Gender Norms in Resource Management in Early Childhood Development and Education Centers: Evidence from Ndoto East, Samburu, Kenya

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ABSTRACT

Despite decentralization and ongoing government interventions, early childhood development and education (ECDE) centers in arid and semi-arid lands (ASALs) like Samburu County continue to suffer deficits and under-provision. While financial allocation has traditionally been targeted as the core remedy, this study evaluates the empirical role of sociocultural factors, specifically gender norms, in shaping resource management practices within ECDE centers in Ndoto East Ward, Samburu. Using a mixed-methods concurrent design, quantitative data were gathered from active ECDE centers and analyzed alongside qualitative narratives from focus group discussions and key informant interviews. The reported regression model was statistically significant, $F(3,128) = 59.81$, $p<.001$, explaining 58.4% of the variation in resource management efficiency ($R^2=.584$). Gender norms had the largest standardized regression coefficient among the three predictors included in the model ($\beta= 0.508$, $p < .001$). The study also identified reported concerns regarding unequal participation in school leadership and gendered household responsibilities. The correlation analysis did not identify a statistically significant association between the presence of gender-neutral learning materials and resource management efficiency ($r_s=.02$, $p=.867$). The findings suggest that gender-related factors warrant attention alongside financial and infrastructural considerations in ECDE resource management. The paper extends Vygotsky's Sociocultural Theory and Institutional Theory, arguing that informal gender rules deeply govern formal resource mobilization, allocation, and sustainability in pastoralist educational settings. The study recommends strengthening gender-responsive school governance, engaging community leaders on household labor expectations, and reviewing early learning materials for any gender-stereotyped imageries from early learning curricula across Kenya's pastoralist regions.

INTRODUCTION

Early Childhood Development and Education (ECDE) forms the bedrock of lifelong learning, foundational literacy, cognitive development, and long-term socio-economic mobility. In Kenya, the promulgation of the 2010 Constitution devolved the management and operationalization of early childhood education to county governments, aiming to tailor educational delivery to local contextual realities. However, despite progressive national policy reforms and county-level decentralization, ECDE centers across Arid and Semi-Arid Lands (ASALs) continue to face systemic structural deficits (Ministry of Education, 2021; Ng'asike & Swadener, 2025).

Evidence from Ndoto East Ward, situated in Samburu North Sub-County (in northern Kenya arid-pastoral zone), illustrates a persistent institutional crisis characterized by derelict classroom structures, acute shortages of age-appropriate Teaching and Learning Materials (TLMs), substandard water and sanitation infrastructure, and severe shortages of certified teaching staff (Lekaaso & Muna, 2025).

In public policy discourse and educational planning, these persistent deficiencies are overwhelmingly framed through the lens of financial scarcity and infrastructural under-investment. Consequently, state and non-state interventions primarily focus on capital injections, school feeding top-ups, and material donations. Yet, empirical evidence demonstrates that financial inputs alone fail to translate into sustained resource efficiency or improved

educational access in rural pastoralist contexts (Ng'asike & Swadener, 2025). Sociocultural dynamics, specifically traditional governance structures, localized community power hierarchies, household labor expectations, and deeply entrenched gender norms exert a decisive influence on how educational resources are mobilized, allocated, utilized, and maintained over time.

While scholars have increasingly examined how gender dynamics interact with educational infrastructure in neighboring pastoralist counties such as Turkana, Marsabit, and Kajiado, empirical research focusing on the unique socio-ecological and pastoralist context of Samburu remains sparse. This study addresses this geographic and analytical gap by evaluating the empirical pathways through which gender norms structurally influence resource management practices within ECDE centers in Ndoto East Ward, Samburu North Sub-County.

Statement of the Problem

ECDE centers in Ndoto East Ward continue to experience operational inefficiency despite county-level decentralization and periodic development interventions. Standard policy responses operate on the assumption that expanding budgetary allocations will automatically improve instructional quality and facility upkeep. However, this financial determinism overlooks a critical sociocultural bottleneck: rigid gender norms that influence who controls community assets, who participates in formal school governance, and how domestic labor is divided.

