# Comparative Study of Implementation of Early Childhood Education in Kenya

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**Abstract**

*The management of Early Childhood Development and Education (ECDE) in Kenya has been under different organizations which included local authorities, non-governmental organizations, private sector and the national government until 2013 when the county governments took over management of public ECDE. The specific objective of this study was to determine the level of investment in infrastructure in public ECDE schools in Kisumu, Homa Bay, Migori and Siaya Counties since 2013. The researchers adopted Hawe's and Stephen's (1990) Theory of Goals, Context and Agency. Census method was used to select 39 officials in the four counties. Open ended questionnaires were used to collect data. Findings revealed that the counties did not have properly kept ECDE records. The records available indicated that after 2013 there was growth in enrolment and exponential increase in funding to ECDE activities. Expenditure on ECDE was as low as Kshs 90.00 per learner in some counties prior to 2013 while allocation for each ECDE learner was between Kshs 2,053.00 and Kshs 6,102.00 in 2016. Before 2013, class size was between 52 and 64 while in 2016, it was between 33 and 101 learners.*

**Key words:** Early childhood development and education and county government

## Introduction

Care and development of young children is a foundation of social relations and starting point of human resource development. According to Education International (EI, 2012), early childhood is the most critical period for cognitive and social development. Children are active learners from birth, and the first years are vital in determining what the person becomes in adulthood, hence early childhood development and education (ECDE) should be recognized as a first step of basic education and a fully integrated sector within national education systems. Provision of ECDE should be universally accessible and free for all children because high quality ECDE provides the foundation for life-long learning and stimulates children's social, emotional, physical, cognitive and linguistic development (Hirst, Jewis, Sojo & Cavagh, 2011).

Early Childhood Development and Education (ECDE) has been defined in different contextual ways. It has universally been defined as the period from birth (or prenatal) to eight years old (UNESCO, 2010; UNICEF, 2008). Early childhood development and education (ECDE) relates to how well a child is tracking in their education over this period. It looks at the physical health and wellbeing; social competence; emotional maturity; language and cognitive skills, and communication skills and general knowledge, according to International Labour Organization (ILO, 2012). The importance of ECDE to the global community prompted the convention of the World Conference on Education for All (EFA) that took place in Jomtien, Thailand, in March 1990 (UNICEF, 2008). The conference articulated the significance of the early years as the foundation for the life of an individual (UNESCO, 2010). Further, the Dakar Convention of 2000 recognises ECDE as number one objective in Education For All (EFA) goal by 2015 (UNICEF, 2008). The spirits of the two conventions called for policy formulations to entrench ECDE as a basic human right of the child.

**Statement of the Problem**

The constitution of Kenya 2010 bequeaths the management of Early Childhood Education to County Governments. The 47 County Governments are expected to put up adequate infrastructures, recruit qualified teachers and provide enough teaching and learning materials for the enhancement of quality ECDE in public pre-schools. It is about five years since County Governments were established in Kenya. After this period, it is envisaged that the counties have put in place steps to improve quality of ECDE in their respective areas of jurisdiction. The question is: what have county governments done in the provision of quality ECDE? This study therefore sought to investigate the status of infrastructure available for implementation of ECDE in public schools in Kenya.

**The Objective of the Study**

The specific objectives were to determine the level of investment in infrastructure in ECDE in Kisumu, Homa Bay, Migori, and Siaya Counties.

**Scope of the Study**

The study covered early childhood education in public schools in Kisumu, Homa Bay, Migori, and Siaya Counties. The study was carried out between July 2016 and January 2017.

**Limitations of the Study**

This study was restricted to the four counties: Kisumu, Homa Bay, Migori, and Siaya. This may limit the level of generalization to other counties owing to different economic, social and political dispositions. Similarly, some counties did not have all the documents required for this study. This might lead to missing of vital information. However, care was taken by issuing a questionnaire to capture important information that the researcher needed.

**Research Methodology**

The researchers developed open ended questionnaire which was used to collect data. In this study, the target population was thirty nine (39) comprising sub county administrators and three officials from the Governor's office in each of the four counties, totaling to 12 county officials (Kisumu, Homa Bay, Migori, and Siaya). The officials were the county executive member in charge of education, the Chief Officer in the department of education, and the director of ECDE. Sub county administrators were included in the study by the researcher owing to the fact that they are the officers who account for ECDE resources in each sub county. The study adopted census sampling method and distributed as shown in table 1.

