

Assessing the Effectiveness of Policies that Support Early Childhood Development during Emergencies in Kenya

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ASSESSING THE EFFECTIVENESS OF POLICIES THAT SUPPORT EARLY CHILDHOOD DEVELOPMENT DURING EMERGENCIES IN KENYA

Abstract

Kenya experiences frequent climate emergencies such as floods, drought, disease outbreaks, conflict, and displacement. Early Childhood Development (ECD) is a crucial period in a child's life, and climate emergencies significantly affect a child's social, physical, and emotional development. This study employed a mixed-methods approach, combining qualitative and quantitative research techniques, to examine the extent to which climate-related policies support early childhood development during emergencies in Kenya. In particular, this research highlights policy application gaps, best practices, community actions, stakeholder coordination, and resource allocation that affect the continuity of child education during emergencies. **Empirical Analysis:** The major impact of the 2024 El Niño floods was the flooding of houses (24%) as the primary impact, followed closely by loss of property at 21.6% and the closure of schools (20.3%). 53.8% of children had anxiety about future floods, and 37.9% of survey respondents missed up to four weeks of school during the flooding emergency. The most significant gap, cited by respondents that hampers effective emergency response efforts, is the lack of funding (24.7%), followed by the lack of adequate training 20.5%, and weak coordination, cited by 17.8%. **Theoretical Analysis:** Bronfenbrenner's Ecological Systems Theory was used to demonstrate how disruptions across multiple systems affect child wellbeing. The study also aligns with Toxic Stress Theory, which suggests that prolonged exposure to adversity without adequate protective support can negatively affect children's cognitive and behavioural development.

Results: This study provides actionable recommendations for integrating child-sensitive approaches into disaster risk reduction and climate resilience planning. It has documented successes and lessons learned on inclusive ECDE to inform evidence and action plans. It provides recommendations on how to integrate climate considerations into emergency ECD programs and child-specific considerations into climate-action plans that ensure learning continuity, protection, and healthy development.

Keywords: emergencies, climate change, early childhood development, child protection, humanitarian, floods, policy, closure of schools, preparedness, and response.

1. Introduction

1.1 Background: Early Childhood Development

Early Childhood Development (ECD) is a critical period from conception to age eight, characterized by rapid physical, cognitive, emotional, and social development. This period lays the foundation for children's future learning, health, and overall well-being (Gerard et al., 2024). During climate-related emergencies and disasters, children are particularly vulnerable to environmental shocks. Prolonged exposure to stressors such as food insecurity, disease exposure, displacement, death of loved ones, and disruption of education has long-lasting effects on their adult life. Without adequate support and protection, this experience can hinder brain development, increase anxiety, impair cognitive and emotional regulation, and result in irreversible developmental setbacks that affect a child's ability to become resilient, productive members of their community. (Mualem et al., 2024; Frentzen et al., 2025).

1.2 Context

In East Africa, Kenya continues to experience rising temperatures and erratic weather patterns, leading to annual droughts, floods, and landslides. Rainfall patterns have become increasingly unpredictable, and the country has faced heavy outpourings causing floods, as well as prolonged dry spells resulting in severe droughts. The 2024 El Niño rains had a disastrous impact across the region, significantly threatening children's lives, damaging at least 62 primary schools, and disrupting education indefinitely (OCHA 2024). Children are especially at risk during these frequent emergencies, especially as their homes and schools become too unstable and unsafe for them to grow and thrive. Despite this disruption, ECD is often under-prioritized in emergency planning and disaster management frameworks (Bassett & Bradley 2022). With the increasing frequency of extreme weather events, the urgency of evaluating the responsiveness of ECD frameworks has grown. (Milner et al., 2019)

1.3 Policy Frameworks Supporting ECD

In this study, a range of global and national frameworks that support children during emergencies have been referenced, including the INEE Minimum Standards, Operational Guidelines for Child Protection in Emergencies (CPiE), the Children's Act, Kenya Education Sector Policy on Disaster Management (2017), Mental Health Policy 2015 – 2030, the National Climate Change Action Plan (NCCAP) III 2023 – 2027, and the National Disaster Risk Management Policy.

Collectively, these frameworks underscore essential children's needs regulated in an emergency. They emphasize safe spaces, continuity of learning during disasters, providing mental health support, strengthening coordination among sectors, and the necessity of emergency funding, amongst other priorities.

1.4 Problem Statement

Even with these policy frameworks in place, initiatives supporting early childhood development are poorly designed or not implemented. In Kenya, children suffer disproportionately by experiencing increased disruption to their nutrition, early learning opportunities, and exposure to mental & physical insecurity, and developmental difficulties. The challenges are amplified by gaps in disaster preparedness, which affect the social infrastructure meant to safeguard their development and well-being. This study was guided by the following research questions:

- a. To what extent have education policies supported access to early childhood development (ECD) services during the 2024 El-Niño and 2025 flood emergencies in Kenya?
- b. What specific gaps exist in the National Climate Change Action Plan in addressing early childhood development, and what recommendations can be proposed to enhance child-centred climate resilience?
- c. To what extent has the National Disaster Risk Management Policy incorporated child mental health services at the County Level?

2. Literature Review

2.1 Theoretical Framework

Bronfenbrenner's Ecological Systems Theory (1977) proposes that child development is influenced by five interconnected systems. (Paquette & Ryan, 2001). It provides a standard framework for understanding Early Childhood Development and how natural disasters and inadequate child protection systems contribute to adverse childhood experiences (ACEs). It also offers a deeper analysis of how well climate and disaster policies meet the developmental needs of young children in crisis. The interconnected systems include:

i. *Microsystem*, which largely influences children's access to ECD services through caregiver knowledge and capacity. It largely comprises the teacher- child relationships.

ii. *Mesosystem* comprises community-based structures, such as the work of Community Health Promoters, that support access to ECD. It also includes the coordination challenges experienced across the sectors, especially during emergencies.

iii. *Exosystem* classification involves the County government emergency plans, funding allocation, NGO support systems, and disaster management structures that support ECD implementation.

iv. *Macrosystem* includes the application of National Government policies and global frameworks that support ECD.

v. *Chronosystem* includes the long-term developmental consequences and policy changes over time.

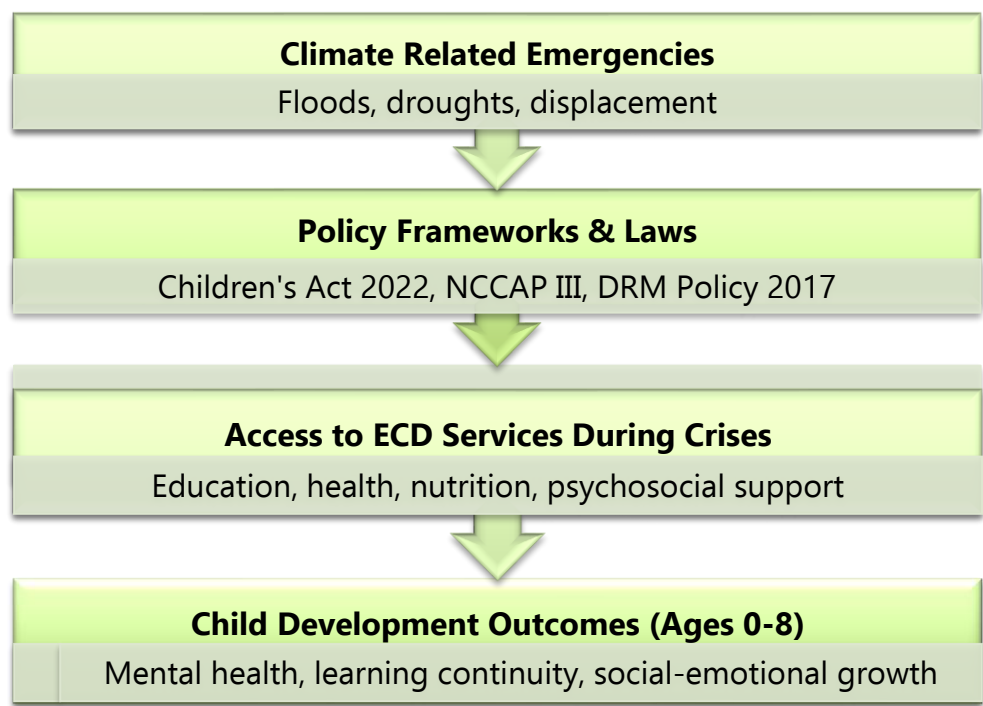
The theoretical framework is highly relevant to Kenya's disaster context and allows for a multi-layered analysis of the complex systems that influence policy application and regulation. It effectively highlights the gaps in disaster preparedness and answers the research questions that emphasize policy application and provide guidance on feasible recommendations that can lead to improvement of ECD programming.

2.2 Conceptual Framework

Swanson (2013) defines a conceptual framework as a model that depicts the connections between variables. The relationships between the variables were explored in the conceptual framework of this study. As illustrated in *Figure 1*, climate emergencies, such as floods and droughts, disrupt early childhood services, especially where communities face greater risks. The effectiveness of disaster management and ECD policies in mitigating these disruptions depends on implementation capacity,

community resilience, and funding. When policies are well implemented, they help preserve child protection systems, access to ECD centers, and mental health support. This, in turn, supports healthy child development even in hostile environments resulting from emergencies.

