

MOVING MINDS ALLIANCE RESEARCH FELLOWSHIP PROGRAMME

2025-2026

Community-Led Approaches to Protecting Young Children During Cyclone Emergencies in Southern Malawi: Learning from Local Interventions and Caregivers' Experience

Nissily Mushani

Contents

Abstract.....	2
Acknowledgements	2
1. Introduction.....	3
2. Literature Review.....	5
3. Methodology	9
4. Data Analysis / Results.....	12
Data Analysis	12
Results	12
5. Discussion and Recommendations.....	17
6. Conclusions.....	21
AI Disclosure Statement	23
References & Works Cited	24
Appendixes	30

COMMUNITY-LED APPROACHES TO PROTECTING YOUNG CHILDREN DURING CYCLONE EMERGENCIES IN SOUTHERN MALAWI

Abstract

Young children aged 0–8 are among the most at-risk groups during cyclone emergencies, yet their specific needs are often overlooked in disaster risk reduction (DRR) policy and practice. Focusing on Nsanje District in Southern Malawi, one of the country's most cyclone-affected areas, this study explores how communities themselves protect young children before, during, and after cyclones. It examines community-led approaches grounded in intergenerational knowledge, such as stories, spiritual practices, and indigenous early warning cues, and how these shape everyday protection and care.

The research uses a participatory qualitative case-study design across two sites: Tengani Evacuation Camp and high-risk riverside villages in the Traditional Authorities of Ndamera and Mlolo. Methods include focus group discussions, in-depth interviews, an adapted photovoice approach with children aged 5–8, participant observation, and document review, engaging 62 participants (caregivers, grandmothers, community leaders, ECD practitioners, government and NGO staff, and children).

Findings highlight four core themes: traditional knowledge and practices mobilised to protect young children; how community-led and formal child protection systems intersect and diverge; children's and caregivers' lived experiences of cyclones; and the enablers and barriers shaping effective community-led protection. The study shows that informal caregiving networks and locally rooted knowledge form the primary protective layer for young children, yet remain largely invisible in formal DRR frameworks. It argues for a hybrid model that recognises, resources, and safeguards these community-led mechanisms within national DRR and early childhood development policy, stressing the need to value local ways of knowing and build equitable partnerships between communities, government, and humanitarian actors.

Keywords: community-led child protection; cyclone emergencies; intergenerational knowledge; disaster risk reduction; early childhood development; Malawi; Southern Africa; climate resilience

Acknowledgements

This research was supported by the Moving Minds Alliance Research Fellowship Programme 2025–2026. The author is deeply grateful to Dr. Tafadzwa Chevo (University of Zimbabwe) for generous mentorship throughout the fellowship, and to the communities of Tengani and Mlolo in Nsanje District for their time, trust, and openness. Sincere thanks are also extended to the ECD practitioners, community leaders, caregivers, and children who participated in this study; their voices are at the heart of this work.

The author warmly acknowledges the invaluable contributions of the research assistants: Blessings Doris Genti, Hazvinei Mang'anda, Manyozo Gavi William, Tyamike Mkwanda, Mannuel Mulwafu, and Blessings Atano; for their dedication to data collection, transcription, and analysis. Their care and commitment in engaging with communities throughout the fieldwork were essential to this study.

1. Introduction

Malawi faces high multidimensional poverty, especially in rural, disaster-prone districts such as Nsanje, making young children particularly vulnerable. As of 2022, Malawi had the second-highest rate of extreme poverty in sub-Saharan Africa, with nearly half of the population living in multidimensional poverty marked by deprivations in health, education, and living standards (Caruso & Sosa, 2022; UNDP, 2024). Rural areas bear the effect of this hardship, affecting nearly 70 percent of residents, and children are disproportionately impacted: 69.6 percent are classified as multidimensionally poor (Government of Malawi and UNICEF, 2023; UNICEF, 2023a). These inequities are intensified for children with disabilities, those with albinism, and those living in flood-prone or cyclone-affected areas, as highlighted in recent national dialogues on climate change and child rights.