**Table 1: Sample size and sample distribution**

| County | County Officials | Sub County Administrators | Total |
|---|---|---|---|
| Kisumu | 3 | 7 | 10 |
| Homa Bay | 3 | 6 | 9 |
| Migori | 3 | 8 | 11 |
| Siaya | 3 | 6 | 9 |
| **Total** | **12** | **27** | **39** |

**Literature Review**

Although most governments across the globe recognize the importance of ECDE, the provision of quality ECDE has met several challenges, most of which are contextual. Infrastructure, trained teachers, and teaching and learning resources have been lacking in adequate measures to satisfactorily aid quality of ECDE learning (EI, 2010).

In Canada, Bonnechere Union Public Library (BUPL, 2006) reports that ECDE teacher turnover rates rose owing to low remunerations by the municipal government upon which recruitment of the teachers are bestowed. In Hungary, where ECDE is subsidized by the government, enrolment is generally high in ECDE centres far beyond the infrastructural capacities of such centres (OECD, 2006). Cuyvers, De Weerd, Dupont, Mols, and Nuytten (2011) investigated the importance of infrastructure to the well-being of learners and consequently to positive educational outcome in Antwerp, (Belgium).

They found that differences in students' well-being can be linked to the quality of the infrastructure of the schools they attend. Equally, De Paola, Ponzo, and Scoppa (2009) examined the effects of class size on students' achievement using data from a project offering special remedial courses in Mathematics and Language skills to freshmen enrolled at an Italian medium sized public University in Italy. It was found that larger classes determine a significant and sizeable negative effect on student performance in Mathematics. The two studies Cuyvers, et al., 2011 and De Paola, et al., 2009however, need to motivate researchers to investigate infrastructural capacities and class sizes with intention to determine quality of education offered among devolved systems across the globe, including Kenya.

A study done in Turkey by İnal, Kandır and Özbey (2009) researched on the difficulties faced by preschool teachers in the planning and implementation of curriculum. It was found that the biggest difficulties teachers faced were in preparing annual plans and choosing objectives, teaching methodologies, and goals for the whole year. Further, Schneider (2013) explored what two Grade R teachers understand literacy to be and how it is implemented in their classrooms in South Africa. It was found that the preschool teacher views literacy as an act of creative expression and her pedagogy is more implicit, while the teacher in the primary school provides more explicit instruction focusing on how texts and language work. High-functioning classrooms with qualified teachers were also found to prepare children to grow up being literate.

Another study by Holland (2011) investigated young children's perception of melodic construction aimed at finding clues about their children's broader cognitive development in non-musical domains in Winconsin, USA. The analysed data revealed common themes with varied results of eagerness or hesitancy to participate, whether bells were moved or played, exploration of bells, internalization of rhythm, cognitive readiness for melodic construction, and role of visual representation. Equally, Kim, Wigram and Gold (2008) investigated the effects of improvisational music therapy on joint attention behaviours in pre-school children with autism in selected Asian countries using 25 ECDE learners (aged 1 to 5 years old) selected from different learning centres. The findings were that joint attention skills and pro-social behaviours were found to be improving through the improvisational therapy.

Fagbeminiyi (2011) used survey approach through self-administered questionnaires to also explore the role of parents in early childhood education in Ikeja, Lagos State, Nigeria. It was revealed that parental involvement, that is emotional care and support has a very big influence on early childhood education, particularly the academic performance of the child and the age which the child is being sent to school. Chikutuma and Mawere (2013) also conducted a research on the quality of administration, teaching and learning of Early Childhood Development B learners (5-6 year olds) of Grade Zero in Zimbabwe. They found that the Early Childhood Development B inclusion in primary schools was not quite viable as it failed to cater for the all-round development of learners. For instance, age appropriate equipment were not available and appropriate activities were not being administered and thus the environment itself was not conducive to the age group's needs of learning through play.

Still in Zimbabwe, Moyo, Wadesango and Kurebwa (2010) investigated the factors that affect the implementation of Early Childhood Development Programmes (ECD). Results indicated, among others, that the qualifications of teachers affected their ability to deliver effective lessons. Large classes reduced teacher-pupil interaction. It was also revealed that teachers and parents had positive attitudes towards Early Childhood Development programmes. The quality of ECDE education was affected due to inadequate infrastructure and quality teachers. However, the situation among regional governments or devolved units in Kenya has not been focused upon. The present study thus chose to focus in this area.