Figure 1: Conceptual Framework



This diagram shows how climate-driven emergencies affect child development outcomes in Kenya, while highlighting the part policies play in shaping those effects. The model helps us explore where gaps exist, how policies perform at the community-level, and what improvements are needed to strengthen support systems and enhance child protection when disasters strike.

2.2 Previous Research on Early Childhood Development

Existing literature on Early Childhood Development highlights several critical elements to be considered during emergencies. For example, one study underscores the importance of child-centered resilience programming and the need for programs to be built around basic services such as nutrition and WASH (Water, Sanitation, and Hygiene) during crises. (Cárdenas et al. 2024). These services promote the survival and well-being of children in unpredictable environments. Building on this, Ronald et al. (2025) explored the systemic factors that shape the success of ECD initiatives.

Their research draws out key parts: involvement of local stakeholders, financial support, and monitoring systems as essential components of effective program implementation. These findings highlight the need for a coordinated, well-resourced approach to delivering ECD services, especially in emergency settings.

In a study on the determinants of successful implementation of Early Childhood Development Education, Ochieng et al. (2018) recommended several key actions for county governments. These include: increasing budget allocations for the repair and expansion of ECDE centers, ensuring sufficient funding for overall programme implementation, and providing regular training for ECDE teachers. Lastly, the study recommends creating supportive environments that enable caregivers to understand and engage with policies and services that promote the well-being of young children during emergencies.

A different perspective is presented in Odundo's (2013) study on policy implementation in Nakuru Municipality. He argues that limited institutional capacity remains a significant barrier to the effective implementation of ECD initiatives. His work highlights how local governance structures and personnel limitations can hinder the realization of national ECD goals, particularly in high-need or crisis-affected areas.

Across these studies, nutrition, sanitation, capacity building, and budget allocation are widely recognized as core pillars of holistic child development and long-term well-being. However, evidence from several Kenyan counties suggests that the effectiveness of policies addressing these interconnected areas during climate-induced emergencies remains uncertain (Amissah-Essel et al., 2020). Although frameworks and programmes exist to protect young children in crisis, their success depends on the underlying systems and resources that support or limit implementation. There is a visible difference between policies and their application on the ground; an inconsistency witnessed repeatedly in communities. There is a clear need for further research to close the policy-practice gap and determine how existing measures can more effectively safeguard early childhood development amid Kenya's escalating climate pressures.

2.3 Research Needs & Contribution to Literature

Research has been conducted on access to quality early childhood care and education (ECCE), safe and supportive environments, adequate nutrition, and health services. There is a clear gap in policy reviews on the effects of climate change and other emergencies on early childhood development. (Atmore 2012; Rashid and Akkari, 2020). Only 20% of national multisectoral ECD policies for child and social protection have been adopted (ECD Kenya Profile 2023). Although there are research gaps, these statistics provide an overview of Kenya's ECD implementation landscape. This study clarifies where progress has occurred and where substantial gaps remain, especially in emergency contexts.

Purpose of Study

The purpose of this study was to evaluate how well disaster management and development policies are applied and adapted during climate emergencies in Kenya, especially for young children who are often the most vulnerable and overlooked in times of crisis. Drawing from the 2024 El Niño floods, it examined policy knowledge and application of climate-related guidelines amongst different stakeholder groups, namely teachers, government workers, NGO representatives, and community members. It measures whether the policies adequately protect and promote the developmental needs of young children in critical high-pressure environments.

Outcomes of the Study

Despite its limitations, the research uncovered critical shortcomings in policy implementation, highlighting the burden placed on schools to provide not only intellectual development but also mental health services, nutritional support, and child protection services. It also identified areas of community support that emerged in the wake of recurrent climate disasters and overwhelmed public systems.

3 Methodology

The study adopted a comprehensive mixed-method approach utilising quantitative, qualitative, and observational sources. Given the multi-layered nature of this research and inclusion of insights from different actors, this method was selected as it enables triangulation of findings across stakeholder groups and data sources, providing a broad representation of policy implementation (Creswell & Plano Clark, 2018). It also provides a thorough analysis of experiences and applications under real-world conditions. This methodology has been used by researchers to measure service provision during emergencies. (Gaffey et al., 2020) This mixed-methods approach's key strength was using both multiple-choice and free-response data that allowed comparison between what people selected and what they described in their own words.

An anonymous data collection process was adopted to protect the identity of participants from potential political reprisals or investigations. In the absence of a consent form, the data collectors used verbal consent, and participation was voluntary.

3.1 Research Design

Participants were selected using purposive sampling, ensuring representation across demographics and community roles. This technique was chosen as this research required participants with sectoral knowledge and lived experience of ECD implementation during emergencies. Participants were selected based on specific characteristics relevant to the research question and their societal role. This approach is consistent with established practice in ECD policy research in Kenya (Ochieng et al., 2018; Tajik et al., 2024).

Target Population

The respondents represented six stakeholder groups:

- Government workers/policy makers,
- Teachers and educators
- Parents and Caregivers
- Non-governmental Organizations and CBO staff
- Community Health Promoter

- Other

The study was conducted using key informant interviews. No focus group discussions were held because of the sensitive nature of the research and the desire of most participants to remain anonymous. A Belmont report highlights that maintaining anonymity increases the quality of data due to genuine responses and avoids causing future harm to participants, which applies to this research, whose risk was tied to political identification (Kang, E, 2023). Given the sensitive nature of the research, this was a calculated mitigation strategy.

The diversity of respondents enriched the study findings. The fact that both data types pointed to the same issues increases confidence in the results. The survey questions assessed elements related to policy awareness, emergency funding and priorities, barriers to ECD access, community resilience, psychosocial support mechanisms, capacity building, and coordination mechanisms.

Research Sites: The study was conducted in two locations, Nairobi and Kisumu County, which have historically experienced the most severe flooding and drought emergencies, and are the regions where children are most affected. From these county's six sub-counties that have historically been affected by floods were selected as primary research locations. They are Mathare, Nyakach, Kadibo, Nyando, Muhoroni, and Kisumu town.

Sampling Size

The sample size was calculated using Fisher's formula, which is widely used in social science research.

Sample size is presented in Equation 1:

$$n = \frac{Z^2 pq}{e^2}$$

Z- the standard normal deviate at 95% confidence interval corresponding to 1.96

P - The proportion of the target population expected to implement comprehensive ECD in emergencies is 65%.

$$q = 1 - p = 0.65$$

$$p = 0.35$$

e = Predicted precision (margin of error): 0.065 for 95% Confidence Interval.

Final sample size = 145 participants.

- Parent/Caregiver: 47
- Teacher/Educator: 39
- Community Health Promoter: 26
- NGO/CBO staff: 17
- Government Officials: 15
- Other:1

Research Instruments

Four questionnaires were developed for each representative group. The surveys were designed to derive information from each subset to understand policy awareness, gaps, and application from the individual to the national level. Each questionnaire had a unique set of open and closed-ended questions designed to capture comparative information and individual responses. The questionnaires were translated into Kiswahili and DhoLuo.

An observational guide was used to capture visual evidence of the impact of floods, and photographs of past and present were also collected at schools and evacuation centres for verification of damage to ECD structures.

Validity of the Instrument

Validity is the degree to which the instrument assesses what it is supposed to measure (Hidayana, 2025). To test for validity, the researcher administered the survey to multiple stakeholders for feedback and critical examination of applicability and potential for the desired outcome in relation to the research questions.

Procedures for Data Collection

A permit to conduct the research was obtained from the National Council of Science and Technology (NACOSTI). The researcher recruited 5 data collectors to gather information in Nairobi and Kisumu, representing both urban and rural areas. The data collectors were trained on the research objectives, the function of the research tool, data collection procedures, and personal safety during data collection.

Data Analysis

The qualitative and quantitative data were analysed separately. The quantitative results were summarized to show how often each issue was selected, and the qualitative responses were coded into themes to understand the experiences behind those selections. Both datasets were then compared to identify patterns that appeared consistently across groups. Analytical rigor was increased by distinguishing between structural missingness and true non-response rates. This enabled a clear understanding of the study participation rate based on category. See Appendix D for the thematic coding framework

Qualitative Data Analysis

The data collected was cleaned and uploaded onto NVivo 14 for coding and theme development. Comparative thematic analysis was used, emphasizing the CPiE framework as a guideline for evaluation and measurement indicators. Measurement was made against National Policies, County Level Implementation, and Community Experiences. A policy rubric was applied to assess: policy awareness and measurement, implementation of policy, and community experiences.

Quantitative Analysis

Quantitative outputs were summarised using Python and condensed into relevant graphs and visualizations to help identify ECD service access patterns, differences across stakeholder groups, and children's well-being concerns. Categorical complexity was reduced by merging similar responses and grouping them together.

Outputs included: Frequencies, percentages, response rates, and cross-stakeholder comparisons providing a clear picture of how communities are experiencing ECD services during flooding emergencies and where gaps in service provision continue. An interactive dashboard was developed to supplement the analysis and allow for dynamic exploration of the dataset. See Annex C for the access link.