The climate crisis amplifies these risks. The Children's Climate Risk Index ranks Malawi among the most high-risk countries globally, with overlapping threats from flooding, drought, and disease outbreaks (UNICEF, 2021, 2023c). In cyclone-prone Nsanje District, children aged 0–8 face immediate dangers such as drowning and injury, as well as longer-term threats including malnutrition, illness, family separation, and psychological trauma (Cambaza et al., 2019; Lubanga et al., 2023). Because they depend entirely on adult caregivers and cannot protect themselves or articulate their needs during emergencies, they require deliberate, context-specific protection strategies.

Yet formal disaster responses remain largely top-down and poorly adapted to young children's developmental needs. Disaster risk reduction (DRR) policies and humanitarian protocols tend to focus on generalised populations or older children, with limited engagement with local caregiving systems or indigenous knowledge (Iloka, 2016; Johnson et al., 2024; Ronan et al., 2016). Child-centred DRR studies have long argued that children's specific vulnerabilities and capacities must be explicitly integrated into disaster planning and governance, but this is rarely realised in practice, particularly for children under eight. Externally driven interventions can also duplicate or undermine existing community-based practices, leading to cultural misalignment, inefficiencies, and weak sustainability (Mwalwimba et al., 2024; Trogrlić et al., 2019). This disconnect is particularly stark in low-lying districts such as Nsanje, where cyclones such as Ana, Gombe, Freddy, Filipo, and Jude have repeatedly displaced communities and strained both institutional and traditional safety nets (Braka et al., 2024; Changwanda & Clayton, 2023; Government of Malawi, 2023).

Informal protection systems form the backbone of child safety during emergencies in rural Malawi. Grandmothers, traditional leaders, spiritual beliefs, and everyday caregiving practices underpin how communities anticipate and respond to risk (Mwalwimba et al., 2024; Peek et al., 2018). In Nsanje and neighbouring districts, indigenous knowledge such as reading animal behaviour, river patterns, and seasonal signs plays a critical role in local early warning and preparedness, yet remains marginalised in formal DRR and climate adaptation planning. Knowledge transfer through stories, rituals, songs, and spiritual guidance helps families act before, during, and after disasters, but these community-led mechanisms remain largely invisible in emergency policies and programming and risk being displaced by culturally disconnected interventions (Iloka, 2016; Trogrlić et al., 2019).

This study addresses these gaps by examining how community-led approaches, particularly those grounded in intergenerational knowledge transfer, contribute to the protection and resilience of young children aged

0–8 during and after cyclones in Nsanje District. It investigates how caregivers, families, and local actors use traditional knowledge, cultural practices, and informal networks to safeguard children; how these mechanisms intersect with or diverge from formal DRR systems; and what barriers and enablers shape effective community-led protection. By centring caregivers' and children's experiences, the research aims to generate actionable evidence for child-sensitive, culturally grounded DRR and early childhood development policy and practice in Malawi's changing climate.

2. Literature Review

Protecting children in climate crises requires attention to social systems, culture, and institutions beyond technical fixes. This review covers five areas: climate impacts, community protection, intergenerational resilience, policy integration, and comparisons of community-led and formal DRR. It concludes with the guiding framework.

Children in the climate crisis: vulnerabilities and risks

Climate change has amplified risks to children's health, nutrition, education, and psychosocial wellbeing, especially in disaster-prone regions such as Southern Malawi. Young children aged 0–8 are acutely vulnerable because of their physical dependence and developmental sensitivity. Cyclones increase exposure to injury, waterborne diseases, food insecurity, and family separation (Bazile et al., 2015; Cambaza et al., 2019; Hallegatte et al., 2019). At the regional level, children accounted for half of all disaster-displaced people in sub-Saharan Africa in 2022, with 1.85 million children displaced by climate shocks, nearly double the previous year (Save The Children, 2023). Girls face additional and compounding burdens, including school dropout, heavy care responsibilities, and early marriage (Erman et al., 2021).

