachers is adequate	HT	50	1.0	5.0	2.067	1.0807	0.563	0.427	-0.974	0.833
	TR	115	1.0	5.00	2.0453	1.0621	0.473	0.316	-0.893	0.457
Rule based allocation to teachers (medical) is adequate	HT	48	1.00	5.00	2.2414	1.21465	1.042	0.434	0.177	0.845
	TR	115	1.00	5.00	2.1236	1.20343	1.121	0.351	0.203	0.763

Table 7: Descriptive Statistics on Rule-based Allocation for Teachers

Legend: HT = Head Teachers, TR = Teachers

From the responses by Head Teachers mean score for adequacy of medical allocation was highest ($M=2.24$, $SD=1.21$), followed by salaries ($M=2.16$, $SD=1.27$). The Head Teachers' mean for general satisfaction with rule-based allocation for teachers was ($M=2.01$, $SD=1.08$). Teachers' views followed similar trend where mean score for adequacy of medical allocation was highest ($M=2.12$, $SD=1.20$), followed by salaries ($M=2.06$, $SD=1.23$).

The scores for both Head Teachers and Teachers were positively skewed indicating a majority of data fell to the left of the mean and the tail was towards larger values. This suggested that a majority of Head Teachers and Teachers strongly disagreed and disagreed that rule-based allocations including salaries, and medical was adequate. Head Teachers and Teachers were asked to comment on discretionary mode of funding. Results of the findings are shown in Table 8.

Responses	Head Teachers		Teachers	
	Frequency	Percent	Frequency	Percent
Strongly Disagree	16	28.6	42	35.6
Disagree	16	28.6	45	38.1
Undecided	5	8.9	15	12.7
Agree	3	5.4	7	5.9
Strongly Agree	2	3.6	2	1.7
Total	42	75.0	111	94.1
System	14	25.0	7	5.9
Total	56	100.0	118	100.0

Table 8: Satisfaction with Discretionary Mode of Funding

A majority of the Head Teachers 32(57.2%) strongly disagreed and disagreed that they were satisfied with discretionary mode of funding. Only 5(8.9%) agreed and strongly agreed with the mode of funding and 5(8.9%) were undecided. Out of 111 teachers who responded on their satisfaction on the mode of funding, a larger proportion of 87(73.7%) indicated that they strongly disagreed and disagreed that they were satisfied, 15(12.7%) were undecided and only 9(7.6%) agreed and strongly agreed.

Views by Teachers and Head Teachers on adequacy of discretionary allocation for leave benefits, hardship allowances, compassionate leave and maternity/paternity leave was analyzed. Descriptive statistics based on their views on leave benefits, hardship allowances, compassionate leave and maternity/paternity leave are presented in Table 8.

Descriptive Statistics on Adequacy of Discretion Allocation for Teachers										
Responses		N	Min.	Max.	Mean	Std. Dev.	Skewness		Kurtosis	
	RP		Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Discretionary allocation to teachers is adequate (leave benefits)	HT	50	1.00	5.00	2.3667	1.24522	0.384	0.427	-1.101	0.833
	TR	116	1.00	5.00	2.1143	1.07059	1.006	0.287	0.619	0.566
Discretionary allocation to teachers is adequate (hardship allowance)	HT	50	1.00	4.00	1.8333	0.94989	0.872	0.427	-0.206	0.833
	TR	115	1.00	4.00	1.9420	.83814	0.728	0.289	0.170	0.570
Discretionary allocation to teachers is adequate (compassionate leave)	HT	48	1.00	5.00	2.8276	1.25553	-0.233	0.434	-1.341	0.845
	TR	115	1.00	5.00	2.5797	1.19319	0.340	0.289	-1.073	0.570
Discretionary allocation to teachers is adequate (maternity/paternity leave)	HT	46	1.00	5.00	3.0714	1.35888	-0.424	0.441	-1.138	0.858
	TR	115	1.00	5.00	3.0000	1.24853	-0.140	0.289	-1.246	0.570

Table 9: Descriptive Statistics on Discretionary Allocation
 Legend: RP = Respondent, HT = Head Teachers, TR = Teachers

Head Teachers' descriptive statistics showed that mean score for adequacy of maternity/paternity leave was the highest ($M=3.07$, $SD=1.36$) followed by compassionate leave ($M=2.83$, $SD=1.26$), followed by leave benefits ($M=2.37$, $SD=1.25$) and least was hardship allowance ($M=1.83$, $SD=.95$). Scores for maternity/paternity leave and compassionate leave were negatively skewed indicating that a majority of the data values fell on the right of the mean and a few to the tail to the left towards the smaller values. This suggests that a larger proportion of the head teachers strongly agreed and agreed than strongly disagreed and disagreed that maternity/paternity leave was adequate. Leave benefit and hardship allowance scores were positively skewed indicating a majority of data fell to the left of the mean and the tail was towards larger values. This suggested that a majority of head teachers strongly disagreed and disagreed that leave benefit and hardship allowance was adequate.