2 Data Analysis / Results

Overview

The impact of the El Niño floods was experienced across multiple domains of the children's lives, including living conditions, nutrition, and access to education, further compounding the trauma caused by the emergency. Caregivers and teachers reported flooding of houses (24%) as the

primary impact, followed closely by loss of property at 21.6% and the closure of schools (20.3%). Reports of food insecurity (20.3%) were substantial, while more severe but less frequently reported were the death of loved ones (8.9%) and landslides at 3.6%.

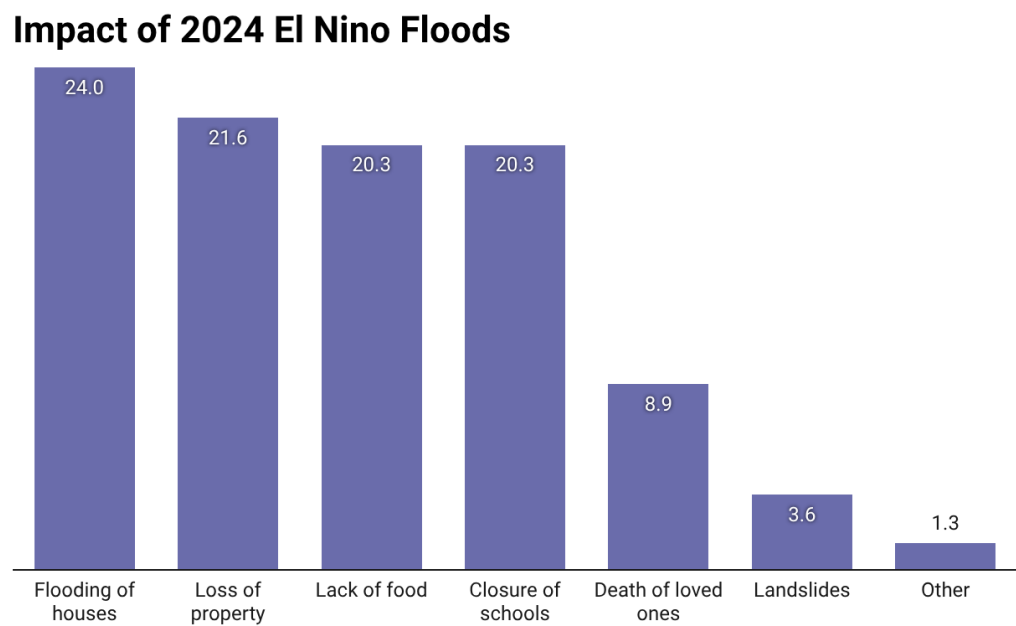


Chart: Maringo T. (2026). Primary research data: Assessing the Effectiveness of Policies that Support Early Childhood Development during Emergencies in Kenya • Created with Datawrapper

4.1: Climate policies support access to early childhood development (ECD) services during flood emergencies in Kenya (RQ1)

Theme 1: Policy Implementation & Awareness

a. Policy Implementation Success at the County Level

Availability of ECD Programs at the County Level: Of the policy-makers that participated in the study, 73.3% cited regular availability of ECD services at the County level, providing a clearer picture of policy application and the importance of ECD programs in the community. In Nairobi, the community and government-led response was described as swift and efficient. The county deployed a green army to clean the schools and disinfect the environment because of the hazardous, poisonous wastewater and sewage.

Similarly, there were financial assets such as the CDF emergency reserve set aside to cater to flooding emergencies, particularly in Nairobi. Some schools also reported having an active disaster protocol that enables continuity of some learning. This ensured all the furniture and classrooms were replaced, and the schools did not close indefinitely as in the past.

In rural Kisumu, teachers described their adaptive strategies:

“We activate the school disaster management committee, inform parents, and move learning to temporary shelters or nearby safe schools. We use flexible timetables and activity-based learning to reduce stress for children. The school has invested in improved drainage and raised classroom floors to reduce future flood damage.” (Teacher, Kisumu, 2025)

Finally, government workers cited having several contingency plans in place to ensure the continuation of learning in case of an emergency. Some include: Coordination for rapid response (35.9%), Temporary Learning Spaces (15.4%), Use of digital platforms for early learning (7.7%), amongst others.

Contingency Plans

Strategies in place to address ECD service disruptions during emergencies.

Coordination with NGOs/UN agencies/ community groups for rapid response

35.9%

Teacher/caregiver emergency training

23.1%

Cash transfers or material support to families with young children

15.4%

Temporary learning spaces (ECD classrooms relocated to safe structures or tents)

15.4%

Use of radio, mobile phones, or digital platforms for early learning

7.7%

Indefinite closure of programs

2.6%

Chart: Maringo T. (2026). Primary research data: Assessing the Effectiveness of Policies that Support Early Childhood Development during Emergencies in Kenya • Created with Datawrapper

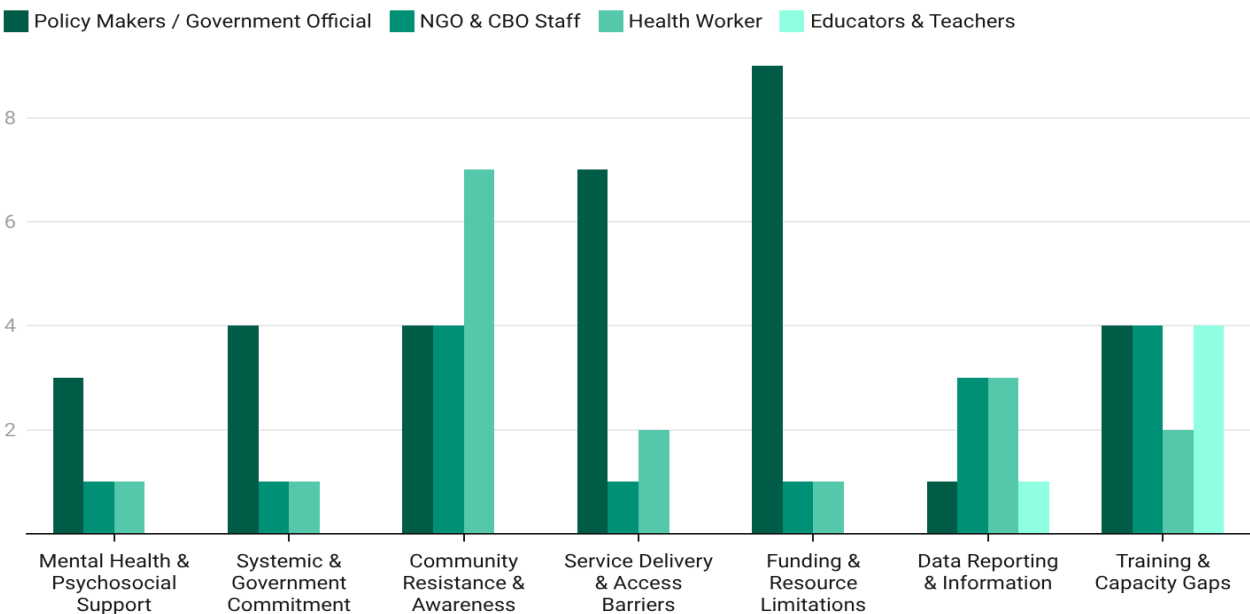
b. Policy Implementation Failures at the County Level

The Kenya Education in Emergencies Policy is an essential framework that guides implementation at the national and county levels of government. Among policymakers, 7% of respondents had

expert knowledge of early learning education during emergencies; the majority (78%) were moderately familiar with the Policy, and 14% had no familiarity with the policy.

Policy challenges communicated by all respondents include training and capacity-building gaps, problems with reporting and accessing information, with policymakers citing funding and resource limitations as the largest challenge to effective ECD application.

Policy Challenges per Respondent Group



Source: Maringo, T. (2026). Assessing the Effectiveness of Policies that Support Early Childhood Development during Emergencies in Kenya. *

Similarly, despite widespread familiarity with the policy, there is a gap in monitoring and evaluating its efficacy, as only 53% of government respondents had conducted a review of policy application, with the least reporting half a year since the last policy evaluation, and 33.3% reporting six years since the last evaluation, indicating a gap between policy review and implementation practices.

Policy Implementation Barometer:

A policy implementation barometer was developed across the twelve domains, indicating that implementation was uneven. Some areas, such as policy familiarity, policy recommendations, emergency camps, and child wellbeing priorities, showed moderate progress. Most others: training, funding, reporting, access, learning continuity, preparedness, MHPSS, and collaboration were rated as weak. This pattern suggests that while stakeholders understand the policies and value children’s wellbeing, the mechanisms needed to deliver and sustain ECD services during emergencies are not yet strong. A more detailed overview of the Implementation Barometer can be found in *Appendix E*.