These risks intersect with high poverty. More than 60 percent of Malawians live in multidimensional poverty, which constrains household recovery and long-term adaptation (Government of Malawi and UNICEF, 2023). Child-specific data in emergency assessments remain scarce, and major frameworks such as the Sendai Framework often fail to disaggregate or measure impacts on child wellbeing (Ronan et al., 2016; UNICEF, 2021; Weeda et al., 2024). UNICEF (2023c) notes that only about 2.4 percent of multilateral climate funds are allocated to child-responsive projects. Recent analyses of climate and health policies also show that children's specific vulnerabilities are rarely translated into concrete measures in adaptation plans, leaving significant protection gaps. Scholars argue that climate shocks, when combined with pandemics and economic crises, deepen existing inequities and make grassroots protection strategies essential rather than supplementary (Chikodzi & Nhamo, 2021; Sacks et al., 2021). In Nsanje, children under eight are frequently displaced and experience trauma, disrupted caregiving, and acute food shortages (Government of Malawi and UNICEF, 2023; UNICEF, 2023b). Yet formal systems remain largely technocratic, with limited recognition of local capacities or age-specific needs (Ronan et al., 2016; UNDRR, 2015).

Community-based child protection in emergencies

Community-led protection systems are central to safeguarding children during crises, particularly in low-resource settings where formal systems are slow to respond, under-resourced, or culturally misaligned. These systems bring together caregivers, local leaders, teachers, and community volunteers. They tend to activate early and rely on social trust, cultural familiarity, and physical proximity (Ellermeijer et al., 2023; Peek, 2008; Wessells, 2009; 2015). Despite their importance, they remain under-researched. A recent systematic review of community-level child protection in low- and middle-income countries by Ellermeijer et al. (2023) shows that community mechanisms can be effective but are poorly documented, and that external interventions often fail to build on existing structures or to balance traditional practices with rights-based standards. This work highlights a persistent gap between practice and research in community-level child protection. Recent studies by the same authors also emphasise that limited attention to community ownership undermines the sustainability of these mechanisms (Ellermeijer et al., 2023).

Models such as *Seeds*, developed in Uganda, Lebanon, Sri Lanka, and Colombia, demonstrate that child protection systems can be co-designed with communities through iterative, participatory processes. These approaches strengthen local leadership, enhance accountability, and offer lessons for similar settings.

Schools can serve as hubs for child protection, offering early warning, temporary shelter, and psychosocial support. Yet they remain underused in rural Malawi's DRR strategies (Takahashi et al., 2015; Tatebe & Mutch, 2015). Holding (2025) stresses that emergency interventions should be designed with communities rather than for them, a principle which the Sendai Framework recognises in its emphasis on local leadership (UNDRR, 2015). However, systemic barriers persist. Community actors are often excluded from formal humanitarian coordination, lack sustained funding, and are marginalised in central planning processes (Abid et al., 2025; Hidayat et al., 2020; Maulana et al., 2024). In Malawi, these dynamics limit opportunities to embed community-driven protection within national DRR systems (Government of Malawi, 2015).

Intergenerational knowledge and cultural resilience

Intergenerational knowledge is central to community resilience in disaster-prone contexts. In Malawian communities, preparedness is conveyed through stories, rituals, caregiving routines, and environmental observations passed down across generations (Hambati, 2021; Peek et al., 2018). Elders, and grandmothers in particular, share early warning signs such as shifts in wind, changes in animal behaviour, and river patterns. They do this through oral traditions that carry both practical and cultural authority (Iloka, 2016; Mwalwimba et al., 2024). This knowledge enables families to act before disasters and maintain cohesion during crises. Cultural resilience – spiritual coping, shared memory, and collective identity – buffers trauma and sustains care when formal systems are absent. (Moholo, 2019).

Trogrlić & van den Homberg (2018) document how indigenous knowledge systems in the Lower Shire Valley, the same geographical area as this study, function as critical early warning mechanisms for floods and droughts, yet are often overlooked by actors involved in local flood risk management. Trogrlic et al. (2022) extend this critique, showing that community-based disaster risk reduction in Malawi largely fails to meaningfully include local knowledge in practice, despite formal recognition in policy. Together with more recent work by De Sisto and colleagues, these studies indicate that Malawi's DRR landscape continues to marginalise community knowledge in disaster planning (De Sisto et al., 2024).