Teachers' descriptive statistics showed that mean score for Paternity/maternity leave was highest ($M=3.00$, $SD=1.25$), followed by compassionate leave ($M=2.58$, $SD=1.19$), then leave benefits ($M=2.11$, $SD=1.07$) and the least was hardship allowance ($M=1.94$, $SD=.83$). The distributions were positively skewed / right skewed suggesting that the majority of data values fell on to the left of the mean and were clustered at the lower end of the distribution. The tail of the distribution was towards larger values. This indicated that most teachers rated the discretionary leave low (disagreed, strongly disagreed) on the left side of the distribution and few high (strongly agree, agree) scores constituted the tail of the distribution. Descriptive statistics on adequacy of discretionary mode of funding by CDF and NGOs from Teachers are shown in Table 9.

Results of mean scores for the adequacy of discretionary allocation: CDF, Donor, Fund Raiser and parents indicated higher mean score for CDF ($M=2.60$, $SD=1.27$) followed by donations ($M=2.03$, $SD=1.03$), then parents ($M=2.00$, $SD=1.00$) and the least was Fund Raiser ($M=1.81$, $SD=.89$). The positive kurtosis values indicate that the distribution is rather clustered at the centre.

Descriptive Statistics Adequacy of Discretionary Funding by CDF and NGO's									
Responses on adequacy of discretionary allocation by:	N	Min.	Max.	Mean	Std. Dev.	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
NG-CDF & County Gov.	116	1.00	5.00	2.6000	1.27859	0.584	0.287	-0.787	0.566
Donor	114	1.00	5.00	2.0294	1.03622	1.184	0.291	1.300	0.574
Fund Raiser	113	1.00	5.00	1.8060	.89169	1.190	0.293	1.609	0.578
Parents	110	1.00	5.00	2.0000	1.00000	0.999	0.333	0.645	0.656

Table 10: Descriptive Statistics on Discretionary Funding by CDF and NGO's

Teachers' welfare is an important motivational aspect towards commitment to work which eventually translates to good performance of pupils. It has been argued that the level of salaries and other allowances is low as compared to services rendered. Responses from Teachers' interview confirmed this assertion where Teachers said, "The salaries offered are below the value of services rendered".

3.2. Pupil to Text Book Ratio

Head Teachers and Teachers were asked to comment on the status of the Pupil-Text book ratios. Results of the findings are shown in Table 10.

Text Book Ratio Achieved						
Pupil: Book Ratio	Head Teachers' Views		Teachers' Views		Overall Views	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1:1	13	23.2	41	34.7	54	31.0
1:2	23	41.1	27	22.9	50	28.7
1:3	17	30.4	30	25.4	47	27.0
1:4	3	5.4	20	16.9	23	13.3
Total	56	100.00	118	100.00	174	100.00

Table 11: Head Teachers' and Teachers' Views on the Pupil-Text Book Ratio

A majority of the Head Teachers 23(41.1%) reported that their child to text book ratio as 1:2 and 17 of them (30.4%) had the ratio of 1:3, 13(23.2%) had 1:1 and 3(5.4%) had book ratio of 1:4. On the other hand, majority of teachers 41(34.7%) indicated that they had achieved pupil to text book ratio of 1:1. Only 20(16.9%) teachers reported text book ratio of 1:4. On overall majority of both Teachers and Head Teachers 54(31.0%) indicated that they had achieved pupil to text book ratio of 1:1. Only 23(13.2%) of Teachers and Head Teachers reported text book ratio of 1:4.

Teachers were asked to comment on the status of the Pupil-Text book ratios. Results of the findings are shown in Table 11. A larger proportion of the teachers 51(43.2%) agreed and strongly agreed that they were satisfied with the pupil to book ratio in their schools. Only 12(10.2%) strongly disagreed and 7(5.9%) were undecided about their satisfaction with pupil to book ratio.