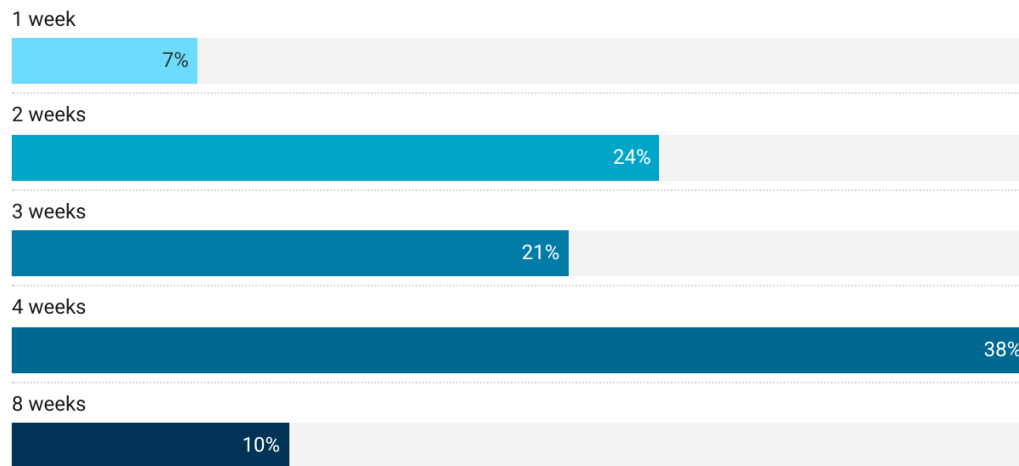
Indicator	Final Score (0-3)
Policy Familiarity & Implementation	1.5 → 2 (Moderate)
Training & Capacity	1.4 → 1 (Weak)
Funding & Resource Allocation	1.2 → 1 (Weak)
Assessment & Reporting	1.3 → 1 (Weak)
Policy Recommendations	1.7 → 2 (Moderate)
Access to ECD Services	1.2 → 1 (Weak)
Continuity of Learning	1.3 → 1 (Weak)
Emergency Preparedness	1.3 → 1 (Weak)
Stakeholder Collaboration	1.0 → 1 (Weak)
Emergency Camps	2.0 → 2 (Moderate)
MHPSS (Mental Health & Psychosocial Support)	1.4 → 1 (Weak)
Child Wellbeing Priorities	1.7 → 2 (Moderate)

Theme 2: Access to ECD Services

Among respondents who were asked about school closures during floods, the duration of school disruption varied. The longest reported closure period was 8 weeks at 10.3%, but the majority of weeks missed during this period were four weeks, reported by 37.9% of survey respondents, followed by three and two weeks, reported by 20.7% and 24.1% of respondents, respectively. The least amount of time missed from school was 1 week, reported by 6.9% of respondents.

This was largely due to property damage caused by the floods, making the schools and ECD centres unsafe and unsuitable for learning. Indefinite school closures are the major barriers to ECD access. This demonstrates the connection between low funding and emergency response preparedness.

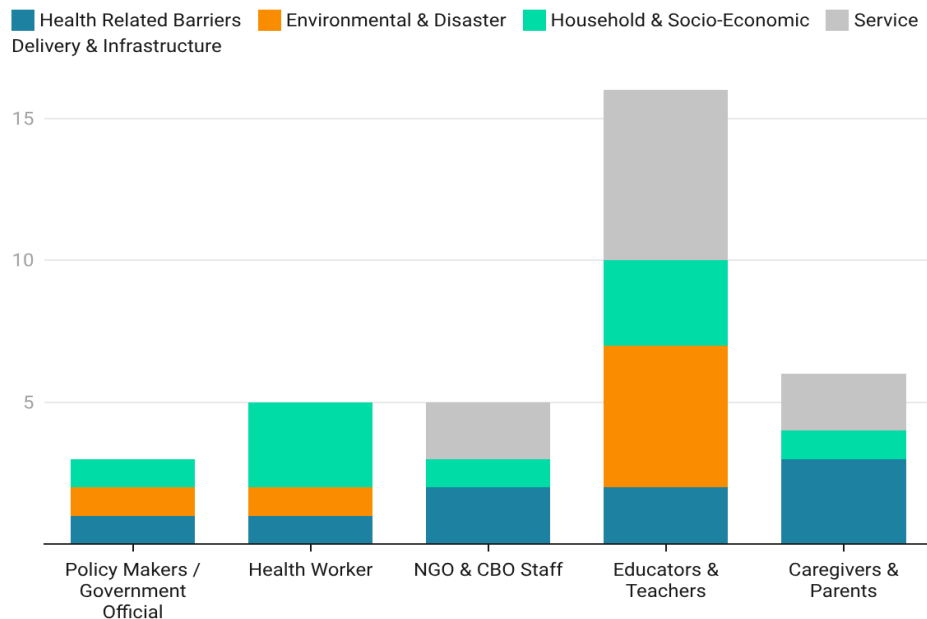
Weeks of school missed by children during 2024 El Niño floods



Source: Maringo, T. (2026). Assessing the Effectiveness of Policies that Support Early Childhood Development during Emergencies in Kenya. • Created with Datawrapper

Barriers to ECD Services: The most prevailing barriers to ECD services during emergencies cited across all respondents were household and socioeconomic barriers and health-related impediments to accessing ECD services. Notably, caregivers, teachers, and NGO staff acknowledged poor infrastructure as a key barrier, which did not feature amongst government representatives and health workers. Educators record the highest experience with environmental and other disasters as key barriers to continuing the ECD programme.

Barriers to accessing ECD services — by respondent type



Community Knowledge and Engagement: Only 20.5% of respondents identified ECD as a priority, suggesting gaps in understanding the importance of ECD, especially during emergencies when the services are most at risk. *“The community needs to know that ECD is an important part of a child's life and not just a play group.”* Community Health Promoter, Nairobi, 2025

4.2 Gaps in the National Climate Change Action Plan for child-centred resilience (RQ2)

Theme 3: Emergency Preparedness & Response

During the flooding, emergency camps were established in safe facilities away from flood-prone areas. 84% of respondents were recipients of the emergency services. The largest support was directed towards providing shelter (30%), food/nutrition (26%), WASH (Water and Sanitation Services) 21%, and mental health support (20%). Minor services provided in the camps were education for children below and above the age of 8 (2%), divided into (1.6%) for education and 0.8% for child development services.

Services Provided in Community Emergency Camps

Other includes: Education (1.6%) Child Development (0.8%)

Shelter Food Water and Sanitation (WASH) Mental health support Other

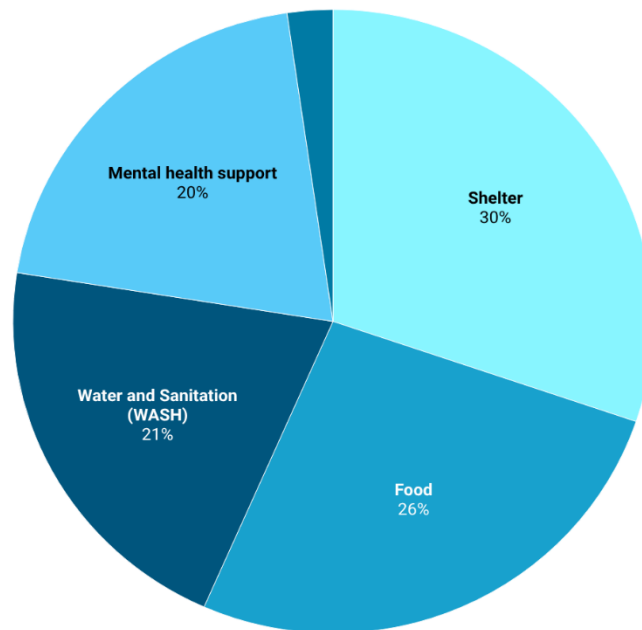
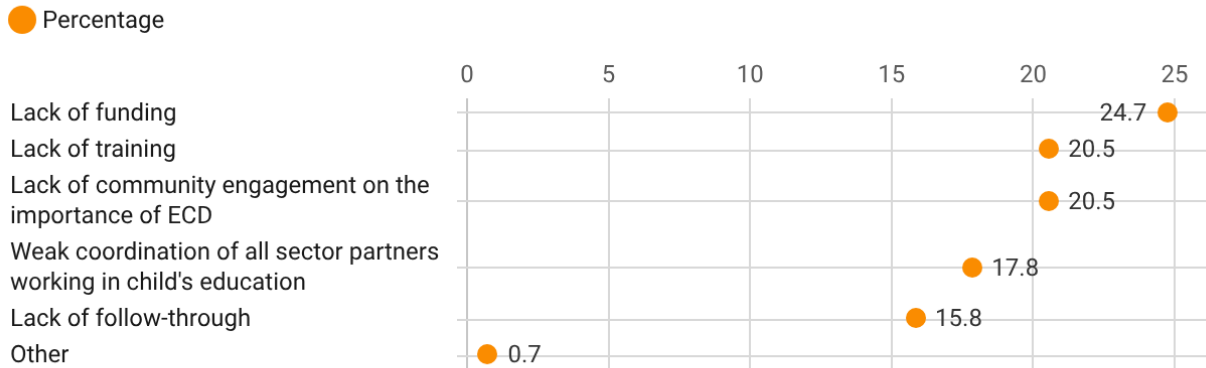


Chart: Maringo T. (2026). Primary research data: Assessing the Effectiveness of Policies that Support Early Childhood Development during Emergencies in Kenya • Created with Datawrapper

With the inadequate provision of education for children in emergency shelters, the most significant gap that impedes effective emergency response efforts is the lack of funding (24.7%), followed by lack of training (20.5%), poor community engagement 20.5%, weak coordination (17.8%), and lack of follow-through cited by 15.8% of the respondents.