Implementation of educational programmes has been widespread in the professional world and the question of ECDE is no exception (Harcourt, 2008). Moyo, Wadesango, and Kurebwa (2010), while investigating factors that affect the implementation of ECD in Zimbabwe, found that qualifications of teachers affected their ability to deliver effective lessons; large classes reduced teacher-pupil interaction; and that children were vulnerable to deprivation of appropriate experiences because ECD centres were not well equipped. Contextual processes like curriculum and teaching as well as learning materials (SACMEQ, 2010) is essential for successful rollout of ECDE programmes. Gudo and Olel (2011) described quality of education as fitness for purpose and conformance to standards. Fitness for purpose refers to purpose and utility of the product while conformance to standards is standard based approach aligned to the specified standards given by a regulatory agency.

Thus, implementation of ECDE should be viewed under the lenses of contextual processes and outcomes as set by DICECE. However, information related to implementation of ECDE programmes among public primary schools in Kenya has been scarce, and how county governments have been ensuring that ECDE centres are implementing the same has not been gauged.

In Kenya, Murundu, Indoshi, and Okwara (2010) sought to establish the school factors influencing implementation of ECDE Curriculum in Emuhaya District. They found that lack of suitable teaching and learning resources, inappropriate diet, understaffing, inappropriate medium of instruction and teacher-child ratio, and poor grouping practices were the factors hindering effective implementation of the curriculum in ECDE centres Similarly, Rotumoi and Too (2012) investigated the influence of resource availability on the choice of teaching methodologies by pre-school teachers in Baringo District (Kenya). The data revealed that availability and adequacy of space and number of ECDE children had a great influence on the teaching methods teachers adopted. Inadequate finance, poor storage facilities and lack of commitment were cited as reason for failure of the use of child centered methods of teaching.

It is therefore emerging that implementation of ECDE programmes by devolved units remained unfocused upon ever since the management of the same were devolved to county governments in Kenya. Thus, it was interesting to compare the level of investment in infrastructure among counties in Kenya, and to compare teaching quality as well as the teaching and learning materials that have been acquired by different county governments for ECDE programmes.

Section 26 of the Basic Education Act (Republic of Kenya, 2012) states that the roles of the County Government will include the provision of funds required for the development of the necessary infrastructure for institutions of basic education and training used for conducting pre-primary education, childcare facilities, home craft centres and village polytechnics. The scenario here is that the National Government has been disbursing funds to devolved systems meant to cater for but not limited to education, including ECDE, which has been put under the management of County Governments (Republic of Kenya, 2014).

It was therefore important to compare and determine the status of implementation of ECDE among different counties in the country. This study therefore filled this gap by comparing the status of infrastructure, quality teaching, and teaching and learning materials in Kisumu, Siaya, Homa Bay, and Migori Counties.

**Theoretical Framework**

This study adopted Hawe's and Stephen's (1990) Theory of Goals, Context and Agency. The theory tends to restrict itself to primary education in low income countries and takes an essentially humanist stance on education and development. It proposes that quality can be interpreted as having three strands: efficiency in meeting set goals; relevance to human and environmental needs and conditions; and "Something more" in relation to the pursuit of excellence and human betterment (Hawe's & Stephen's 1990)

Hawe's & Stephen's (1990) interpreted efficiency as making the most of inputs, or the tools that are available, in order to reach and improve different kinds of standards, including standards of attainment in knowledge and learning skills; standards of creativity and critical thinking and standards of behaviour. Relevance includes relevance to context, relevance to the present and future needs of learners and relevance to humanity. The latter covers the notion that education has social as well as personal benefits for the individual. Hawe's & Stephen's (1990) do not privilege national economic benefits. The "something more" is explained as that extra quality of inventiveness, stimulation, excitement, and concern for others or happiness which is found, albeit rarely, in schools and teachers (Haw's and Stephen's, 1990).

With this understanding, they constructed a model for assessment and improvement of quality. The goals of quality (e.g. promotes human development and survival) and the principles of practice (learner-based, experience-based, resource-based and sequenced) are placed at the hub of the wheel, surrounded by conditions for successful implementation and an outer circle of agents of implementation (e.g. teachers, administrators). Hence, Hawe's & Stephen's (1990) privilege the value-basis of education as a measure for assessing quality. Enabling context and the agency of educational stakeholders are identified as key inputs, necessary for quality education. In more recent work, scholars have highlighted the context-dependency of educational practices by emphasizing the role of culture (Stephen's, 2007).