In patriarchal pastoralist communities, formal school leadership structures such as School Management Committees (SMCs), are frequently dominated by male elders who may not prioritize early childhood care or female teaching staff's resource needs. Simultaneously, traditional gender divisions assign domestic labor and childcare to women and girls while tasking boys with livestock herding. These societal expectations may contribute to irregular student attendance, reduce community ownership over school infrastructure, and disenfranchise female educators from institutional decision-making. Without empirical analysis of how gender norms influence resource mobilization, allocation, and sustainability, policy interventions will continue to underperform, perpetuating educational marginalization in ASAL communities.

Objectives of the Study

Main Objective

The main objective of this study was to examine the relationship between sociocultural gender norms and resource management efficiency in Early Childhood Development and Education (ECDE) centres in Ndoto East Ward, Samburu North Sub-County, Kenya.

Specific Objectives

The study was guided by the following specific objectives:

a) To examine the relationship between sociocultural gender norms and resource management efficiency in ECDE centres in Ndoto East Ward.

b) To establish the extent to which communal traditions influence resource management efficiency in ECDE centres in Ndoto East Ward.

c) To determine the relationship between gender-equitable parental involvement and resource management efficiency in ECDE centres in Ndoto East Ward.

LITERATURE REVIEW

Theoretical Framework

This study was anchored in two complementary theoretical frameworks: **Sociocultural Theory** (Vygotsky, 1978) and **Institutional Theory** (North, 1990; Scott, 2014).Vygotsky's Sociocultural Theory posits that

cognitive development and human behavior are deeply embedded in socio-historical and cultural contexts. Learning environments are mediated by cultural tools, language, and institutional expectations transmitted through family and community structures. In this study, Vygotsky's framework illuminates how gendered social roles constructed long before a child enters a classroom influence the patterns of participation, teacher authority, and community engagement within early learning spaces. The classroom is not an isolated academic venue; it functions as a microenvironment that mirrors the broader cultural values and gender hierarchies of the surrounding community.

Institutional Theory provides the structural framework for understanding how formal organizations are shaped by informal socio-cultural rules. Institutionalists differentiate between formal rules (such as state education policies, county budgets, and SMC constitutions) and informal constraints (such as customs, traditions, and patriarchal authority structures). In developing regions, local cultural norms regularly bypass or alter official organizational processes. Cultural influence may even affect how quickly children reach different educational milestones (Oluoha, N. 2023). Applying Institutional Theory demonstrates how informal gender norms in pastoralist communities infiltrate formal school administration. Even when formal policy mandates democratic resource distribution and equal community representation, informal patriarchal norms govern who holds real decision-making power over allocations, material maintenance, and asset distribution.

Gender Norms and Resource Mobilization in Pastoralist Contexts

Gender norms are shared social rules, expectations, and implicit beliefs within a given society or group that define appropriate behaviors, attributes, presentation, and roles for individuals based on their perceived or assigned sex (Cislaghi & Heise, 2020). These informal standards are internalized starting in early childhood through social institutions such as family, education, and media, and they are continuously reproduced through everyday social interactions and institutional policies. Because gender norms influence how power, resources, and domestic responsibilities are distributed, they directly shape individual agency, career trajectory, health behaviors, and social equity across different cultural contexts.

Resource mobilization in community-anchored schools relies heavily on local contributions, parental involvement, and social capital. In ASAL environments, pastoralist livelihoods dictate community wealth and labor availability (Sen, 1999). Existing scholarship highlights how gender roles heavily structure community contributions to public goods. While women are typically expected to provide non-monetary labor, men retain exclusive authority over financial contributions derived from livestock sales (Sen, 1999; Ng'asike & Swadener, 2025). This financial asymmetry extends directly into community participation and institutional governance. Because formal representation on school committees or local boards is often tied to monetary contributions rather than physical labor, men dominate decision-making spaces, marginalizing women's input despite their substantial, hands-on investments in local infrastructure. Furthermore, because women in traditional pastoralist households lack financial autonomy, their capacity to mobilize monetary resources for Early Childhood Development and Education (ECDE) centers remains constrained. Conversely, male elders who control household capital may prioritize security or herd management over early learning, resulting in persistent under-investment in foundational educational facilities (Lanyasunya, 2024; Ng'asike & Swadener, 2025).