Identified Gaps in ECD Policy Implementation



Source: Maringo, T. (2026). Assessing the Effectiveness of Policies that Support Early Childhood Development during Emergencies in Kenya. • Created with Datawrapper

Training and Capacity Building

Teachers in particular have received insufficient training on emergency response protocols. Of the respondents interviewed, 72% received limited training compared with 18% who received extensive training on emergency response protocols, including trauma care and child protection services. As reported, *"We still lack professional guidance, learning materials, and child-friendly tools to help children cope with trauma. We really need structured training and ongoing support to handle such situations effectively."* (Teacher, Nairobi, 2025)

Similarly, in Kisumu, NGO staff have observed that many ECD centers are not well-prepared for emergencies. *"Caregivers also struggle with limited training on how to support the children's emotional needs and maintain learning routines during crises."* (NGO Representative, 2025)

Budget Allocation for Child-Focused Disaster Response

Share of emergency budget dedicated to ECD activities

25 - 50% (20.0%) 15 - 25% (13.3%) Below 15% (40.0%) Not sure (26.7%)

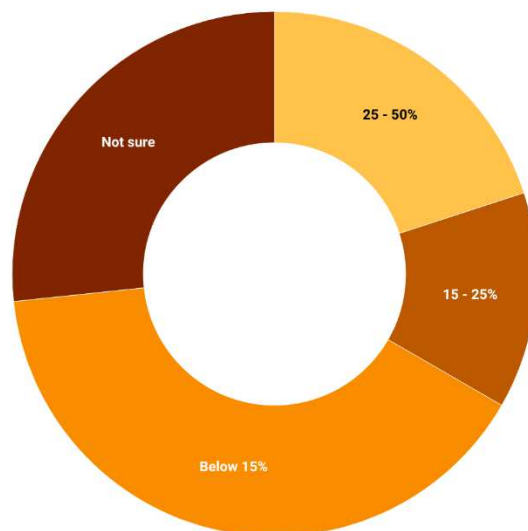


Chart: Maringo T. (2026). Primary research data: Assessing the Effectiveness of Policies that Support Early Childhood Development during Emergencies in Kenya • Created with Datawrapper

Theme 4: Stakeholder Coordination and Funding

Allocation of funding and resources for ECD initiatives during emergencies remains limited and undefined, contributing to the implementation gap. Among government respondents, 40% reported that less than 15% of the emergency budget is allocated to ECD-related activities. Whilst 26.7% were

unsure of budget allocation. A small proportion, 13.3%, estimated allocations of between 15% - 25%, and 20% of the respondents indicated budget allocation of between 25%-50%.The findings suggest low prioritization of ECD budgeting and limited awareness of budget allocation among government representatives. National policy frameworks suggest multisectoral investment in early childhood development, but the reported allocation suggests gaps in prioritization of these commitments.

“Funding and coordination among county departments, NGOs, and local leaders is often delayed, making it difficult to reach affected families quickly.” (NGO worker, Kisumu, 2025).

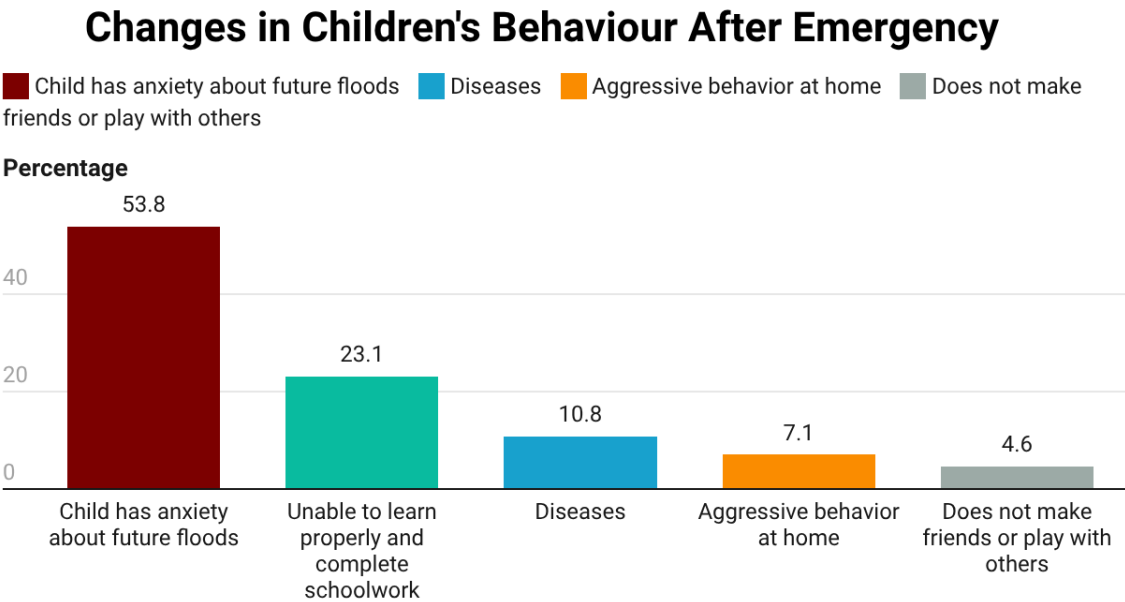
4.3 National Disaster Response Management Policy and Child Mental Health (RQ3)

Theme 5: Mental Health & Psychosocial Support (MHPSS)

The mental health impact of the floods was substantial and insufficiently addressed. As suggested by the data, the most critical worry was 53.8% of children had anxiety about future floods, followed by 23.1% unable to learn properly and complete schoolwork. 7.1% reported aggression in the home, and 4.6% unable to make friends.

Yet 80.5% of the services being offered were directed to caregivers, with 19.5% of psychosocial support services and child-friendly spaces being reserved for children.This demonstrates the huge gap in service prioritization between children and caregivers.

Interestingly, 10.8% of the respondents cited concern over their children getting waterborne diseases that could impact the children's physical and mental health. Having an indirect cost on the family's finances, especially due to a lack of health insurance.



Source: Maringo, T. (2026). Assessing the Effectiveness of Policies that Support Early Childhood Development during Emergencies in Kenya • Created with Datawrapper

“Their mental state was not good because they were always worried their parents would show up to pick them up from school. Some were also aggressive, and this was a result of the challenges they were facing, especially for those who had to move from their homes due to flooding.” (Teacher, Kisumu, 2025)

To receive mental health support, children have to rely on established and accessible institutional support that schools provide. Among the support systems, community health promoters were the most consistent in community outreach (30.5%), followed by NGOs that provided psychosocial support (22.9%), followed by school-based counselling programs 22%, and faith-based groups at 18.6%. Notably approx. 5.9% reported no structured support systems available. The flooding crises often lead to school closures, limiting access to the major institutional support system and the much-needed mental health support.

The integration of child mental health into disaster plans was rated by 70.5% of respondents at a moderate level, with 13.6% applying it fully, and 15.9% not doing it at all. This is supported by a comment from an NGO representative in Kisumu County. *“During emergencies, most children are taken to crowded evacuation centres. We could only provide pampers and food, and counselling to the parents, forgetting the mental well-being of the children as it was not a priority at that time.”*

Access to Mental Health Training

Teachers, as consistent figures in children's lives, have been required to administer psychosocial care to those affected by climate emergencies. In Kisumu County, teachers record participating in basic psychosocial support and child protection training facilitated by the Kisumu County Department of Education in collaboration with the Department of Health.

However, despite isolated successes, there are still large gaps in training. The respondents who reported limited training (72%) and lower availability of child-focused psychosocial support services (12%) suggest a connection between capacity gaps and poor service provision.

Theme 6: Child Protection Risks and Inclusion of Children's Voices

Inclusion of children's perspectives in ECD planning is reported by slightly more than half of the respondents. Of the 40 respondents who were asked about the inclusion of children in emergency project planning, 55% consented to their participation, while 45% indicated that they do not involve children's opinions.

From the respondents' accounts, one health promoter notes, *“We actively include children's views in our program planning... Their feedback informed how we structured play sessions and safe learning spaces.” (NGO Staff, Kisumu 2025)*

In terms of child protection risks, children are always rescued first and are often placed in shelters such as schools, with their parents, which are not always considered to be child-friendly. We place

these children in very populated places, not looking at the child protection risks. (Health Worker, Kisumu, 2025)

5. Discussion

5.1 Bronfenbrenner's Ecological Systems Theory

Bronfenbrenner's theory suggests that child development is moulded by five interconnected systems, ranging from the microsystems of family and schools to the community-based mesosystems and county-level safeguards in the exosystems, the macrosystems that develop the policies, and finally the global chronosystems. Through each layer, policy application and impact are assessed. (Bronfenbrenner, U. (1979); Bronfenbrenner, U., & Morris, P. A. (1998)). The findings highlight breakdowns across multiple levels, particularly within the exosystem and mesosystems.

