

Resource Allocation and Access to Early Childhood Development Learning in Samburu County, Kenya

Gabriel Lekaaso^{1*}, Dr. Wilson Muna²

^{1,2}Department of Public Policy and Administration, Kenyatta University

Corresponding Author's E-mail: kaasogab@yahoo.com

Accepted: 08 October 2025 || Published: 23 October 2025

Abstract

Access to quality Early Childhood Development Education (ECDE) is recognized as a cornerstone for lifelong learning and human capital development. In Kenya, the devolution of education functions to county governments has heightened the need for equitable and efficient resource allocation to support ECDE programs. This study examined how resource allocation influences access to education for ECDE learners in Samburu County, Kenya. The research employed a descriptive survey design targeting 564 respondents, including ECDE teachers, head teachers, Quality Assurance and Standards Officers (QASOs), and School Management Committees (SMCs). Data were collected using semi-structured questionnaires and interview guides, with a response rate of 76.5 percent. Descriptive statistics revealed that most respondents perceived county funding for ECDE as inadequate, with low mean scores reported for teacher recruitment, training, and Parental contribution. Regression analysis showed a weak but positive correlation between resource allocation and access to education, although the effect was not statistically significant when controlling for other variables. Qualitative findings highlighted persistent challenges, including limited infrastructure, inadequate learning materials, and overreliance on non-governmental contributions. The study concludes that while resource allocation is critical for ECDE access, its effectiveness is mediated by complementary factors such as monitoring, technical capacity, and community engagement. The paper recommends improved budget prioritization, transparent disbursement, regular teacher training, and strategic public-private partnerships to strengthen early childhood education outcomes.

Keywords: *Resource allocation, Early Childhood Development, Access to education, Samburu County, Kenya, Devolved governance*

How to Cite: Lekaaso, G., & Muna, W. (2025). Resource Allocation and Access to Early Childhood Development Learning in Samburu County, Kenya. *Journal of Public Policy & Governance*, 5(2), 15-25.

1. Introduction

Access to early childhood development is a critical element in the growth and development of a country's generation. However, its access has been limited by the unavailability of adequate resources to set up and roll out, and build capacity for the human resources. In the United States of America, the National Institute for Early Education Research (2024), access to ECDE in pre-schools funded by the state post the COVID-19 pandemic era is not equal across states. However, despite federal funding, the greatest barriers are unequal and, in some cases, the inadequacy of funds.

In India, the National Education Policy for the year 2020 advocates and provides regulations on how ECDE should be implemented to ensure universal access by 2030 through the formal

education structures that integrate it into existing formal structures. However, it has been noted that implementation of the policy can only be successful if public funding towards the ECDE projects is increased, the capacity of ECDE is built through constant training, and an increase in collaborations from different departments to ensure the projects increase access to ECDE (Ministry of Education, Government of India, 2020).

In South Africa, Early childhood development education is the government's top priority, but its implementation is impeded by myriad factors such as fragmentation of departments supporting the field and funding challenges that impede access, and derail the ECDE quality. Moreover, it has been reported that the sector has constant inadequacy of ECDE human resources, insufficient Learning and teaching materials, further compounded by underfunding (Labantwana, 2024; World Bank, 2021).

While reviewing the state of early childhood education in Nigeria, the World Bank (2024) reported that the country has the largest social, economic, and regional disparities in areas such as nutrition, health, and education. As much as early childhood development is a critical service to the country's long-term human capital, access was challenged by insufficient financial resources and investments from the government, high poverty rates, and constant conflicts, particularly in the Northern regions of the country.

In Rwanda, there is an integrated early childhood development policy that has prioritized access to the service and gives guidelines towards achieving adequate infrastructure and standard quality of education for young learners. Despite the policy, there are widespread disparities in the quality of infrastructure in place, due to the different levels of ECD-based centers. The poorest districts have been reported to have minimum standards and the lowest compliance, blamed on non-targeted resource allocation to needy districts, inadequate monitoring, and lack of direct investments (Pages et al., 2025).

In Kenya, Piper, Merseth, and Ngaruiya (2018), while investigating the readiness of the devolved model of early childhood development and its access in the public system, focused on how ready the county governments were in implementing the program, through the provision of learning materials, capacity trainings to build the capacity of ECDE teachers, coaching, and provision of infrastructure. The results indicated that county government readiness varied across counties, with those that allocated resources for teacher training, learning, and materials showing progressive access to ECDE.