Satisfaction with the Text Book Ratio		
Responses	Frequency	Percent
Strongly disagree	12	10.2
Disagree	17	14.4
Undecided	38	32.2
Agree	23	19.5
Strongly Agree	28	23.7
Total	118	100.0

Table 12: Teachers' Views on the Pupil-Text Book Ratio

Source: Researcher, 2020

View from Teachers indicated that 23 (19.5%) agreed and 28 (23.7%) strongly agreed that they were satisfied with the pupil to book ratio in their schools, while 17 (14.4%) disagreed and 12 (10.2%) strongly disagreed that they were satisfied with the pupil to book ratio in their schools while 38(32.2%) were undecided. The results of this study show that although Government policy was to provide one text book per pupil (Global Partnership for Education, 2019), the achievement towards this goal shows that 1 in 3 pupils (31.4 % in Table 11) have exclusive access to individual text book. Provision of free text books to schools was a Government strategy to ensure sufficiency of resources in public education and as a strategy to support children from disadvantaged families under the School Equipment Scheme (Republic of Kenya, 2015). This initiative began immediately after independence. However, with increased enrolment in subsequent years the Government was constrained to fully meet the needs of schools and pupils.

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text book. Provision of free text books to schools was a Government strategy to ensure sufficiency of resources in public education and as a measure of supporting children from poor families under the School Equipment Scheme (Chakava, 1996). This initiative began immediately after independence. However, with increased enrolment in subsequent years the Government was constrained to fully meet the needs of schools and pupils.

3.3. Teacher to Pupil Ratio

Head Teachers and Teachers were asked to comment on the status of the Teacher: Pupil ratios. Results of the findings are shown in Table 13.

Teacher to Pupil's Ratio:			
	Teacher: Pupil Ratio	Frequency	Percent
	1:20	3	5.4
	1:25	3	5.4
	1:40	12	21.4
	Above the ratio given	38	67.8
	Total	56	100.0

Table 13: Head Teachers' Views on the Teacher-Pupil Ratio

A majority of Head Teachers 38(67.8%) reported that teacher to pupil's ratio as above 1:40 and 12(21.4%) had 1:40. Three schools (5.4%) had 1:25 and three schools (5.4%) had 1:20 teacher to pupil ratio. Views by Head Teachers on adequacy of teachers are presented in Table 14.

Comment on Teacher: Pupil Ratio:			
	Responses	Frequency	Percent
	Highly Inadequate	20	35.7
	Inadequate	34	60.7
	Adequate	2	3.6
	Total	56	100.0

Table 14: Head Teachers' Views on the Teacher-Pupil Ratio

The results showed that majority of the Head Teachers 54(96.4%) indicated that the teachers in the schools were inadequate and highly inadequate. Only 2 schools (3.6%) reported that the teachers were adequate. These results show that staffing is not uniform across all the public primary schools. A study carried out by Abdullah (2013) in Mombasa County found that the average teacher to pupil ratio was 1:44 and some schools had ratios as high as 1:58. This was against the Government recommended teacher to pupil ratio benchmark of 1:40.

A study by SEDL (2003) examined data on pupil performance as well as fiscal and human resource allocation from four states of Arkansas, Louisiana, New Mexico and Texas. The study found out that high performing districts in all the four states showed a general pattern where higher performance was associated with higher spending on instruction as a share of current expenditures.

3.4. Apportionment of Funding Expenses Related to Class 1 and Class 8 Pupils

A rural school was selected at random from which statistics related to tuition and personal expenses for Class 1 and 8 were analyzed (Tables 13 and 14).

SN	Item	Annual: Ksh.	Government		Parents	
			Amount: Ksh.	%	Amount: Ksh.	%
	I. Tuition Expenses					
1	Text books	800	208	1.24	592	3.53
2	Text book maintenance	150	16	0.095	134	0.80
3	Exercise books	350	302	1.80	48	0.28
4	Teachers guide & reference	300	104	0.62	196	1.17
5	Stationery	150	62	0.37	88	0.52
6	Assessment and exams	200	38	0.22	162	0.96
	Sub-total for tuition	1950	730	4.36	1220	7.28
	II. Personal Expenses					
1	Complete school uniform	2000	0	0	2000	11.94
2	Shoes	1200	0	0	1200	7.16
3	Socks	300	0	0	300	1.79
4	Transport	7200	0	0	7200	42.98
5	Snacks	3600	0	0	3600	21.49
6	Homework expenses	500	0	0	500	2.98
	Sub-total	14,800	0	0	14,800	88.35
	Grand Total	16,750	730	4.36		95.63

Table 15: Apportionment of Funding for Class 1 Pupils (1 USD = Ksh. 102.00)

Results showed that a Class 1 pupils required Ksh. 16,750 out of which Ksh. 1950 was for tuition and Ksh. 14800 was for personal expenses. Of the tuition expenses the Government contributed Ksh. 730 while parents contributed Ksh. 1220. Personal expenses were only borne by parents.