Microsystem

This is the interaction between the children and their immediate environment, including the foundational relationships with teachers and caregivers, as understood in the testimonies. The emotional distress during and after the El Niño emergency, and the caregiver instability, is supported by the data that indicates 53.8% of children experienced anxiety about future floods, and 23.1% were unable to learn properly, suggesting a strain in the children's microsystem. The schools are a critical microsystem anchor, and disruptions averaging 4 weeks, as indicated by the data, have a fundamental effect on children's stability. This corresponds to a study conducted by Thapa et al. (2025), in which school disruption was reported to interfere with safety measures, routines, and relationships.

Mesosystem

This refers to the weak coordination between sectors such as education and health, which are responsible for the continuation of ECD services. The near total absence of ECD services in emergency camps (tallied at 0.8%) directly reflects the mesosystem failure. With weak coordination and community structures, developmental services such as child education are often overlooked. Gaps in the application of the Operational Guidelines for Child Protection in Emergencies (CPiE) is summarised by the following testimony:

"I have observed several gaps in addressing the needs of young children during emergencies. Many ECD centres lack emergency preparedness plans, leaving children vulnerable during crises. Access to nutrition and psychosocial support is often limited, as emergency interventions tend to prioritize food and shelter for adults, overlooking the developmental and emotional needs of young children. There is also inadequate training for caregivers and teachers on supporting children during crises, including providing trauma-informed care."(Community Health Worker, Nairobi, 2025)

Community health workers are the bridge linking community members to essential services, especially during emergencies. They are expected to accomplish great feats with limited capacity and support.

Exosystem

This system encompasses the institutional structures that influence resources directed to children's programs. This study highlights the implementation gaps, particularly the lack of follow-through, cited by government representatives, NGO workers, and community-based organizations after commitments are made to vulnerable communities. Respondents reported that delayed responses negatively influenced community perceptions of goodwill. The quote below reflects this experience:

"As Community Health Promoters who deal with these communities directly, sometimes we assess the situation on the ground, but after doing assessments, no help follows, breaking the trust between the community/ caregivers and us, because there is a lack of follow-through." (Community Health Worker, Kisumu, 2025)

Merino et al. (2025) observed that government structures are the primary cause of ECD policy implementation and sustainability. The finding that 40% of the emergency budget is reserved for less than 15% to ECD activities and over a quarter of government respondents were uncertain of budget allocation, represents an exosystem weakness.

Macrosystem

This system examines how national policies are translated into practice. The dominant challenges cited include resource constraints, weak coordination, and limited system capacity. Although

policies such as the Education in Emergencies, Disaster Management Policy exist, they are not sufficiently supported for effective implementation. The NCCAP III acknowledges that children under five years of age are especially vulnerable to the effects of climate shocks due to their unique levels of physiological and emotional development during this period, relating to all the research questions a, b, and c. It identifies a significant gap in the well-being of children and the lack of child-disaggregated data, especially during emergencies

Weak funding and coordination at the policy level contribute to insufficient training, decreased preparedness, and fragmented service delivery at the community level. Furthermore, all funding has been decentralised to the 47 county governments in Kenya, which has created disparities in resource allocation for ECD, especially during emergencies. Kenya's Vision 2030 highlights plans to mainstream ECDE education across all 47 counties by establishing resource centres and allocating a capitation grant for each child enrolled in the ECDE centre. (Vision, 2023). An increase in climate financing is needed to build the resilience of child-critical services.

Chronosystem

This refers to the long-term impact of policy failures. The finding that 46.7% of policymakers had not conducted a policy evaluation in six years suggests deficient monitoring frameworks, despite the increasing risk posed by annual floods. Thapa et al. (2025) warn that environmentally driven adverse childhood experiences multiply over time when protective structures remain inactive.

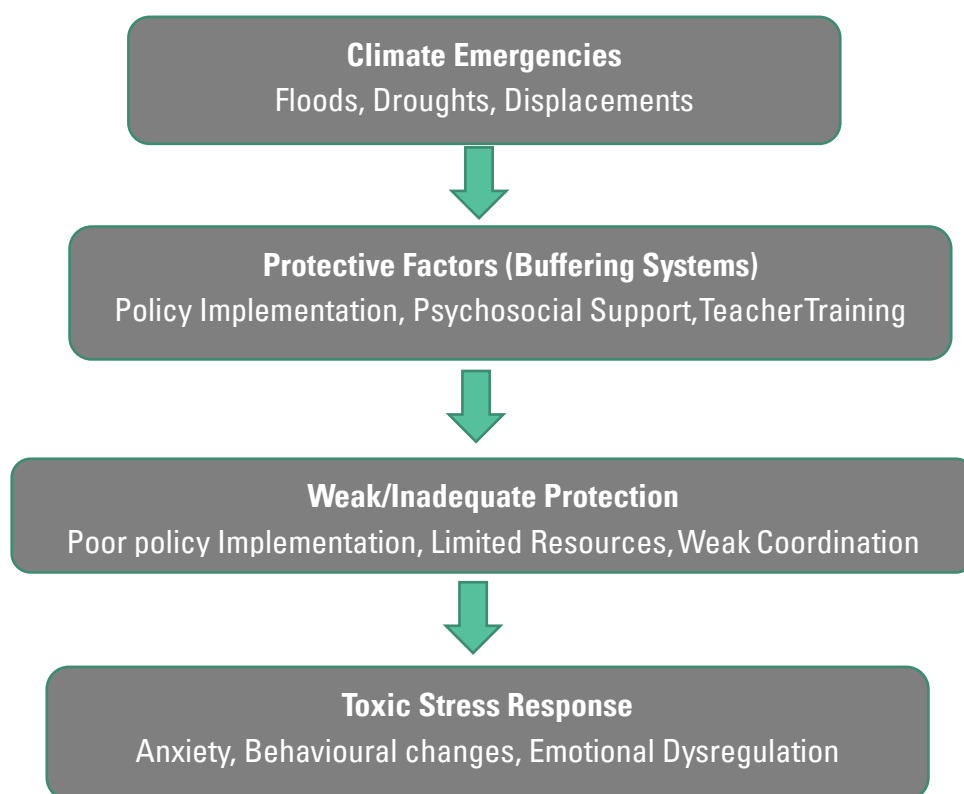
5.2 Interpretation through the Toxic Stress Theory

The toxic stress model explores the methods by which policy gaps create harm in children. The climate emergency creates hardships, and when the protective factors, such as the provision of spaces and psychosocial support, are tested, they prove insufficient. The most significant impact of the 2024 El Niño floods was the flooding of houses (24%), followed closely by the closure of schools (20.3%). This demonstrates the double impact of the floods on children in both their living spaces and educational sites, further exacerbating harm to them. This weak and inadequate response creates toxic stress in children in the form of anxiety, learning disruption, negative behavioural changes, and adverse developmental outcomes (Hickman C et al., 2021; Newnham et

al., 2022). These findings are reflected in the study results, where approximately half of the respondents cited increased child anxiety post-emergency.

Failure to adequately address policy implementation gaps weakens the protective systems required to buffer children from the harmful effects of climate emergencies. This study provides empirical evidence of this pathway, where poor application removes the buffering systems that protect children from toxic stress responses.

Diagram of Toxic Stress Pathway:



Toxic Stress Theory Model adapted from Thapa et al. 2025 and Harvard University Centre on the Developing Child (2004 – 2025).

Mental Health Impact on Children

As observed by parents and teachers, there were substantial changes among the children following the floods. The children became withdrawn, fearful, and anxious when it rained, often expressing worry that the floods would return. Some showed aggression or irritability, while others struggled to concentrate during lessons. Several children also experienced sleep disturbances and separation anxiety, especially those who had lost homes or personal belongings. "The learning

environment has been tense, and it's clear that the children are still emotionally affected by the experience." (Teacher, Nairobi, 2025).

Water-borne diseases caused by the floods resulted in a significant amount of absenteeism, having a negative impact on the children's developmental journey. Major displacement of families in Nairobi also contributed to the reduction in school attendance. Notably, signs of ongoing psychosocial stress among the community members were evident a year after the 2024 El Niño Floods. Respondents in Nairobi recorded increased gang violence in the research area following post-flood demolitions and temporary diversion of law enforcement towards the emergency response efforts. Participants expressed concern that the children were increasingly exposed to these violent environments, with some adopting these violent behaviours as a means of coping, raising child protection concerns. Participants expressed strong expectations that the findings would generate sustainable solutions and strengthen accountability amongst local leaders in supporting flood-affected communities.

The toxic stress experienced by the children was exacerbated by their direct exposure to trauma and loss in their families. As reported by one respondent, one male parent went back into the water to salvage his television and was electrocuted, leaving his children bereaved. This demonstrates the deep need for emergency training in the community that policy frameworks have not adequately addressed. During emergencies, there is often a major emphasis on meeting basic human needs, and child development is secondary to those needs. Unless child development is integrated as an essential service category in Kenya's emergency response framework, alongside nutrition, shelter, and WASH, the toxic stress pathway will repeat itself every time there is a climate emergency.