Kristian & Fajar Ikhsan (2024) argue that an over-reliance on biomedical and technical models, and a lack of attention to socially embedded practices, reduces the relevance and uptake of DRR policy. Hambati's work on invisible resilience shows how indigenous knowledge systems and everyday coping strategies in African communities sustain disaster management even when they are not recognised in formal plans (Hambati, 2021). Intergenerational transmission is weakening. Migration, displacement, and widening generational gaps erode adaptive capacities that are hard to restore. Peek et al. (2018) and UNICEF (2023a) warn that this kind of cultural amnesia can leave communities without the context-specific strategies that have supported them for generations. Scholars recommend creating spaces—ECD centres, community gatherings, and school programmes—where elders, children, and caregivers co-produce and document resilience strategies (Nkombi & Wentink, 2022; Takahashi et al., 2015).

Policy and systems integration

National and international frameworks recognise the need to integrate child protection and disaster risk reduction (DRR), but commitments have not translated effectively into practice. Malawi has ratified the Convention on the Rights of the Child and the Sendai Framework. Following Cyclone Freddy, it enacted a new Disaster Risk Management Act in 2023, replacing the 1991 legislation. The Act established an Office of the Commissioner for Disasters and a National DRR Committee with civil society representation (Mkwanda, 2023). However, the implementation of child-sensitive DRR remains fragmented, under-resourced, and weakly coordinated (Tall et al., 2013; UNICEF, 2021). District DRR planning often lacks funding, trained personnel are few, and child protection is rarely integrated systematically into emergency response plans, especially for children under eight (Metzler et al., 2019; Mwalwimba et al., 2024; Ronan et al., 2016). Child-disaggregated data on risk are also limited, which makes it difficult to reach the most marginalised groups, including children with disabilities and those living in grandparent-headed households (Adugna et al., 2020; Weeda et al., 2024).

Global evidence shows that integrating DRR into schools and health systems can be effective, yet the education sector in Southern Malawi remains a missed opportunity for child-centred preparedness (Chikodzi & Nhamo, 2021; Tatebe & Mutch, 2015). A rights-based, locally grounded shift is needed. This involves funding local systems, building responder capacity, using child-sensitive indicators, and including communities in policy design (Ronan et al., 2016; UNDRR, 2015).

Comparative perspectives: community-led and formal DRR

Formal DRR systems are structured, technically driven, and better resourced than informal ones, but often rely on top-down, externally designed models. Standardised protocols and centralised coordination frequently overlook the needs of young children, people with disabilities, and remote communities (Hanspal & Behera, 2024; Metzler et al., 2019; Mwalwimba et al., 2024). Community-led approaches are responsive, culturally embedded, and trusted. They activate first, rely on lived experience, and provide psychosocial and material support through familiar relationships and practices (Halim et al., 2024; Hambati, 2021; Nkombi & Wentink, 2022). Evidence shows community participation improves disaster preparedness and promotes equity in protection outcomes (Halim et al., 2024).

At the same time, formal systems rarely recognise these community mechanisms and often duplicate or displace them. De Sisto and colleagues and Kristian and Fajar Ikhsan (2024) describe weak collaboration between formal and community systems that undermines local resilience. Hambati (2021) refers to this as a problem of invisible resilience. Both formal and community-led approaches have limits. Community-led systems face funding and scale constraints, while formal ones struggle with contextual fit and grassroots legitimacy (Khan et al., 2023; Pandey, 2019). A hybrid model that draws on the complementary strengths of both systems is therefore not optional but essential. Motsumi and Nemaconde (2024) present a framework showing that combining indigenous knowledge with modern DRR measures, as seen in South Africa, creates more resilient communities than either approach alone. As Rahmafritia et al. (2021) argue, co-designed, locally embedded strategies are consistently more sustainable and equitable than either approach pursued in isolation.

Theoretical and conceptual framework

This study draws on three frameworks. Resilience theory examines how individuals and communities anticipate, absorb, and adapt to shocks such as cyclones (Folke, 2016; Ungar, 2011). Resilience means recovery, transformation, and building protective capacities. Social ecological theory views communities as dynamic systems shaped by constant social–environmental interaction (Berkes & Ross, 2013). This perspective shows how caregiving, kinship, and cultural norms interact with ecological realities like flooding and displacement. CC DRR stresses that children are active participants with distinct needs, perspectives, and capacities shaping disaster governance (Peek et al., 2018; Ronan et al., 2016).

