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# Centre-Related Challenges in the Provision of Early Learning Opportunities in Kiambu County, Kenya: Implications for Children's Development and Education

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## Abstract

Provision of quality early learning opportunities in Early Childhood Development (ECD) centres promotes adequate stimulation, development of school readiness skills, and holistic development of children. This study investigated centre-related challenges in the provision of early learning opportunities in ECD centres in Kiambaa Sub-county of Kiambu County in Kenya, as well as their implications on children's development and education. The study used Bronfenbrenner's Ecological Systems Theory (1970) to explore the multiple challenges in the provision of early learning opportunities in the ECD centres. The study used descriptive and qualitative methods to explore the existing challenges. The target population were 188 ECD centres from which 18 ECD centres were sampled. The study used questionnaires, interview schedules, and observation checklists to collect data, which were analyzed using descriptive statistics, thematic analysis, and content analysis. Results showed that infrastructure and amenities in most ECD centers were inadequate due to insufficient funds and space. It was recommended that there is a need for the County Government to allocate more funds to public ECD centres for the development of more infrastructure and amenities to enhance the provision of early learning opportunities in the ECD centres.

**Keywords:** *Provision of early learning opportunities, centre related challenges, early childhood development centres, access to quality, inclusive education, Kiambu County, Kenya*

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## 1. Introduction

Early Childhood Development (ECD) is the most critical period of human development because it lays the foundation for lifelong learning. Globally, Sustainable Development Goal (SDG) Target 4.2 calls for universal access to quality pre-primary education (UN, 2015). In Kenya, the Constitution (2010) mandates County Governments to oversee the provision of pre-primary education (Government of Kenya, 2010). The national pre-primary education policy further underscores the government's commitment to quality services in ECD centres (Republic of Kenya, 2018).

The quality of the physical environment is a prerequisite and a key component of quality early learning opportunities, which directly affects children's cognitive, physical, and socio-emotional development, as well as their health and safety in ECD centres. It also improves children's development and learning outcomes by fostering safety, increasing concentration,

reducing absenteeism, and promoting better health outcomes (Begi, Mwoma, & Murungi). A conducive physical environment in ECD centres improves caregiver morale and enhances children's self-esteem, which reduces dropout rates (Welsh, 2000). The quality of the environment in ECD centers also leads to better health and completion rates and retention of caregivers (Thapa et al., 2013).

Investment in quality infrastructure yields high economic returns through improved human capital development, creating the need to improve the quality of resources in the centers (Begi, 2023). The Basic Education Act 2013 (Government of Kenya, 2013) and the National Pre-primary Education Policy and Early Childhood Development Service Standard guidelines require that facilities in ECD centres should be age-appropriate (Republic of Kenya, 2018). However, regardless of these policy provisions, implementation remains inconsistent. The transition challenges affecting children's achievement of literacy competencies in ECD centres, as reported by Kigadi and Begi (2021), further compound these difficulties, particularly in resource-constrained settings.

Kiambu County has made significant investments in ECD infrastructure, recruitment of caregivers, provision of instructional resources and feeding programmes. Despite these developments, persistent challenges remain, including resource inequalities, inadequate facilities, and limited inclusion for children with special needs (Kiambu County Government, 2026). Ngirera and Begi (2018) similarly found that centre-related factors influenced curriculum implementation in ECD centres in Turkana County, underscoring the persistent nature of these challenges across different regions of Kenya. Thus, this study sought to investigate centre-related challenges in the provision of early learning opportunities in ECD centers in Kiambaa Sub-County of Kiambu County and their implications on young children's development and education.

### 1.1 Problem Statement

Globally, ECD is acknowledged as the foundation for human capital development and social transformation. In Kenya, the devolution of ECD to County Governments was meant to improve the quality and bring services closer to children. However, research shows that significant gaps persist between policy and practice.

In Kiambu County, even though a lot of progress has been made in ECD, centre-related challenges continue to undermine the provision of quality early learning opportunities. These challenges have direct implications on children's development and education. There was limited research done in Kiambu County to elaborate how centre-related challenges affected the provision of early learning opportunities and their implications on children's development and education. This lack of local research limits the county government's ability to develop relevant interventions. Thus, this study was designed to investigate the centre-related challenges in the provision of early learning opportunities in ECD centres in Kiambu County and their implications on children's development and education.

### 1.2 Objectives of the Study

(i) To explore the centre-related challenges in the provision of early learning opportunities in early childhood development centres.
(ii) To examine the implications of centre-related challenges on children's development and education in early childhood development centres.

### 1.3 Research Questions

(i) What are the centre-related challenges experienced in the provision of early learning opportunities in early childhood development centres?
(ii) What are the implications of centre-related challenges on children' development and education?