5.3 Limitations

This study has several limitations that should be considered in the interpretation of the findings:

i. Recall Bias

The study relied on participants' recollections of past events, and potential recall bias may therefore exist in the recollection of facts and the perception of the disaster and emergency services received, especially as research was conducted one year after the emergency.

ii. Selection Bias

Data collection was conducted by community health workers who are familiar with the local population. Efforts were made to mitigate this through random participant selection, but it may have had some influence on who was included in the study.

iii. *Sample Representation*

It was difficult to maintain a male-female balance as the study had a higher proportion of female candidates. Age was not used as a selection criterion. As such, the findings may not fully represent all stakeholder populations.

iv. *Data Collection Disparities*

It was not possible to have a comprehensive analysis of the rural vs urban. In Nairobi, the researchers had to distinguish between public and private schools, whereas in Kisumu, most of the facilities were public institutions. Access to higher-level government officials was limited, particularly in Nairobi, which potentially affected the depth of analysis.

v. *Weak Generalizability*

The study was conducted in only two counties, and therefore, findings cannot be generalised to all regions of Kenya. The qualitative findings accurately mirror participant perspectives, although they may not be statistically generalizable.

6. Conclusion

Children are disproportionately affected by climate emergencies. The study findings indicate that the primary barrier to effective ECD is not the absence of policy but persistent gaps in implementation, coordination, and financing. Across the findings, the same message appears: communities are trying to protect and support children, but the systems around them are not strong or consistent enough to meet the scale of need. Closing the gap requires stronger alignment between policy commitments, targeted investments, and implementation. The points below highlight the critical recommendations expressed by the research respondents:

a. *Training and Capacity-building*

With 18% of frontline workers receiving extensive emergency training, annual training should be provided to caregivers, community health workers, and teachers on disaster preparedness and trauma-informed care, and child education during emergencies. This should be combined with a biannual follow-up to ensure effective implementation of child protection and development strategies.

b. Strengthening Coordination and Accountability

County governments should strengthen coordination between education, health, and disaster management actors. NGOs, as the most frequently cited partners, must join humanitarian hubs for better coordination. Only 53% of respondents had conducted a policy review, with 33% reporting a six-year gap since the last evaluation; county governments should commit to policy evaluations at least every two years, across flood-prone counties.

c. Integration of Health, Nutrition, and Mental Health Support

Only 12% of psychosocial support services were directed to children despite 53.8% experiencing post-flood anxiety. A minimum of 40% of MHPSS resources should be directed at child-focused mental health services and child-friendly spaces.

d. Funding and Resource Allocation

National governments should increase ECD budget allocation to a minimum of 25% and focus on equitable resource allocation and regular monitoring with compulsory, transparent reporting. Greater investments in economic recovery will help to meet the needs of the household and reduce barriers to school attendance.

e. Infrastructure and Environmental Safety

With 94% of ECD centres closing during the 2024 El Niño Floods, and 38% of children missing at least four weeks of school, investment in resilient infrastructure should be prioritised during floods. Respondents recommended improving school infrastructure in flood-prone areas through protective barriers such as gabions¹ and raised floors to reduce the intensity of floods.

f. Access and Service Delivery Improvement

ECD services received only 0.8% of emergency camp provision, which must be revised upwards and tracked as a key performance indicator in future emergency responses.

Consequently, future research should further explore the needs of marginalized groups, including children with disabilities. Expanding research across more counties in Kenya would improve the generalizability of findings and policy advocacy efforts.

¹ A Gabion is a welded mesh wire cages filled with soil, concrete, stones or boulders. They are placed on top of each other to form massive structure for low gravity walls. – Climate Action Africa

Declarations

Abbreviations

ECD — Early Childhood Development

ECDE — Early Childhood Development and Education

EiE — Education in Emergencies

PSS — Psychosocial Support

MHPSS — Mental Health and Psychosocial Support

PTSD — Post-Traumatic Stress Disorder

EST — Ecological Systems Theory (Bronfenbrenner)

Policy and institutional

NCCAP — National Climate Change Action Plan

NDRMP — National Disaster Risk Management Policy

INEE — Inter-Agency Network for Education in Emergencies

NACOSTI — National Commission for Science, Technology and Innovation

NGO — Non-Governmental Organisation

CBO — Community-Based Organisation

CHP — Community Health Promoter

UN — United Nations

UNICEF — United Nations Children's Fund

Research methodology

FGD — Focus Group Discussion

KII — Key Informant Interview

CI — Confidence Interval

- **Ethics approval and consent to participate**

This study was conducted in accordance with the principles of the Declaration of Helsinki. Ethical clearance and research authorisation were obtained from Kenya Methodist University, Institutional

Scientific and Ethics Review Committee. Chaired by: Mr. Herbert Kibebe and Dr. Job Mapesa
REF: KEMU/ISERC/BMS/18/2025.

Thereafter, the research license no. 851841 was obtained from the National Commission for Science, Technology and Innovation (NACOSTI). Informed consent was obtained from all participants prior to data collection. Given operational constraints in the field context, verbal consent was obtained and documented by data collectors in cases where written consent was not feasible. Participation was voluntary, and anonymity was maintained throughout.

Consent for publication: Participants provided verbal consent for their anonymised responses to be used for research and publication purposes. No identifiable personal data are included in this manuscript.

The Questionnaires were developed specifically for this study and will be uploaded as supplementary material.

- **Availability of data and materials**

The datasets generated and analysed during the current study are not publicly available due to ethical and confidentiality considerations, as they contain information collected from human participants. Data may be made available from the corresponding author upon reasonable request, subject to approval by the relevant ethics committee and in accordance with participant consent.

- **Clinical Trial Number**

Not Applicable

- **Competing interests**

None declared by author

- **Funding**

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- **Authors' contributions**

T.M wrote the main manuscript

K.F prepared the quantitative figures and graphs

K.K reviewed the manuscript

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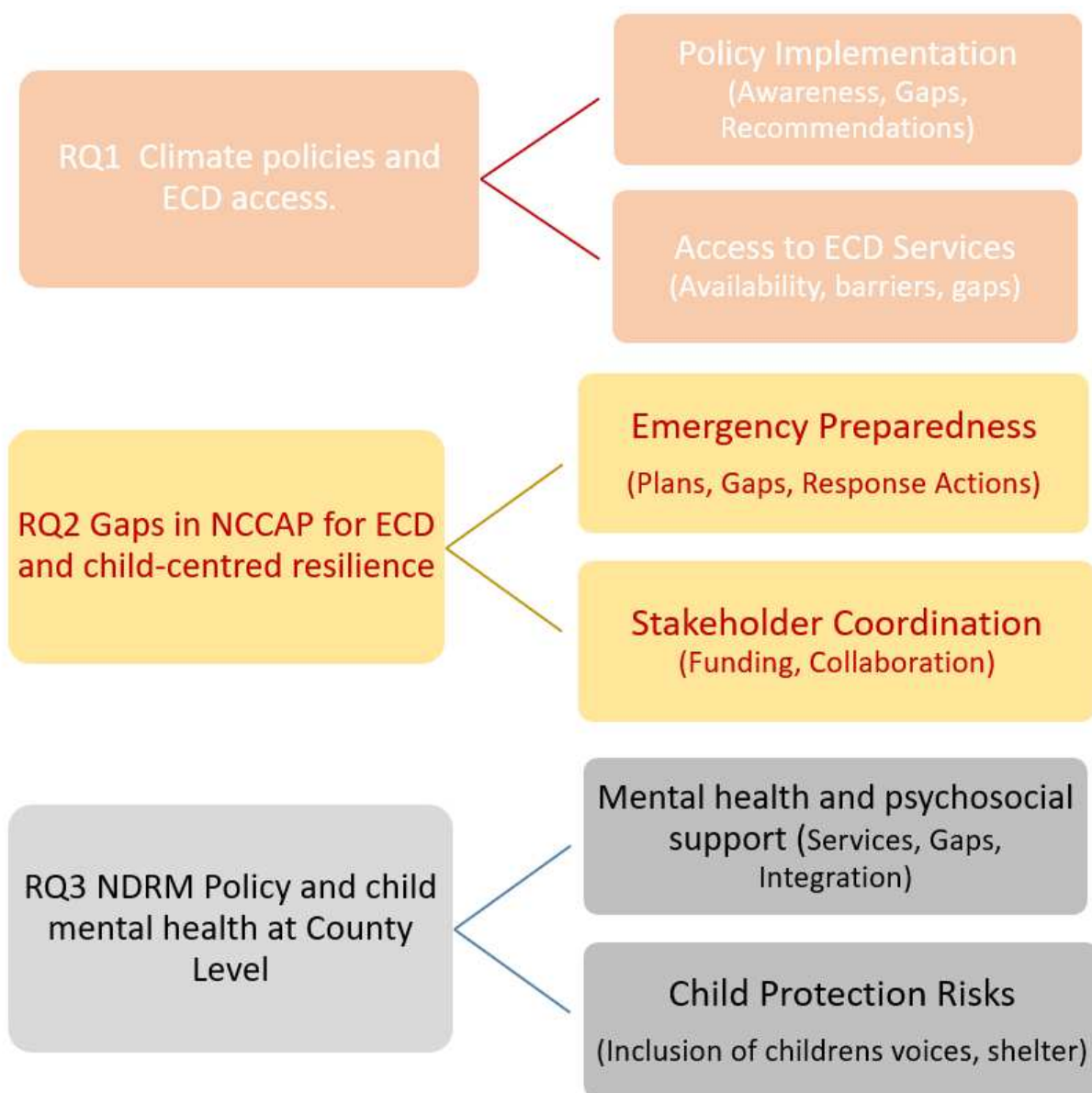
References & Works Cited