The conceptual model for this study brings these three frameworks together (see Figure 1). It examines four main constructs that shape child protection outcomes during cyclone emergencies in Nsanje: community-led protection mechanisms (such as traditional caregiving, informal safety nets, and intergenerational knowledge); child vulnerability and resilience (influenced by age-specific risks, psychosocial needs, and caregiving environments); formal disaster management systems (including state and non-governmental responses, which often operate in parallel with community efforts); and environmental hazards (recurring, climate-intensified events that disrupt child wellbeing). Intergenerational knowledge mediates how systems align or conflict, shaping child protection.

Yet little empirical work examines child rights, climate adaptation, and decolonial development in cyclone-prone districts like Nsanje, especially for children 0–8, or their interaction with formal DRR. This study addresses that gap using the outlined frameworks.

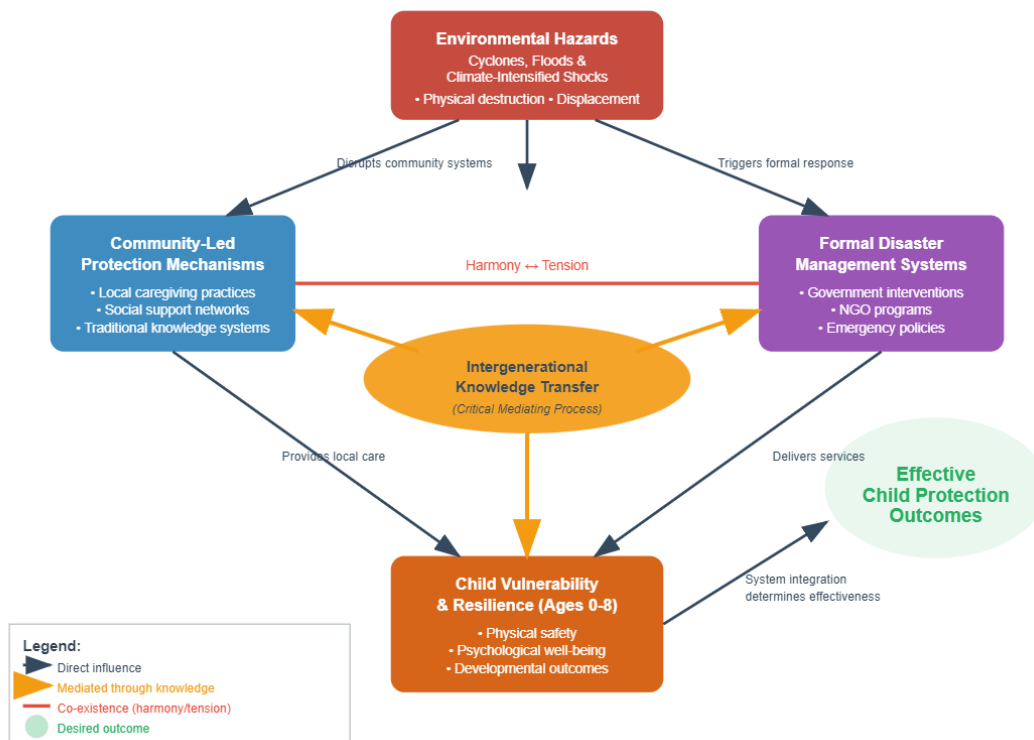


Figure 1: Conceptual model of community-led and formal child protection systems in cyclone-prone Nsanje District

The model shows how community-led protection mechanisms, formal disaster management systems, and environmental hazards interact through intergenerational knowledge transfer to shape child vulnerability, resilience, and protection outcomes for children aged 0–8 in cyclone-prone Nsanje District

3. Methodology

Research design and approach

This study used a participatory qualitative case study design to examine community-led child protection systems during cyclone emergencies in Nsanje District, Southern Malawi. A qualitative approach was chosen because the research focuses on meaning, processes, and lived experience rather than on hypothesis testing, which is better addressed through in-depth and contextually grounded methods (Creswell & Poth, 2018; Flick, 2018). The case study design is appropriate because the inquiry is limited to two sites within a single high-risk district and seeks analytical rather than statistical generalisation (Yin, 2017).

The participatory orientation reflects a commitment to centring the voices of caregivers and children, co-producing knowledge, and grounding findings in community understandings of risk and protection (Holding, 2025; M. G. Wessells, 2015). This aligns with child-centred disaster risk reduction (CC-DRR) principles, which emphasise that children and caregivers should inform research on systems that affect them (Ronan et al., 2016).