In Nairobi County, especially in the informal settlements, access to quality early childhood development is reported as uneven, despite the role of its provision and development being devolved to the county governments. Their operations are based on minimal financial, material, and human resources, with incomplete payroll coverage for teachers, no ring fences as required by policies, and thus, sustainability is uncertain (Aga Khan University, Institute for Human Development, 2025; Sawa Agenda, 2022).

Kisumu County, with a mix of rural and urban characteristics, has a policy with heightened attention to ECDE provision; however, disparities are present in terms of preparedness and access in urban and rural areas. The differences are in funding, provision of learning materials, teacher trainings, and payment of teachers, with an upper hand to resources and access being more evident in the urban contexts (Kisumu County Assembly, 2023).

In Turkana County, the way of life has greatly affected resource allocation and access to ECDE. The constant mobility of the pastoralist communities hinders the development and provision of permanent learning centers. This is further exacerbated by inadequate teachers, minimal

learning materials, and a lack of structures to provide the service to the young learners (Ng'asike & Swadener, 2025).

In Samburu County, a predominantly arid and semi-arid land inhabited by the pastoralist community, it is characterized by sparse infrastructure, and over the years has been known for non-investment in ECDE. Just like many other counties inhabited by the pastoralist communities, access to the service suffers a major blow in Samburu County. In the central sub-county, ECDE Centers have makeshift structures, limited learning resources, recurrent cost investments that sabotage capital infrastructures, hence access constraints (World Vision-Kenya, n.d). It is thus based on this background that the study was carried out to establish how resource allocation affects access to Early childhood development education in Samburu West sub-county, Kenya.

1.1 Problem Statement

Access to quality early childhood development education in Samburu County has been reported as low. There is poor infrastructure across the sub-county, denoting the lack of prioritization of the basic services that are meant to build the sub-county's future human development. The coverage of the teacher's payroll is wanting, and infrastructure has less to no WASH facilities (County Government of Samburu, 2023).

Moreover, the sub-county has been reported to have few certified centers, poor and weak coordination of the sector, and constant underfunding in the county's budgets (Global Development Incubator, 2022). According to the ECD Network for Kenya (2024), teachers in early childhood development are not well-trained, and sometimes face insecurity challenges. Additionally, the mobility of pastoralists, drought from climatic changes, affects Access to ECDE (Magoma et. al, 2025).

There also exists a research gap on how resources affect access to ECDE in Samburu West Sub-County. Kubai (2022) examined how the COVID-19 pandemic affected the access and preparedness of parents and children for ECDE. Kasaine (2021) focused on the interventions of the devolved governance, while Midamba (2014) analyzed the effect of maternal nurturing on early childhood development. The study was thus carried out to fill this gap by examining the effects of resource allocation on access to early childhood development education in Samburu West sub-county, Kenya.

2. Literature Review

2.1 Theoretical Review

The study employed the Ecological Human-Capital and nurturing-care framework. It is a theoretical framework that entails a combination of ecological systems theory by Urie Bronfenbrenner in 1979, to explain how resources are located within the ecosystem (Bronfenbrenner, 1979), the Human capital theory Gary S. Becker (1964), that explains how resources invested in projects generate high returns, and the Nurturing care framework by WHO (2018) that explains the kinds of resources and services that matter in the implementation of a project such as early learning.

The main assumption of the theory is that there is a relationship between investment and development, which includes pumping of time, finance, material requirements, and human capital; multi-level causations holding that a child's learning is attached to household resources, family and community interactions, county and national funding policies, and domain investments in the form of equity resources distribution and investment.

2.2 Empirical Review

2.2.1 Access to Early Childhood Development Learning

The access to early childhood learning across the globe is an investment worth focusing on because the coming generations depend on its access, and for the purposes of the nation's future stability, socially, economically, and politically. In the USA, Puma et al. (2010), while investigating the impact that child readiness has on the low-income sections of the population, utilized the human capital framework. It was a large-scale study that involved 50000 children aged 3-4 that are starting school. A mixed methods approach was used. The study found that early childhood learning access gave children a head start in social, cognitive, and emotional development, which eventually improved their experiences in preschool.