Governance, Decision-Making, and Institutional Accountability

The governance of educational facilities, particularly ECDE, across Kenya has devolved to local committees under the decentralized county architecture. However, decentralization does not automatically guarantee inclusive governance. Research by Ng'asike & Swadener (2025) on rural educational administrative units reveals that school governance structures often replicate broader societal gender imbalances. When women are excluded from executive roles on School Management Committees (SMCs), resource allocations frequently align with male priorities, neglecting essential sanitation, early care, and female teacher welfare needs.

In pastoralist regions, the exclusion of female voices from institutional governance impairs financial transparency and resource utilization. Studies show that mixed-gender governance bodies demonstrate higher levels of fiscal accountability and asset protection compared to male-dominated committees; in particular, gender-diverse audit committees exhibit stronger oversight and ethical vigilance (Magoma et al., 2025).

Nevertheless, patriarchal social norms in pastoralist settings frequently designate female teachers and mothers as passive beneficiaries rather than active decision-makers in institutional planning (Lanyasunya, 2024; Magoma et al., 2025).

Gender-Equitable Parental Involvement and Material Sustainability

The sustainability of school infrastructure relies on continuous physical maintenance, community oversight, and consistent student utilization. However, a lack of gender-equitable parental involvement and rigid divisions of labor within households severely disrupt children's educational continuity. Females (mothers and girls) are routinely assigned domestic duties, sibling care, and water collection, while males (fathers and boys) are dispatched to distant grazing areas for seasonal livestock herding (Lanyasunya, 2024). This gendered pattern undermines the effective management of learning materials and physical infrastructure. When student attendance is irregular due to unequal parental protection against domestic labor demands, the long-term utility derived from teaching aids, classrooms, and sanitation facilities drops significantly, accelerating infrastructural decay and reducing overall educational cost-efficiency (Lekaaso & Muna, 2025).

METHODOLOGY

Research Design

This study adopted a mixed-methods concurrent triangulation design. Quantitative survey data and qualitative narrative data were collected simultaneously to provide a comprehensive evaluation of how gender norms affect ECDE resource management.

Target Population and Sampling

The study targeted active public ECDE centers within Ndoto East Ward, Samburu North Sub-County. The target population comprised Head Teachers, ECDE teachers, School Management Committee (SMC) members, Parent-Teacher Association (PTA) representatives, community elders, and Sub-County Education Officers. A multi-stage sampling approach was utilized:

a) Purposive Sampling was used to select Ndoto East Ward due to its high concentration of pastoralist livelihoods and documented ECDE resource deficits.
b) Stratified Random Sampling was applied to select 33 ECDE centers across the ward.
c) Targeted Respondent Selection yielded a total sample of N = 132 survey respondents (including teachers, SMC members, and PTA reps), alongside 8 gender-segregated Focus Group Discussions (FGDs) with parents/elders and 10 Key Informant Interviews (KIIs) with county education officials.

Data Collection Instruments

The study used the following data collection tools:

a) Structured Questionnaires: Administered to teachers and SMC members to capture quantitative metrics on resource availability, management efficiency, leadership dynamics, and classroom participation (measured via 5-point Likert scales).
b) Focus Group Discussions (FGDs): Conducted separately with male elders and female caregivers to capture qualitative narratives on traditional gender expectations, labor allocation, and community resource mobilization.
c) Key Informant Interviews (KIIs): Executed with Sub-County Education Officers and Head Teachers to assess formal administrative challenges, committee functionality, and policy implementation gaps.

Data Analysis

Quantitative data were cleaned, coded, and analyzed using statistical software. Analytical procedures included descriptive statistics (frequencies, percentages, means, standard deviations), Spearman rank correlation analysis (r_s), and multiple linear regression modeling to test the strength of predictors influencing resource management

outcomes. Qualitative data from FGDs and KIIs were transcribed, coded, and analyzed using thematic content analysis to contextualize the statistical patterns.