3.2 Study setting

Nsanje District, in southern Malawi along the Shire and Ruo Rivers, is among the country's most disaster-prone and socioeconomically marginalised areas. It experiences recurrent seasonal floods and cyclones – including Idai, Ana, Freddy, Filipo, and Jude – since 2019. Poverty rates are high, with 76 percent of residents living below the poverty line and 44 percent considered ultra-poor (Government of Malawi, 2020). Basic services, including education and health, are frequently disrupted.

Two sites were purposively selected to capture different configurations of risk and protection. Tengani Evacuation Camp hosts households displaced by successive cyclones and has developed grassroots protection structures such as child-friendly spaces and protection committees. A cluster of riverside villages along the Ruo River forms the second site, where families remain in high-risk flood zones with limited formal assistance. Together, these sites offer complementary perspectives: one in prolonged displacement, the other in high-risk home environments.

3.3 Participants and sampling

Ninety-nine participants were engaged across six categories:

- 24 primary caregivers of children aged 0–8
- 12 community leaders and emergency volunteers
- 11 ECD practitioners

- 26 local government officials
- 6 NGO staff involved in DRR or child protection
- 20 children aged 5–8

Categories enabled triangulation across household, community, and institutional levels, and to capture diverse gender, age, and role perspectives (Guest et al., 2006; Mason, 2010). Sample sizes in each category followed the principle of “information power” and purposive adequacy (Hennink et al., 2020).

Because no comprehensive sampling frame existed, stratified purposive and snowball sampling were combined. Purposive criteria required adult participants to have lived in the study sites for at least two years and experienced at least one cyclone since 2019. Snowball sampling reached less visible groups, such as grandmother-headed households, whose perspectives are often underrepresented but are central in community-led child protection (Atkinson, 2001; Noy, 2008).

Community entry was facilitated through a local NGO and traditional leaders. Their involvement was important for gaining trust, clarifying the study’s purpose, and inviting participants. Children participated only with guardian consent and age-appropriate assent. Those showing acute distress were not enrolled, in line with CC-DRR and ethical guidance (Ronan et al., 2016).

Data collection methods and procedures

Data were collected between August and October 2025 using five complementary methods to support triangulation and to capture both shared norms and individual experiences (Flick, 2018).

Focus group discussions (FGDs): Four FGDs were held – two with primary caregivers (including grandmothers) and two with community leaders and volunteers. Each group had 6–8 participants and lasted approximately 90 minutes. Guides explored cultural caregiving practices, early warning systems, perceived child risks, and collective strategies before, during, and after cyclones. FGDs illuminated community norms and points of agreement or tension (Kitzinger, 1995).

In-depth interviews (IDIs): Semi-structured IDIs were conducted with caregivers, leaders, ECD practitioners, and officials from government and NGOs. Interviews lasted 45–90 minutes and took place in participants’ homes, workplaces, or neutral community spaces. They elicited detailed accounts of cyclone experiences, child protection decisions, and perceptions of formal support systems (Kvale & Brinkmann, 2015)

Adapted photovoice with children: Twenty children aged 5–8, supported by familiar ECD teachers, used drawings and simple photographs over two to three sessions to depict safety and risk. Group storytelling and individual conversations clarified meanings. Adaptations – emphasising drawing and using trusted facilitators – ensured developmental appropriateness and emotional safety (Bray et al., 2023; Fothergill, 2017; Wang & Burris, 1997).

Participant observation: Conducted during community activities, ECD sessions, and informal gatherings. Field notes documented caregiving routines, early warning practices, play spaces, and interactions among

caregivers, leaders, and service providers. Observation complemented self-reports and everyday practices central to child protection.

Document review: Relevant national policies, district contingency plans, NGO project documents, and community records were reviewed to contextualise findings and identify gaps between policy commitments and local experience.

All FGDs and IDIs were audio-recorded with consent, transcribed verbatim, and translated into English. Notes from photovoice sessions and observation were expanded the same day to preserve detail and reflexive insights.