## 2. Literature Review

This study was guided by Urie Bronfenbrenner's Ecological Theory (1970). According to the theory, five environments (Microsystems, Mesosystems, Exosystem, Macrosystem, and Chronosystem) influence children's development and education. According to Bronfenbrenner, these environments affect one another, and several factors within each environment influence children's development and education.

The microsystem was relevant in examining the physical environment of ECD centres. The mesosystem helped to explain the dynamics of parental involvement. The exosystem was useful for analysing financial constraints and resource allocation, while the macrosystem provided context for understanding policy implementation gaps. The chronostem helped to contextualize how changes in policy and socio-economic conditions over time have influenced the current state of ECD centers in the sub-county.

## 3. Methodology

### 3.1 Study Design

A descriptive research design was utilized, combining both qualitative and quantitative approaches to examine centre-related challenges in ECD centres in Kiambaa Sub-County, Kiambu County.

### 3.2 Study Setting

The study was conducted in Kiambaa Sub County of Kiambu County, Kenya. The location was chosen because it has an ever-rising number of ECD centres and a diverse learning landscape, including rural and urban settings and private and public schools (Wainaina & Kamau, 2024).

### 3.3 Target Population and Sample

The target population was 188 ECD centres in Kiambu Sub-County. The participants were caregivers and ECD administrators from the 188 centres (Kiambu County, 2024). Using stratified, purposive, and simple random sampling, 18 ECD centres were selected. The sample of respondents was 36, consisting of one caregiver and one ECD centre administrator.

### 3.4 Research Instruments

The study utilized questionnaires for caregivers, interview schedules for school administrators, and observation checklists. The questionnaire collected quantitative data. The interview schedule was used to collect qualitative data from the administrators of ECD centres. The observation checklist was used to confirm the delivery of early learning opportunities and the existence of challenges in ECD centers in Kiambaa Sub-County.

### 3.5 Validity and Reliability

Content validity was achieved by ensuring that test items covered all study objectives and variables. Reliability was established through test-retest of the tools during a pilot study in two ECD centres, one public and the other private. Results from the analysis of the two data sets were similar; therefore, the tools were reliable.

### 3.6 Data Collection and Analysis

The data were collected in three stages using questionnaires, interviews, and observation checklists. Quantitative data were analysed using descriptive statistics, while qualitative data were analysed using thematic and content analysis.

### 3.7 Ethical Considerations

Permission to collect data was obtained from the National Commission for Science, Technology and Innovation and permission from Kiambu County Education Office. Further approval and consent were obtained from the management of the sampled ECD centres and participants involved in the research.

## 4. Results and Discussion

### 4.1 Centre-Related Challenges

The study's primary finding identified inadequate infrastructure as the most prevalent centre-related challenge, compounded by poor working environments and financial limitations that collectively create a systemic barrier to the provision of quality early learning opportunities in Kiambaa Sub-County. Table 1 presents the frequency and percentage distribution of centre-related challenges affecting provision of early learning opportunities in the sub-county.

**Table 1: Centre-Related Challenges Provision of Learning Opportunities**

| | Challenge | Frequency | % |
|---|---|---|---|
| 1. | Insufficient infrastructure and amenities | 18 | 100 |
| 2. | Poor working environment | 17 | 94.4 |
| 3. | Financial limitations | 15 | 83.3 |
| 4. | Insufficient space and equipment for outdoor activities | 14 | 77.8 |
| 5. | Low parental participation | 13 | 72.2 |
| 6. | Poor health, hygiene and safety conditions | 12 | 66.7 |
| 7. | Lack of inclusion and equity for children with special needs | 10 | 55.6 |
| 8. | Inadequate ICT resources | 7 | 38.9 |
| 9. | Climate challenges | 5 | 27.8 |

The results show that the major challenges in the ECD centres were: Insufficient infrastructure and amenities (100%), poor working environment (94.4%), financial limitations (83.3%), insufficient space and equipment for outdoor activities (77.8%), and low participation of parents. Other challenges included poor health, hygiene, and safety conditions; lack of inclusion and equity for children with special needs; inadequate ICT resources; and climate challenges.

The results are in agreement with those of Githuthwa (2021), which indicated a lack of physical facilities and limited funds as the major challenges facing ECD centres in Lari Sub-county. The 100% frequency for infrastructure reinforced the perception that Kiambu County's ECD faces

a persistent struggle for physical resources relevant to early learning. This resonates with Begi's (2023) economic analysis, which argues that underinvestment in early childhood education infrastructure creates long-term human capital deficits with significant economic implications.