RESULTS AND DISCUSSION

Gender Norms as the Central Predictor of Resource Management

Multiple linear regression analysis was conducted to examine the relationship between sociocultural factors and resource management efficiency in ECDE centres in Ndoto East Ward, Samburu North Sub-County, Kenya. The regression model was specified as follows:

$$Y = \beta 0 + \beta 1 X_1 + \beta 2 X_2 + \beta 3\ X_3 + \epsilon$$

Where Y represents ECDE resource management efficiency, X_1 represents sociocultural gender norms, X_2 represents communal traditions, X_3 represents gender-equitable parental involvement, and ϵ represents the error term.

Table 1: *Multiple Regression Coefficients for Sociocultural Predictors of Resource Management Efficiency in ECDE Centres*

Predictor	B	SE	Standardized β	t	p-value
Constant	0.824	0.211	—	3.905	< .001
Sociocultural gender norms (X_1)	0.531	0.082	0.508	6.475	< .001
Communal traditions(X_2)	0.214	0.075	0.210	2.853	.005
Gender-equitable Parental involvement (X_3)	0.189	0.068	0.195	2.779	.006

Note: Dependent Variable: ECDE Resource Management Efficiency Score. N = 132; Model R^2 = 0.584, Adjusted R^2 = 0.572, F(3, 128) = 59.81, p < .001.

The regression model was statistically significant, F (3,128) = 59.81, p<.001, and explained 58.4% of the observed variation in ECDE resource management efficiency (R^2 =.584). This suggests that the three predictors, considered together, were significantly associated with resource management efficiency in the study sample.

Objective 1: Sociocultural Gender Norms and Resource Management

Sociocultural gender norms had the largest standardized regression coefficient (β =.508, p<.001), making them the strongest predictor among the three variables included in the model. This finding suggests that gender-related expectations and practices may be particularly important in understanding how resources are managed in the ECDE centres studied.

Classroom Dynamics and Instructional Material Audits

Survey results revealed mixed perceptions regarding classroom equity. Respondents were divided on whether boys and girls were equally encouraged to participate in learning activities (M = 2.85, SD = 1.32). However, where classrooms achieved higher gender parity in participation, overall resource utilization outcomes scaled correspondingly (r_s = 0.68, p < .001).

Teachers reported attempting to run gender-neutral classrooms, yet faced structural barriers:

1. Curriculum and Material Bias: Early learning textbooks frequently reinforced traditional divisions of labor, illustrating boys in active leadership while depicting girls exclusively in domestic caregiving positions Textbooks deployed in early childhood classrooms frequently rely on traditional illustrations and narratives. Characters in stories or images depicting community leaders and decision-makers are predominantly male.

Conversely, female characters are repeatedly illustrated performing domestic tasks like fetching firewood, carrying water, cooking, or caring for infants.

2. External Patriarchal Authority: Operational decisions regarding material allocation remained under the control of male household heads and elders rather than female teachers or mothers.

Together, these two points illustrate why surface-level solutions fail. Even if an ECDE center receives physical materials, the Curriculum Bias ensures that the content reinforces inequality inside the classroom, while the External Patriarchal Authority ensures that women cannot freely direct or manage those resources from the outside. Crucially, the statistical analysis demonstrated that the standalone provision of gender-neutral instructional materials had no significant relationship with resource management efficiency ($r_s = 0.02$, $p = .867$). This highlights that isolated classroom-level adjustments cannot offset deep-seated institutional inequalities in household decision-making and school governance.

Objective 2: Communal Traditions and School Governance

Communal traditions were also a statistically significant predictor (β =.210, p=.005). This indicates that community traditions were associated with resource management efficiency when the other predictors were held constant.

Leadership Gaps and Household Labor Realities

Leadership structures across the surveyed centers were heavily gendered: 78.79% of respondents disagreed with the proposition that male and female educators had equal access to administrative leadership within school management structures.

Key informant interviews with county education officials corroborated this finding, noting that resource allocation decisions were noticeably more transparent, balanced, and maintenance-oriented when women held executive positions on SMCs. One Sub-County Education Officer remarked:

“When men exclusively control the committee budget, funds are often directed toward high-visibility structural projects while daily early-learning consumables, hygiene supplies, and teacher welfare are neglected. Where women gain a seat at the decision-making table, resource tracking improves significantly.”

Objective 3: Gender-Equitable Parental Involvement and Household Labor

Parental involvement was statistically significant (β =.195, p =.006), suggesting that active parental participation is directly relevant to resource management. However, traditional household divisions of labor heavily mediate parental engagement.