Theory of goals, context, and agency was considered relevant in this study because quality of ECDE is embedded upon set goals (to impart reading and writing skills, among others) to a child. For this to be attained, contextual issues like classrooms, desks, pedagogy, and other resources must be adequately put in place. Additionally, there must be an agency whose responsibility is to utilize the available resources for the attainment of the set goals. Thus, teachers and the management of ECDE centres or schools must be adequately prepared with the requisite skills to ensure that quality of ECDE education is achieved in all public schools.

**Results and Discussion**

The objective of the study was to establish the level of investment in ECDE infrastructure among the four counties. In order to establish the level of investment in infrastructure, the researchers sought information regarding the trend of ECDE enrolment in each Sub County between 2010 and 2016 so that adequacy of infrastructure could be gauged. Establishing ECDE enrolment is essential in measuring infrastructural requirements such as classrooms needed for quality of ECDE. Table 2 presents the distribution of ECDE enrolment in the sampled Sub Counties.

**Table 2: ECDE Enrolment in each Sub County between 2010 and 2016**

| Years | 2010 | | 2011 | | 2012 | | 2013 | | 2014 | | 2015 | | 2016 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S.C | M | F | M | F | M | F | M | F | M | F | M | F | M | F |
| SC. A | 0 | 0 | 0 | 0 | 0 | 0 | 2530 | 3672 | 2610 | 3736 | 2621 | 3811 | 2641 | 3831 |
| SC.B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3243 | 2975 | 3291 | 2987 | 3301 | 3045 |
| SC. C | 2231 | 2142 | 2084 | 2145 | 2142 | 2061 | 2905 | 2166 | 3042 | 2041 | 4542 | 5538 | 4935 | 5721 |
| SC. D | 4288 | 4167 | 4169 | 4301 | 0 | 0 | 4762 | 4791 | 4869 | 5200 | 0 | 0 | 0 | 0 |
| SC. E | 2431 | 3532 | 3121 | 4121 | 3886 | 3883 | 3423 | 3924 | 4341 | 5250 | 6300 | 6178 | 7075 | 6798 |
| SC. F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4672 | 5138 |
| SC. G | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6350 | 5863 |
| SC. H | 0 | 0 | 0 | 0 | 0 | 0 | 3115 | 3621 | 3131 | 3672 | 3211 | 3670 | 3320 | 3681 |
| SC. I | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6435 | 6122 |
| SC J | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SC. K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3765 | 5120 |
| SC. L | 2843 | 2601 | 2951 | 2580 | 2971 | 2563 | 3000 | 2650 | 3283 | 2600 | 3291 | 2615 | 3340 | 2790 |
| SC. M | 0 | 0 | 0 | 0 | 0 | 0 | 3105 | 2650 | 3215 | 2720 | 3300 | 2766 | 3340 | 2790 |
| SC. N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5371 | 4933 |
| SC. O | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3489 | 4619 | 3515 | 4635 | 3573 | 4681 |
| SC. P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7539 | 7789 | 0 | 0 |
| SC. Q | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2783 | 3540 | 2815 | 3572 | 2910 | 3583 |
| SC. R | 3450 | 2840 | 3510 | 2915 | 3611 | 2972 | 3619 | 2977 | 3702 | 3000 | 3715 | 3017 | 3731 | 3115 |
| SC. S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2135 | 2315 | 2211 | 2327 | 2231 | 2340 |
| SC. T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3975 | 2836 |

Table 2 indicates that one sub county (SC-J) did not have enrolment records. Among the sub counties with enrolment records, only four of them had enrolment records for ECDE from 2010 to 2016. Considering the period 2010 – 2016, findings from available records indicate higher enrolment of learners in ECDE in 2014 compared to 2013. From table 2, it can further be noted that many sub counties did not have records on ECDE enrolment.

Lack of appropriately kept records could be attributed to lack of supervision on one hand, and poor management of the ECDE centers. Acute lack of qualified education officers to supervise ECDE programs was similarly found by Bukaliya and Mubika (2012) in a study done in Zimbabwe. In fact, Muthaa (2015) specifically established that ECDE centers in Imenti South District were rarely supervised by government education officers in a study that sought to determine the factors that affect the implementation of ECDE Programmes.

The second part of level of investment enquired was the amount that the national government has spent in ECDE in the sampled sub counties before 2013. The researchers did not find records for the national government expenditure in C-1 and C-4. Table 3 presents the expenditure in ECDE by the national government in county 2 (C-2) and county 3 (C-3).