Data analysis

Transcripts were imported into Dedoose version 10.0.59 for systematic data management and analysis. Analysis followed Braun and Clarke's reflexive thematic analysis, which is suited to exploratory, community-centred qualitative research (Braun & Clarke, 2006; Pickering et al., 2023). The analytic process involved several stages:

1. **Familiarisation.** Three members of the research team read all transcripts, observation notes, and photovoice summaries to gain an overall sense of the data.
2. **Initial coding.** The team collaboratively developed an inductive preliminary codebook based on the research questions and emerging patterns, then independently coded a subset of transcripts.
3. **Code refinement.** Differences in coding were discussed and reconciled, and code definitions were adjusted to improve clarity and consistency. The revised codebook was then applied across the full dataset.
4. **Theme development.** Codes were grouped into sub-themes (for example, "traditional knowledge and practices," "knowledge transmission and change," "informal caregiving networks") and then into broader themes aligned with the conceptual framework, such as "traditional knowledge and practices mobilized to protect young children" and "Mapping intersections and gaps."
5. **Integration of child-generated data.** Children's drawings and photographs were analysed for recurring symbols, locations, and representations of safety or danger, then interpreted alongside interview and FGD data to provide child-centred perspectives on the same themes.

Credibility and trustworthiness were strengthened in several ways. Methodological triangulation across five data sources allowed cross-checking of findings. Member checking took place in feedback meetings with community representatives, where preliminary interpretations were discussed and refined. Peer debriefing within the research team helped surface assumptions and alternative explanations.

Key outcomes and measures

The primary analytic outcome was a set of thematic accounts describing:

- Community-led mechanisms that protect children aged 0–8 before, during, and after cyclones.

- How intergenerational knowledge about child protection is shared, disrupted, or transformed.
- Points of convergence, divergence, and tension between community-led systems and formal DRR and child protection structures.
- Perceived barriers and enablers that shape the effectiveness of community-led child protection.

These outcomes are directly linked to the study's objectives and form the basis for the results and discussion presented in subsequent sections.

4. Data Analysis / Results

Data Analysis

Data was analysed using reflexive thematic analysis, in line with Braun and Clarke's approach, to identify patterned meanings across the dataset while remaining grounded in participants' own language and perspectives (Braun & Clarke, 2006). The analysis was guided by the study's conceptual framework, with particular attention to how community-led protection mechanisms, intergenerational knowledge, formal disaster systems, and environmental hazards intersect in practice. This section first describes the analytic procedures used, then presents the main themes that emerged from the data, illustrated with excerpts from caregivers, children, and key informants.

Focus groups and interviews were recorded and transcribed verbatim. Transcripts were translated into English and then uploaded into Dedoose version 10.0.59 for data management and analysis. Three members of the study team each repeatedly read the transcripts, developed a codebook inductively, simultaneously open-coded sample interviews, and resolved any discordant codes. Using the finalised codebook, the three study team members coded the rest of the transcripts. Subsequently, coded data were reviewed, identifying and discussing the relationships between codes and merging similar codes to create sub-themes and themes.

The thematic analysis generated four overarching themes, which are presented in the following Results subsection: Traditional knowledge and practices mobilized to protect young children; Mapping intersections and gaps; Lived experiences of cyclones on child wellbeing; and Facilitators and barriers of child protection efforts.

Results

The themes and sub-themes in this study are presented in Table 1. We chose quotes that reinforced the primary messages of the themes and sub-themes.

Table 1: Themes and sub-themes identified during data analysis

Research questions	Themes	Sub-themes
1. What traditional knowledge, cultural practices, and informal caregiving networks are mobilized by communities to protect young children during and after cyclones?	Traditional knowledge and practices mobilized to protect young children	<ol style="list-style-type: none"> 1. Traditional knowledge and practices 2. Informal caregiving networks 3. Knowledge transmission and change
2. How is intergenerational knowledge about child protection shared within families and communities, and what enables or disrupts this transfer?		
3. How do community-led and formal disaster responses converge or diverge in addressing child protection, and what opportunities exist for better integration?	Mapping intersections and gaps	Mapping the intersection and gaps in formal and informal child protection systems
4. How do caregivers, community leaders, and children experience and describe the impacts of cyclones on child well-being, safety, and resilience?	Lived experiences of cyclones on child wellbeing	Stakeholder perspectives on child disaster experience
5. What barriers and enablers influence the effectiveness of community-led child protection efforts during cyclones, and how might these insights inform national DRR and ECD policies?	Facilitators and barriers of child protection efforts	<ol style="list-style-type: none"> 1. Cultivating operational excellence 2. Capacity and resource limitations 3. Extreme weather events as a social mess 4. Decoupled interventions

Traditional knowledge and practices mobilized to protect young children

Traditional knowledge and practices

Most respondents reported stories, songs, and folklore as primary cultural and traditional ways to inform and educate how to protect young children. For many, experiences of past extreme weather events passed down through oral history provided insight into how community informal care networks supported vigilance, resilience and recovery.