1. Atmore E. Early childhood development in South Africa — progress since the end of apartheid. *Int J Early Years Educ.* 2012;20(3):239–56.
2. Amisssah-Essel S, Commey V, Asante E. Early childhood development in Ghana: policy implementation challenges. *Afr J Early Child Educ.* 2020;4(1):1–18.
3. Amboka P, Nampijja M, Owino GE, Okelo K, Chumo I, Muendo R, et al. Improving early childhood development in the context of the nurturing care framework in Kenya: a policy review and qualitative exploration of emerging issues with policy makers. *Front Public Health.* 2022;10:1016156.
4. Bassett L, Bradley J. Strengthen standards to improve early childhood development in humanitarian crises. *J Humanit Aff.* 2022. doi:10.7227/jha.083.
5. Bronfenbrenner U. *The ecology of human development: experiments by nature and design.* Cambridge: Harvard University Press; 1979.
6. Bronfenbrenner U, Morris PA. The ecology of developmental processes. In: Damon W, Lerner RM, editors. *Handbook of child psychology: theoretical models of human development.* 5th ed. New York: John Wiley & Sons; 1998. p. 993–1028.
7. Cárdenas D, Martínez C, Pérez L. Child-centred resilience programming in humanitarian crises: evidence from Latin America and Sub-Saharan Africa. *Int J Disaster Risk Reduct.* 2024;98:104085.
8. Center on the Developing Child, Harvard University. Toxic stress. <https://developingchild.harvard.edu/science/key-concepts/toxic-stress/> Accessed 24 Jun 2025.
9. Creswell JW, Plano Clark VL. *Designing and conducting mixed methods research.* 3rd ed. Thousand Oaks: SAGE Publications; 2018.
10. Nurturing Care. Early childhood development 2023 updates – Kenya. <https://nurturing-care.org/kenya-2023>. Accessed 07 June 2025.
11. Inter-agency Network for Education in Emergencies (INEE). *Early childhood development in emergencies manual.* Geneva: INEE; 2017. https://inee.org/sites/default/files/resources/tbd._ecdie_manual_2017.pdf Accessed 12 June 2025
12. Frentzen E, Fegert JM, Martin A, et al. Child and adolescent mental health during the COVID-19 pandemic: an overview of key findings from a thematic series. *Child Adolesc Psychiatry Ment Health.* 2025;19:57.
13. Gaffey MF, Merry L, Bhatt S. Mixed-methods approaches to measuring service provision in humanitarian and emergency settings: a methodological review. *Confl Health.* 2020;14(1):42.
14. Gerard J, Kibaara T, Blom IM, Falconer J, Mohammed S, Kadri-Alabi Z, et al. Climate-sensitive health outcomes in Kenya: a scoping review of environmental exposures and health outcomes research, 2000–2023. *medRxiv [Preprint].* 2024. doi:10.1101/2024.04.25.24306268.
15. Geneva Global Hub for Education in Emergencies. *Education in emergencies & crisis-sensitive planning.* Geneva: EiE Hub; 2024. <https://eiehub.org/wp-content/uploads/2024/02/EiE-Crisis-Sensitive-Planning.pdf> Accessed 04 May 2025

16. Guy-Evans O. Bronfenbrenner's ecological systems theory. <https://www.researchgate.net/publication/383500583> Accessed 22 Feb 2025.
17. Hickman C, Marks E, Pihkala P, et al. Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey. *Lancet Planet Health*. 2021;5(12):e863–73.
18. Hidayana N. Assessment of validity, reliability, and normality in quantitative study: a survey instrument analysis with IBM SPSS. *Asian J Res Educ Soc Sci*. 2025;7(3):438–52.
19. Kang E, Hwang HJ. The importance of anonymity and confidentiality for conducting survey research. *J Res Publ Ethics*. 2023;4(1):1–7.
20. ReliefWeb. Kenya flood and cholera outbreak 2024 – DREF operation (Appeal: MDRKE066). <https://reliefweb.int/report/kenya/kenya-flood-and-cholera-outbreak-2024-dref-operation> Accessed 02 April 2025
21. Mehrin SF, Hamadani JD, Salveen N, Hasan MI, Hossain SJ. Adapting an evidence-based early childhood parenting programme for integration into government primary health care services in rural Bangladesh. *Front Public Health*. 2021;8:608173.
22. Merino A, Zavaleta J, Manrique A, Mejia P. Evaluating governance structures in the implementation of early childhood policies: a pathway to sustainable development. *Edelweiss Appl Sci Technol*. 2025;9:453–67.
23. Milner KM, Bernal Salazar R, Bhopal S, et al. Contextual design choices and partnerships for scaling early child development programmes. *Arch Dis Child*. 2019;104(Suppl 1):S3–12.
24. Ministry of Education, Government of Kenya. Education sector disaster management policy. Nairobi: Government of Kenya; 2017. <https://www.education.go.ke/sites/default/files/2022-05/Education-in-Emergency-Policy-July-2018.pdf>. Accessed 26 Sept 2026.
25. Ministry of Health, Government of Kenya. Kenya mental health policy 2015–2030. Nairobi: Government of Kenya; 2015. <https://mental.health.go.ke/download/kenya-mental-health-policy-2015-2030/> Accessed 24 April 2025.
26. Mualem R, Farraj RH, Shance S, Bernshtein DH, Cohen S, Mualem L, et al. Econeurobiology and brain development in children: key factors affecting development, behavioral outcomes, and school interventions. *Front Public Health*. 2024;12:1376075.
27. Newnham EA, Mergelsberg ELP, Chen Y, Kim Y, Gibbs L, Dzidic PL, et al. Long term mental health trajectories after disasters and pandemics: a multilingual systematic review of prevalence, risk and protective factors. *Clin Psychol Rev*. 2022;97:102203.
28. Odundo PA. Policy implementation challenges in early childhood development education in Nakuru Municipality, Kenya. *J Educ Pract*. 2013;4(15):112–21.
29. Ochieng BM, Abuya T, Otieno C. Determinants of successful implementation of early childhood development education by county governments in Kenya: implementing partners' perspective. *J Educ Pract*. 2018;9(36):1–14.
30. Paquette D, Ryan J. Bronfenbrenner's ecological systems theory. 2001.
31. Rashid M, Akkari A. Early childhood education policies in developing countries: gaps and opportunities. *Early Child Dev Care*. 2020;190(4):456–71.
32. Republic of Kenya, Ministry of Devolution and ASALs. National disaster risk management policy. Nairobi: Government of Kenya; 2017. <https://repository.kippra.or.ke/xmlui/handle/123456789/559> Accessed 06 February 2026.

33. Ronald MM, Nkirina S. Determinants of performance of early childhood development projects in Kisii County, Kenya. *J Entrep Proj Manag*. 2025;10(2):1–19.
34. Swanson RA. *Theory building in applied disciplines*. San Francisco: Berrett-Koehler Publishers; 2013.
35. Tajik M, Bhattacharya D, Simons H. Purposive sampling in policy research: methodological justification and application in low- and middle-income country contexts. *Qual Res J*. 2024;24(2):88–104.
36. UNICEF, Inter-Agency Standing Committee. *Technical guidance on creating and implementing an integrated approach to psychosocial support (PSS) programming for children and youth*. New York: UNICEF; 2022. <https://www.unicef.org/documents/technical-guidance-psychosocial-support-programming-children-and-youth> Accessed 7 May 2025.
37. Thapa S, Giri S, Ross AG. Extreme weather and climate-related adverse childhood experiences are a humanitarian crisis during the 21st century. *Commun Med*. 2025;5(1):357.
38. Ministry of Environment and Forestry, Government of Kenya. *The National Climate Change Action Plan (NCCAP) III 2023–2027*. Nairobi: Government of Kenya; 2023. <https://emsi.co.ke/wp-content/uploads/2024/08/Kenya-NCCAP-2023-2027-1.pdf> Accessed 22 Feb 2026.
39. UNICEF. *Early childhood development index*. New York: UNICEF. <https://data.unicef.org/topic/child-development/early-childhood-development/> Accessed 08 Mar 2025.
40. UNICEF. *Key demographic indicators – Kenya country profile*. New York: UNICEF. <https://data.unicef.org/country/ken/> Accessed 21 Mar 2025.
41. Vision 2030, Government of Kenya. *Mainstreaming of early childhood development education (ECDE)*. Nairobi: Government of Kenya; 2023. <https://vision2030.go.ke/project/ecde-mainstreaming/> Accessed 8 Nov 2025.

Appendix B: Thematic Coding Framework



Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [ECDDataCollectionFormsTanyaM.pdf](#)