In China, Rao, Zhang, and Li (2023) investigated access to quality ECE. The key areas of investigation were the disparities existing between the urban and rural areas in early childhood education access. Rights rights-based framework informed the study, which relied on secondary and grey data from government records. The outcome showed that the country has an expansive preschool infrastructure, and its equitable access to early learners is challenged by persistent inequalities in different regions and socio-economic groups.

In South Africa, Ilifa (2024) reviewed the country's early childhood learning and development with a key focus on financial, human resources, environment, and quality of preschool education. Equity and systems perspective guided the desktop review study. The outcome showed that despite the country having made intensive policy milestones, access to early childhood education is uneven, with the majority of children from poor backgrounds missing out on the key learning milestone.

In Kenya, the World Bank (2024) evaluated the country's early childhood learning and developed a project report on access. The study used the systems approach. It was a desktop study that analyzed implementation reports of the projects. The study found that the national projects on early childhood development education have risen in number, consequently raising access, but still face challenges such as inadequate teaching staff, training materials, and the presence of huge equity gaps.

2.2.2 Resource Allocation

To ensure adequate implementation of early childhood development programs around the globe, adequate allocation of both material, physical, human, and financial resources is critical. In the USA, New America (2021), while examining the financial aspect of early childhood education, involved both the private and public institutions at the local, federal, and state levels. Equity and public finance framing theories were utilized in a cross-sector financial scanning. It involved a review of state, federal, and local financial documents, budgets, program statutes, and administrative data. Collected information was analyzed using descriptive statistics, and the outcomes showed that the USA financial landscape across different early childhood education programs is fragmented, consequently causing uneven access to funding. The unequal access causes instability for the service providers, because states heavily rely on funding models that are mixed.

In China, Tang (2024) investigated how allocation of funding is allocated from the regional level to preschools. The study covered pre-schools across 30 regions in the country. The public economics theory guided the study. Quantitative analysis was used using the three-stage data envelopment analysis in the period 2012-2020. The results showed that the use of resources

across the 30 provinces has substantial heterogeneity. There are good outputs in other provinces, while in some, there is no progress due to differences in resource allocation.

In India, NITI Aayog / Government of India. (2023), evaluated India's use of budgets, its utilization, and how finances are spent on infrastructure. Accountability framing was used. Government expenditure data, rates of utilization in different states, and the review of financial management. The outcome indicated that there was large-scale financing of the Institute of Early Childhood Development Education. The biggest share of financing is dedicated to payment of recurrent needs, particularly wages and salaries of the ECDE human resources. There were also reports of underfunding of the projects, particularly on teacher training, resources for teaching, and infrastructure.

In Rwanda, A study on the progress of Early childhood development in the country was carried out by the Government of Rwanda (2018). It was a case study carried out using investment documents between the period 2018-2022, and material used between 2020-2022. The study used a multisectoral framework and the investment case. Administrative and survey data were used to estimate the resource gap. The findings show that Rwanda has a detailed ECD resources investment case. It has demonstrated strong leadership in the implementation of the projects, as well as strong blended financial resources through donors and domestic sources.

In Kenya, the World Bank (2018) analyzed how resources affect early childhood development in the country. The study used the human capital investment and systems theories. The key variables investigated were the finances used on the human resources in the early childhood development project implementation, costing, affordability, budget execution monitoring, among others. It was a study that appraised ECD implementation projects. The outcome showed that the funding from the World Bank was targeted on Particular projects that ended up improving access.

3. Methodology

The study adopted a descriptive research design, targeted five quality assurance and standard officers, 228 ECD teachers, 103 head teachers, and 228 school management committees chairpersons, forming a total target population of 564. A total sample size of 234 was eventually used, composed of 95 ECD teachers, 42 head teachers, 2 quality assurance and standard officers, and 95 chairpersons of school management committees. Semi-structured questionnaires were used to collect data from head teachers, ECD teachers, and chairpersons of school management committees, while the Quality Assurance Officers were interviewed. Descriptive and inferential statistics were used to analyse quantitative data, while content analysis was applied to the qualitative data, and the results were presented in themes. The researcher observed key ethical considerations, particularly informed consent, anonymity, and confidentiality.