Interviews with school administrators revealed five main themes regarding centre-related challenges, which have been analysed as follows:

**Theme 1: Inadequate Infrastructure and Facilities**

This was the major challenge most participants mentioned. ECD managers mentioned inadequate and small classrooms, a lack of appropriate furniture, inadequate materials, sharing classrooms with primary pupils, sharing toilets with the primary school, insufficient and old outdoor play equipment, toilets that are not age-appropriate, a lack of child-sized furniture, classrooms that are not well ventilated, and limited outdoor equipment. One manager reported:

> *"Yes, we have inadequate teaching and learning materials, as we don't always have enough charts, toys, or books for every child. Overcrowding is also an issue, especially since public ECD enrolment has increased under free education. Our classrooms are small and sometimes not well ventilated" (Manager Public ECD Centre 1).*

Another manager added:

> *"One of them is insufficient learning materials, which makes it hard to engage learners equally. Yes, sometimes we don't have writing materials or reading materials (Manager Public ECD Centre 3).*

The results are supported by Magoma et al. (2025), who found that regardless of the existence of diverse ECDE programmes in ASAL regions, their quality was jeopardized due to challenges including poor infrastructure and limited funding. Ngirerea and Begi (2018) similarly found that inadequate physical resources significantly constrained curriculum implementation in early childhood development programmes in Turkana County.

**Theme 2: Financial Constraints**

ECD managers reported low funding due to overreliance on parents, delayed fee payments, and late disbursement of funds by the government. All managers who reported this challenge were from public centres, indicating high dependency on public funding. One participant stated:

> *"Also, there is limited funding, which affects maintenance and timely purchase of learning and teaching materials, and I wish the responsible persons or bodies would make this go away and ensure that we deliver quality and timely education to our children" (Manager Public ECD Centre 5).*

This finding corroborates Njiru et al. (2018), who found that physical facilities significantly influenced satisfaction with the quality of education, and Koskei (2013), who established that lack of physical facilities and trained human resources continues to hinder curriculum delivery in most ECD centres in Kenya.

**Theme 3: Poor Health, Hygiene and Safety Conditions**

Participants reported a lack of adequate, clean water for hygiene and drinking, poor sanitation facilities, and an irregular water supply. Almost all participants mentioned shared toilets. One manager noted:

> "*Another is poor sanitation facilities, where the toilets are shared with the primary section and are not age-appropriate for younger children. There are also inadequate facilities; the classrooms are small, not well ventilated, and they lack child-sized furniture, which makes it harder for the children" (Manager Public ECD Centre 7).*

These findings align with Mwoma et al. (2018), who found that safety and security in preschools, particularly in informal settlements, presented significant challenges. Murungi et al. (2021) similarly documented that children's safety and security in non-formal pre-primary schools required urgent interventional measures. The lack of age-appropriate sanitation facilities is particularly concerning given young children's health and hygiene needs.

**Theme 4: Poor Working Conditions**

Challenges included delayed salaries, inadequate materials, multiple duties, and overcrowding due to lack of classrooms. The most common challenge was overcrowding. A manager explained:

> *"One of them is overcrowding. The number of children keeps increasing, leading to congestion in classrooms and playgrounds. Another one, on the overcrowding issue, is that the teacher-child ratio is high" (Manager Public ECD Centre 6).*

This finding resonates with Ngala and Begi (2017), who identified school-related factors causing teacher attrition in pre-primary schools, and Rono et al. (2020), who demonstrated the correlation between class size and acquisition of early mathematics competencies. Overcrowding undermines the quality of instruction and limits individualised attention essential for early learning.

**Theme 5: Limited Parental Involvement**

ECD managers reported low participation, weak collaboration, and parents not attending meetings or providing materials. One participant observed:

> *"Another one is limited parental engagement and involvement, where parents think that once they bring their children to school, their work is done, and they're not engaged in any other business relating to the child. This makes it hard to achieve holistic child development because it's a play between the teacher and the parent. And if one is not functional, you're bound to fail at some point" (Manager Public ECD Centre 3).*

This observation aligns with Ireri and Begi (2019), who highlighted the role of parents in school management, and Mariba and Begi (2020), who also established a relationship between school climate and parents' involvement. The perception that parental role ends at enrolment represents a significant barrier to holistic child development and educational continuity between home and school.

Observation results confirmed challenges related to infrastructure and a lack of adequate learning materials. The researchers observed that a majority of centres relied on teacher-made or improvised materials due to lack of funding. While toilets were generally clean, they were limited and shared, presenting a sanitation challenge. A majority of centres also lacked resources and structures for supporting children with special needs.

The reliance on teacher-made materials, while creative, indicates resource limitations that may affect the consistency and quality of learning experiences. The observation that most centres lacked resources for children with special needs is particularly concerning given policy commitments to inclusive education. This finding aligns with Wafula et al. (2020), who found

that inclusive remedial teaching required specific resources and training that were often lacking.