At the household level, traditional expectations, specifically girls' domestic burdens (fetching water, sibling care) and boys' livestock herding responsibilities drove high rates of student absenteeism and physical exhaustion. Attendance regularity correlated strongly with infrastructure sustainability ($r_s = 0.72$, $p < .001$). Irregular attendance fundamentally degrades the utility children derive from available physical classrooms and learning materials, leading to underutilized assets and neglected infrastructure.

Theoretical Implications

The substantial gender norm regression coefficient observed in Ndoto East ($\beta = 0.508$) underscores a severe baseline gender disparity within Arid and Semi-Arid Land (ASAL) pastoralist communities, specifically the Samburu. This localized pattern partly mirrors a broader national trend documented by UN Women Africa, which notes that Kenya has grappled with persistent gender disparities in education since independence. While progressive national policies exist, this coefficient highlights a stark disconnect between overarching frameworks and local classroom realities in ASAL areas.

The gender norm regression coefficient in Samburu implies that reducing equity to mere numerical parity or enrollment headcounts obscures deeper structural inequalities. In practice, national initiatives are routinely diluted by entrenched socio-cultural norms, chronic underfunding, and inadequate teacher training. Consequently, simple gains in school enrollment fail to deliver meaningful gender justice, leaving female students marginalized by systemic issues including School-Related Gender-Based Violence (SRGBV), heavy domestic burdens, substandard sanitation facilities, and gender-biased curricula.

The large effect size observed in Ndoto East reflects the profound baseline gap between traditional pastoralist governance practices and gender-equitable management, rather than suggesting a permanent universal multiplier. In communities with high baseline gender inequality, initial structural shifts toward equitable decision-making produce dramatic gains in institutional performance. As gender-responsive governance becomes progressively embedded within pastoralist county structures, the marginal effect of further equity gains is expected to normalize over time.

In summary, these findings extend the integration of Vygotsky's Sociocultural Theory and Institutional Theory**.** They demonstrate that in pastoralist contexts like the Samburu, informal patriarchal constraints directly permeate formal educational governance structures. Consequently, deeply embedded cultural expectations regarding gender roles systematically override state-level policy mandates. In practice, these informal norms influence the micro-allocation of physical assets, the distribution of learning materials, and the execution of institutional budgets, highlighting how informal cultural structures actively subvert formal administrative intent. Despite potential bias in self-reported experiences and perceptions, the mixed-methods approach offers valuable insights into sociocultural influences on ECDE resource management.

CONCLUSION

This study concludes that financial allocations and physical infrastructure projects alone are insufficient to resolve resource deficits in early childhood education centers across Samburu North. Gender norms serve as the primary institutional mechanism governing how resources are mobilized, allocated, utilized, and maintained. Rigid household labor divisions fuel student absenteeism, while patriarchal governance structures disenfranchise female educators and mothers from institutional decision-making. Surface-level interventions, such as distributing gender-neutral textbooks, yield minimal impact unless accompanied by structural reforms in school governance and community leadership.

Policy Recommendations

Based on the findings, this study proposes the following recommendations:

1. Mandate Gender-Responsive Governance Frameworks: The County Government of Samburu, through its Department of Education, should enact policy guidelines that enforce the constitutional two-thirds gender principle, mandating strict representation on all early childhood School Management Committees (SMCs). Women should hold at least one-third of executive positions (Chairperson, Treasurer, Secretary) to ensure financial decision-making reflects early learning needs.
2. Institutionalize Community and Elder Sensitization Programs: County education officers should collaborate with local traditional elders, religious leaders, and male household heads in Ndoto East Ward. Sensitization initiatives should focus on mitigating domestic labor demands on young children, protecting early learning attendance, and reframing ECDE resource upkeep as a collective community priority rather than an exclusively female chore.
3. Conduct Comprehensive Curriculum and Material Audits: The Ministry of Education and the Kenya Institute of Curriculum Development (KICD) must audit and revise instructional materials used in ASAL regions. Early learning textbooks should eliminate any gender-stereotyped imagery and actively depict balanced leadership roles to foster equitable developmental expectations from early childhood.

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