SN	Item	Annual: Ksh.	Government		Parents	
			Amount: Ksh.	%	Amount: Ksh.	%
	I. Tuition Expenses					
1	Text books	2000	208		1792	
2	Text book maintenance	500	16		484	
3	Exercise books	1800	302		1450	
4	Teachers guide & reference	600	104		496	
5	Stationery	2000	62		1930	
6	Assessment and exams	2000	38		1962	
	Sub-total for tuition	8900	730	1.95	8170	21.79
	II. Personal Expenses					
1	Complete school uniform	5000	0	0	5000	
2	Shoes	3000	0	0	3000	
3	Socks	600	0	0	600	
4	Transport	9000	0	0	9000	
5	Snacks	9000	0	0	9000	
6	Homework expenses	2000	0	0	2000	
	Sub-total	28600	0	0	28600	76.27
	Grand Total	37,500	730	1.95	36,770	98.05

Table 16: Apportionment of Funding for Class 8 Pupils (1 USD = Ksh. 102.00)

Results for the case of Class 8 showed that a Class 8 pupil required Ksh. 37,500 (367.65 USD) out of which Ksh. 8900 (87.25 USD) was for tuition and Ksh. 28600 (280.39 USD) was for personal expenses. Of the tuition expenses the Government contributed Ksh. 730 (7.16 USD) while parents contributed Ksh. 8170 (80.10 USD). Personal expenses, as for the Class 1 pupil, were only borne by parents. From the results of Tables 14 and 15 Government support for tuition expenses for a Class 1 pupil was 4.36% which dropped to 1.95% for a Class 8 pupil. The cost of maintaining a Class 8 pupil was found to be Ksh. 37,500 (367.65 USD) which is 2.24 times the cost of maintaining a Class 1 pupil. The proportion of tuition expenses borne by rule-based Government allocation caters for only 1.95% of the total cost while parents cater for 21.79% of the total cost of tuition for maintaining a Class 8 pupil for one year. These findings concur with views by Head Teachers who indicated that rule-based funding by the Government was inadequate or highly inadequate.

This study has shown that opinion by Teachers and Head Teachers pointed out high inadequacies in the provision of resources, the desired pupil to text book ratio has not been achieved, teacher to pupil ratio is above the benchmark ratio of 1:40 and apportionment of tuition grant is highly inadequate. These limitations have a negative impact on the enhancement of pupils' participation.

4. Conclusions and Recommendations

4.1. Conclusions

The study found that the flat rate policy where the Government allocated a fixed sum per pupil irrespective of the class shifted more burden to parents of pupils in higher classes. The study established that the unit cost for a class 1 pupil was Ksh. 16,750 (164.22 USD) per year spread to tuition Ksh. 1950 (19.12 USD) and personal expenses Ksh. 14,800 (145.10 USD). The Government support of Ksh. 730 (7.16 USD) accounted for only 4.36% of total expenses. However, the unit cost for a class 8 pupil was established to be Ksh. 37,500 (367.65 USD) split into Ksh. 8900 (87.25 USD) for tuition and Ksh. 28,600 (280.39 USD) for other expenses. In this case the Government support of Ksh. 730 (7.16 USD) accounted for only 1.95% of class 8 pupil expenses, thus shifting more burdens to parents. Rule based funding for teachers which covered salaries, medical and leave allowances were inadequate. The study found that discretionary allocation by NG-CDF and NGOs was not based on clear policy leading to non-uniform allocation of these funds. It was established that in only one third of schools was the 1:1 pupil to text book ratio achieved. The study found that the Teacher to pupil ratio in most schools was above the Government benchmark Teacher to Pupil ratio of 1:40.

4.2. Recommendations

The present level of funding for education in public primary schools, through fixed Government grants, discretionary funding through NG-CDF, County Governments, Donors, Fund Raisers and parents needs to be reviewed upwards for effectiveness in achieving the intended purpose of enhancement of pupils' participation.

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