4. Results and Discussion

4.1 Response Rate

The response rate was composed of duly filled research questionnaires and successful interview schedules recorded at 72%. This was considered adequate for the analysis of the research results, as guided by Mugenda and Mugenda (2003), that a response rate of above 70% was excellent.

4.2 Demographic Data

The gender of the respondents was captured to determine if the results presented any gender biases. 101(56.4%) were female, while 78 (43.6 %) were male, denoting a slightly higher proportion of female respondents than male, but with minimal gender effect on the responses due to an almost similar number of respondents from both sexes.

The age distribution of the respondents was found to be that 31(41.9%) were between ages 31-40, 14.9% were below 30, 41-50 years composed of 16.2 %, 51-60, and above 60, both represented. 9.5%. The age distribution of the respondents clearly indicated that people of all age groups were well-represented in the study well represented, with the majority being those in their mid-careers. Thus, the validity and reliability of the research results.

Academically, the majority, 96, had certificates or diplomas, 25 were bachelor's degree holders, 24 had no form of formal education, and 18 had basic primary education, while 16 had secondary education. This also indicated that people of all classes were represented when it came to literacy levels, though the majority had learned, indicating that they understood the questionnaires and responses were valid.

The respondent's years of experience were also commendable, adding to the reliability of the information collected. The majority, 42.2% had between 2-4 years of working experience with ECDE in the sub-county, 31.9% had over five years' experience, and the minimum had worked between 1-2 years.

4.3 Descriptive Statistics

4.3.1 Effects of resource allocation on access to early childhood education

The researcher sought to identify the resource allocation factors that affected or determined access to early childhood education in Samburu West Sub-County. The respondents filled a five-point scale questions to determine their levels of agreement with the provided statements, provided information on the open-ended questions, and others gave their responses via interview schedules.

4.3.2 Funding for the recruitment of ECDE teachers

When asked about financial resources allocated for the recruitment of an adequate number of teachers for early childhood development, the responses posted a mean and standard deviation of 2.4 ± 0.66 . This indicated that funding, particularly from the county government, for the purpose was inadequate. This was further reported by interviewees that priorities for funding are on other sectors in the county aside from the recruitment of expertise in ECDE. This has led to low levels of manpower in the centers.

The results were a direct reflection of other ECDE centers across counties in ASAL regions, where recruitment of teachers and payment of their salaries were a challenge, inclusive of Samburu. This was blamed on a shortage of funding at the counties (Global Development Incubator, 2022). Additionally, Samburu County Government (2023) reported that limited budget allocation constrained the capacity required to ensure the centers have an adequate number of teachers. Limited budgetary allocation to the recruitment of teachers is due to an overtake by other priorities.

The absence of new recruitment has critical effects on access to the training of minors in their early learning years. While teacher recruitment goes down, enrollment in some instances goes up, straining the few teachers, in some instances causing overcrowding in classes, or uniting

different levels of learners in the same class, consequently derailing the quality of education delivered.

In some parts of the sub-county, it was reported that some children miss out on ECDE and, thus, are less prepared to transit to the primary levels. It therefore becomes the onset of weak academic journey foundations, particularly in critical areas such as learning numeracy, literacy, social and language skills, hence a carry on to other levels of learning.

4.3.3 Funding for ECD teacher training

The respondents were asked to indicate their knowledge about the funding of the training of ECDE teachers in the sub-county. Their responses in the Likert-scale questions posted a mean and a standard deviation of 2.3 ± 0.74 . This denotes very low levels of resources set for training and capacity building to foster quality ECDE.

From the qualitative data collected from open-ended questions and from interview schedules, it was evident that priority was not given to the human resources function of ECDE in Samburu West Sub-County. There is a low number of trained teachers with heavy reliance on the training from NGOs. The key barriers to recruitment were blamed on distances between centers—they are far apart, in some places, there is constant insecurity that recruitment in such places can be a waste of resources since learning by the young children may never take place, during drought seasons, families move, making the centers not permanently sustainable.

Limited or a lack of funding has seen ECDE centers operating without adequately certified teachers, and in some places, there is a heavy reliance on volunteers and parent-paid teachers. Additionally, in circumstances where the county recruits teachers, there are constant delays in paying the contracted teachers their emoluments due to delays in processing payrolls. This has further jeopardized the process by undermining retention and reducing the morale of the recruits, who eventually quit.