**Table 3: National Government ECDE Expenditure before 2013**

| County | 2010 | 2011 | 2012 |
|---|---|---|---|
| County 1 (C-1) | 0 | 0 | 0 |
| County 2 (C-2) | 305,807 | 89,113 | 122,409 |
| County 3 (C-3) | 150,000 | 200,0000 | 300,0000 |
| County 4 (C-4) | 0 | 0 | 0 |

Table 3 illustrates that there was a decrease of Kshs 183,398 in national government expenditure in C-2 between 2010 and 2012 while in C-3, there was an increase in national expenditure of Kshs 2,850,000 during the same period. Thus, there was no consistency as to the amounts dispersed to various ECDE programmes.

Concerning total county budget allocation between 2013 and 2016, the study was able to obtain complete records for 2013 to 2016 in C -1 and C-3: Counties 2 and 4 (C-2 and C-4) did not have complete records. Table 7 presents county budget allocations for ECDE between 2013 and 2016.

**Table 4: County Budget Allocations for ECDE between 2013 and 2016.**

| County | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|
| 1 (C-1) | 205,800,000 | 21,000,000 | 36,988,000 | 373,000,000 |
| 2 (C-2) | 67,064,000 | 158,497,985 | 157,560,000 | 193,980,000 |
| 3 (C-3) | 505,000,000 | 505,000,000 | 505,000,000 | 505,000,000 |
| 4 (C-4) | 0 | 150,000,000 | 250,000,000 | 200,000,000 |

As presented in Table 4, there was exponential increase in funding going to ECDE since 2013, courtesy of County Governments. Record management seemed to have improved despite the need for more effort in this area.

The study further compared the ECDE enrolment for period 2010 to 2012 and for the period 2013 to 2016 with the budgetary expenditure and allocation to obtain the average expenditure and allocation per learner during the respective periods. This comparison was only possible with C-3 which had complete ECDE enrolment data for 2013. Table 5 presents ECDE expenditure per learner for 2010 to 2012 in C-3.

**Table 5: Distribution of ECDE expenditure per learner for 2010 to 2012 in C-3**

| Year | Number of Learners | Amount of expenditure (Kshs) | Ratio |
|---|---|---|---|
| 2010 | 36,125 | 150,000.00 | 1: 4.15 |
| 2011 | 32,335 | 2,000,000.00 | 1: 61.85 |
| 2012 | 33413 | 3, 000,000.00 | 1: 89.80 |

Table 5 indicates that the amount of ECDE expenditure per learners in C-3 between 2010 and 2012 was very small. In 2010 for instance, only an average of Kshs 4.15 was spent on each ECDE learner. Similarly, a paltry average of Kshs 61.00 was spent on each ECDE learners in 2011 in the same county. The table also indicates that an average of Kshs 89.80 on each ECDE learner in 2012. This finding tends to point at neglect that implementation of ECDE suffered prior to 2013.

The researcher proceeded to analyse ECDE budgetary allocation per learner in each county for the period ending 2016. Table 6 presents the distribution of budgetary allocation per learner for 2016.

**Table 6: Distribution of Budgetary allocation per learner for 2016**

| County | No. of Learners | Budgetary allocation for 2016 (Kshs) | Ratio |
|---|---|---|---|
| C-1 | 85,050 | 373, 000,000.00 | 1: 4, 385.00 |
| C-2 | 94,449 | 193, 980,000.00 | 1: 2, 053.00 |
| C-3 | 82,747 | 505, 000,000.00 | 1: 6,102.00 |
| C-4 | 69,848 | 200,000,000.00 | 1: 2, 863.00 |

Findings in Table 6 illustrate that the budget allocation for each ECDE learner had exponentially increased to a range from Kshs 2,053 to Kshs 6,102 compared to the allocation per learner of Kshs 89.8 in 2012.

Concerning the amount of money that the County Governments invested in ECDE infrastructure since 2013, only County 3 (C-3) was found with complete records. Table 7 presents distribution of amount of money spent on infrastructure by county governments under study.