### 4.2 Implications of Centre-Related Challenges on Children's Development and Education

Poor health and hygiene conditions affect children's physical development. Inadequate infrastructure, limited space for outdoor play, and poor health and hygiene negatively affect children's development and education. Children lacked opportunities for gross motor development. Children were not engaged in running, jumping, and other physical activities essential for developing muscle strength and coordination. As one manager remarked:

> *"The children don't have enough space to run and play. They are confined to small, crowded classrooms most of the day (Manager Public ECD Centre 4).*

These results agree with Begi, Mwoma, and Murungi (2023), who found that inadequate space for play in preschools in informal settlements hindered children's physical development. Likewise, Opondo (2016) found that many preschools in the slum areas lacked play facilities, affecting children's development and education.

The findings revealed significant implications for children's social-emotional development. The limited space for play and interaction, combined with safety concerns, restricted children's opportunities for socialization and peer interaction. Children cannot develop essential social skills, for example, cooperation and conflict resolution. One manager had said:

> *"Children don't have space to play together. They are always in class because there is no playground" (Manager Public ECD Centre 8).*

The poor working environment and low parental involvement also affected children's emotional security and well-being. Children from centres where caregivers were demotivated due to poor working conditions lacked the nurturing, responsive care essential for emotional development. The results align with Ireri and Begi (2019), who highlighted that parental involvement is critical for children's holistic development.

The study found that poor health, hygiene, and safety conditions had serious implications for children's health and safety. The sharing of toilets with primary school children, lack of age-appropriate sanitation facilities, and inadequate clean water exposed children to various health risks, including respiratory diseases and gastrointestinal infections. One manager reported:

> *"Toilets are not safe for young children. They are too big, and sometimes the children are afraid to use them. We also don't have enough water for handwashing after using the toilets" (Manager Public ECD Centre 2).*

These findings align with Mwoma, Begi, and Murungi (2018), who found that safety and security challenges in preschools exposed children to various risks. Murungi et al. (2021) similarly had found that children's safety and security in non-formal pre-primary schools required urgent interventional measures. The lack of fencing and lockable gates exposed children to dangers from strangers, animals, and traffic.

The study revealed that the lack of inclusion and security for children with special needs had significant implications for their right to quality education. Observations had confirmed that most centres lacked resources, trained personnel, and accessible facilities to accommodate children with disabilities. Children with special needs were either excluded from ECD programmes or attended without receiving appropriate support. This finding contravenes the

constitutional provision that every child has a right to quality education. One manager explained:

> *"We don't have resources or training to handle children with special needs. If a child has a disability, we don't know how to help them. Some parents bring their children, but we cannot provide the support they need" (Manager Public ECD Centre 5).*

These findings align with Wafula et al. (2020), who found that inclusive remedial teaching required specific resources and training that were often lacking in resource-constrained settings.

## 5. Conclusion

The main centre-related challenges in ECD centres in the sub-county were insufficient infrastructure, poor working environment, and inadequate space. Lack of adequate funds was identified as the main cause of most of the other related challenges, particularly in public ECD centres.

It was also concluded that the centre-related challenges have serious implications for children's development and education, including hindering children's physical, cognitive, and social-emotional development. The others include poor health and safety. These implications compromise children's school readiness, smooth transition to primary school, and long-term educational outcomes.

These findings confirm the persistent nature of centre-related challenges documented in previous research across Kenya (Ngirerea & Begi, 2018; Njiru et al., 2018) and highlight the need for comprehensive, systemic interventions. The study further demonstrates the applicability of Bronfenbrenner's Ecological Systems Theory in understanding how challenges at multiple levels, from the immediate physical environment (microsystem) to policy and resource allocation (exosystem and macrosystem), interact to affect early learning opportunities and children's holistic development.

## 6. Recommendations

To effectively address the systemic challenges of inadequate infrastructure, financial constraints, poor working conditions, and limited parental engagement identified in this study, a multi-pronged intervention strategy is essential, targeting distinct responsibilities for the county government, centre managers, and caregivers.

### 6.1 County Government

With the research concluding that financial constraints affected most other centre-related challenges and their implications on children's development, the national and county governments should enhance budgetary allocations to public ECD centres. Increasing capitation to support infrastructural development, including renovating old classrooms and constructing new, spacious, and well-ventilated ones, as well as providing sufficient CBC-aligned teaching materials, will mitigate infrastructural insufficiencies. Funding improvements should also target outdoor play equipment, a reliable clean water supply for hygiene and drinking, and ICT integration. This recommendation aligns with Begi's (2023) economic analysis, which emphasizes the long-term returns on early childhood education investment.

### 6.2 ECD Centre Managers

Managers should proactively encourage parental and community engagement in ECD learning opportunities. Establishing parent volunteer programmes and clearly communicating the value of play and parental involvement in CBC would enhance provision. To mitigate the poor working environment noted by over 90% of participants, management should support caregivers by recognising their efforts to cultivate motivation.

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