Inadequate funding for teacher training has further led to disparities in ECDE access. Present trainings are only evident in NGO project areas, especially those carried out by the World Vision and the UNICEF. This consequently leads to disparities in centers too, since the NGO centers have better-trained and capacity-built teachers fostering retention, stability, and good quality ECDE, the opposite of the government-funded centers.

Previous studies have also reported the same in ASAL regions. Global Development Incubator. (2022) while analyzing ECDE funding and access across all counties in Kenya, found that variations in access existed in funding allocated to the ECD teacher staffing and training needs, ranging from irregular allocations, weak in other counties, low or no capacity building in others, consequently derailing access in varying regions and socio-economic contexts.

The ECD Network (2024) examined a baseline measurement survey in Kenya to assess the financial ECD systems. The report indicated a nationwide funding shortfall as well as weak allocations in county budgets to ECDE teacher training and capacity building. This was consequently directly linked to poor access, particularly in the country's marginalized regions.

4.3.4 Contribution of parents to access to ECDE

The respondents provided their opinions on whether the contribution of parents in the sub-county led to access to quality ECDE services. The responses posted a mean and a standard deviation of 2.1 ± 1.04 . This was a clear indication that, despite parents' contribution, it was too minimal to contribute to quality ECDE.

Further probe from the qualitative data yielded varying reasons for parental contribution being minimal to quality education. The parents were reported to pull different kinds of resources, inclusive of fee payment in form of levies, while some offered in-kind support to ensure the centers run smoothly despite inadequate or delayed government-led support. Despite these contributions, they were noted to be too low to guarantee quality ECDE education.

The low participation and contribution of parents was also blamed on the high levels of illiteracy of parents in the community, poor emphasis on the importance of the service, higher poverty levels, few centers within communities, rampant insecurity, and, in some instances, drought, forcing parents to focus on other key and primary needs within their households.

Consequently, none of the parental contributions led to an incapacity to retain ECDE teachers due to delayed or a lack of payments of salaries, children from poor families fail to access the critical early life service as a founding block for future stable learning, a rise in absenteeism in school, dropouts, and low transition rates to primary schools.

These results are evident from reports previously released. For instance, Onyango (2013), while analyzing ECDE education status in Turkana and Samburu counties, found that, although parental contribution was significant and a key factor in pastoralist communities, the ECDE centers in the counties were few, irregularly offered services, and had a high reliance on volunteers, NGOs, and caregivers. This led to unequal access and poor quality of learning.

GG Fan Ministries. (2022) in their monitoring report on ECDE in Samburu County reported that parents did not actively participate in ensuring access to quality education, but rather for feeding their children, which was evidenced by the presence of sharp dropouts when feeding supplies in the centers get depleted. The centers were therefore linked to food insecurity rather than equitable and quality access.

4.4 Regression Analysis

The study carried out a linear regression to determine the relationship between resource allocation and early childhood education access in Samburu West. The regression model was statistically significant, posting a P-value of less than 0.001, clearly indicating that resource allocation as a predictor variable influences access to quality childhood education in the sub-county. The model's coefficient of determination ($R^2 = 0.285$) indicates that 28.5% of the variation in access can be explained by the combination of the resource access as a predictor. The Adjusted $R^2 = 0.251$ suggests a moderate fit, meaning that while the model explains a substantial portion of variance, other unmeasured factors likely also contribute.

5. Conclusion

From the study, it is evident that Samburu West Sub-County has challenges when it comes to resource allocation to ECDE, which affects the access to quality and equitable education to young learners. The county government has not prioritized funding for recruitment, training, and capacity building of early childhood development education. Also, the contribution of parents is minimal to unavailable, which affects access to the services, hence the need for the county to start prioritizing the sector. While resource allocation is critical for ECDE access, its effectiveness is mediated by complementary factors such as monitoring, technical capacity, and community engagement. The paper recommends improved budget prioritization, transparent disbursement, regular teacher training, and strategic public-private partnerships to strengthen early childhood education outcomes.

6. Recommendations

Based on the results, the study therefore recommends that resource allocation processes in Samburu sub-county should be enhanced to guarantee that funding, infrastructure, and learning materials are equitably distributed and aligned with actual needs on the ground.

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