**Table 7: Distribution of Amounts spent on ECDE Infrastructure**

| COUNTIES | 2013 | 2014 | 2015 | 2016 | Totals |
|---|---|---|---|---|---|
| **C- 1** | 0 | 78800000 | 22000000 | 160,000000 | 268,800,000 |
| **C- 2** | 1650000 | 84100000 | 32,400,000 | 29,700,000 | 147,850,000 |
| **C- 3** | 12,000,000 | 10,000,000 | 10,000,000 | 10,000,000 | 42,000,000 |
| **C-4** | 0 | 110,000,000 | 211,000,000 | 190,000,000 | 511,000,000 |

Table 7 illustrates that C-1 and C-4 did not have ECDE infrastructure expenditure records for 2013. The table further indicates that C-4 has the highest expenditure (Kshs 511,000,000) on ECDE infrastructure, followed by C-1 (Kshs 268,800,000); C-2 (Kshs 147,850,000) and lastly C-3 (Kshs 42,000,000.

Findings in Table 7 illustrate a sharp increase in ECDE expenditure since 2013. For instance, compared with the period before 2013 as shown in Table 4.7, expenditure in ECDE infrastructure increased to Kshs 12,000,000 in 2013 from an overall amount of Kshs 122, 409.00 in 2012 in C-3. It can be noted that there was an average increase of over Kshs 10,000,000.00 in ECDE expenditure after 2013 in each of the four counties.

The study also established the number of classrooms being used by ECDE learners between 2010 and 2016. Table 8 presents the number of classrooms used by ECDE learners in each county between 2010 and 2016.

**Table 8: Distribution of Classrooms used by ECDE learners**

| Counties | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|
| **C-1** | 00 | 00 | 00 | 899 | 941 | 983 | 1025 |
| **C- 2** | 00 | 00 | 692 | 692 | 810 | 877 | 895 |
| **C- 3** | 526 | 634 | 650 | 660 | 720 | 806 | 814 |
| **C- 4** | 00 | 00 | 00 | 1285 | 1750 | 2010 | 2100 |

Table 8 illustrates that C-1 and C-4 did not have records of the number of classrooms constructed in 2010 up to 2012. Similarly, C-2 did not have records of the number of classrooms used by ECDE learners for 2010 and 2011. However, C-4 had the highest number of classrooms (2,100 classrooms) by end of 2016, followed by C-1; C-2, and C-3 respectively. Table 8 further illustrates that the classrooms has continued to increase each year.
Based on enrolment records in Table 9, the study was able to analyse the class size in the counties with both enrolment data as well as records of the number of classroom for the period ending 2016. Table 9 presents the number of learners per classroom by end of 2016.

**Table 9: Distribution by Ratio of Classrooms to Learners in 2016**

| County | No of Learners | No of Classroom | Ratio of Classroom to Learners |
|---|---|---|---|
| C-1 | 85,050 | 1025 | 1: 82 |
| C-2 | 94,449 | 895 | 1: 105 |
| C-3 | 82,747 | 814 | 1: 101 |
| C-4 | 69,848 | 2100 | 1: 33 |

Findings in Table 9 illustrate that an average of 82 learners shared a classroom in C-1; C-2 had an average population of 105 learners per classroom; C-3 had an average population of 101 learners per classroom, while C-4 had an average population of 33 learners per classroom. This finding seems to imply the continued need for more classrooms. Whereas the County Governments provide new classrooms each year for ECDE, owing to the constant growth in the number of learners, there seems to be shortage of classrooms in some counties such as C-2 and C-3. This finding corroborates Nafungo (2015), which found that Nairobi county government and national government were not allocating enough finances for ECD infrastructure in the Kibera slums.

The findings in table 9 seem to concur with the World Bank's (2013) assertion that in Sub-Saharan Africa, the challenge of providing adequate early childhood education infrastructural facilities is huge, and an estimated cost of up to US$ 30 billion was needed to build up to 10 million classrooms.

**Conclusions**

Based on the findings of the study, it was concluded that most counties had poor management of records. It was difficult and at times impossible to get records on enrolment, money received and spent by the department, infrastructure and teaching materials available and the number of teachers available. This was a challenge that could pose a serious problem to management of education at this level.

It was established that three counties did not have ECDE expenditure records from 2010 to 2012 except C-3. The amount of ECDE expenditure per learner in 2010 averaged to Kshs 4.15; an average of Kshs 61.00 in 2011; and an average of Kshs 89.80 on each ECDE learner in 2012. However, in 2016, the amount of investment per learner had improved to amounts raning Kshs 2,053 to Kshs 6,102.

The number of classrooms was an average of 82 learners per each classroom in C-1; C-2 had an average population of 105 learners per classroom; C-3 had an average population of 101 learners per classroom, while C-4 had an average population of 33 learners per classroom. It was concluded that Counties C-2 and C-3 experienced shortage of ECDE classrooms.

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