"They tell the young children folklores, they talk about the things they use to predict natural disasters." (Community Volunteer IDI, Mlolo Village)

"Elders tell folklores to the younger generation about what they used to do in their past." (Child Protection Worker IDI, Mlolo Village)

"We use songs, dramas and folklores." (Religious Leader IDI, Chilipa Village)

During cyclones, respondents shared that there are cues that act as early warning systems: sudden weather changes, abnormally strong winds, a sudden appearance of ants, uncharacteristic bird noises, whirlwinds, and sightings of hippopotamus outside water bodies. These unusual occurrences were causes for vigilance. Respondents shared that movements such as children going to school or farm activities were limited. Household structures were checked for integrity and soundness in preparation for extreme weather, with repairs being made if needed. In areas surrounding their house prone to flooding, respondents share that they build dams using local resources.

"The only traditional thing that shows that a natural disaster is coming is we see a lot of ants, owls hooting loudly, or other birds making noises. But mostly when we see a lot of ants coming out [of the ground] we know that a lot of water is coming." (Female Leader IDI, Chapinga Village)

"During the rainy season, we collect sand and put it in sacks which we then put on our roofs so that they cannot be blown away by the wind." (Farmer IDI, Chapinga Village)

"Our houses are grass-thatched, so I tell people to put strong branches of trees on the roof so that it becomes heavy and cannot be blown off easily." (Elderly Female IDI, Chapinga Village)

"We stop going to the farms so that we can stay at home and take care of the children." (Community Volunteer IDI, Mlolo Village)

Informal care giving networks

As community practice, respondents shared that children are harboured in schools and/or the nearest structure as a measure to protect them during cyclones. When necessary, children are escorted to and from schools or provided appropriate information on the safest road or paths to take to avoid flood-prone or flooded areas.

"We took the children and put them in one place so that they could stay safe." (Religious Leader IDI, Chilipa Village)

"People seek help anywhere during an emergency, they rush to any house that is nearby, when the cyclone subsides, they go back to their own homes. (Parent IDI, M'gona Village)

"We escort the children to school in the morning and also go to pick them up when they knock off so that they do not walk alone." (Community Members FGD, Mlolo Village)

Knowledge transmission and change

Respondents reported increasing use of modern technology to obtain and receive climate- and/or weather-related information. For some respondents, technology is leading to changing beliefs and understanding of forces of nature as opposed to superstitions and traditional beliefs.

"Yes, in the past people used to blame everything on witchcraft but now people understand that it is nature." (Community Members FGD, Mlolo Village)

"Its a bit different because nowadays people mostly use technology instead of traditional ways. (Social Worker IDI, Mlolo Village)

Mapping the intersection and gaps

Under the second theme, we identified factors that reflect the alignment and conflict in child protection.

Respondents reported cross-sector collaboration in child protection during extreme weather events. Child protection workers, police personnel are key officials handling child-related cases when presented. Examples were given on how partner humanitarian organisations provide foodstuffs and other relief packages. Coordination with local leadership is reported to facilitate integration of child protection support and reduce service provision inefficiencies.

"At the police station, when we find a child that needs assistance we seek help from organization's that focus on children's welfare so that they can provide accommodation. But the new police structures are having rooms whereby children can be sleeping until their situation is figured out." (Community Leaders FGD, Mlolo Village)

"At the social welfare office we first try to handle the case with the parents, if the issue is too difficult for us we consult child protection workers who take the issue to other organizations." (Community Leaders FGD, Mlolo Village)

Lived experiences of cyclones on child wellbeing

Most respondents reported negative impacts of cyclones exacerbated by poor housing build quality in general. They shared that prior to extreme weather events, roofs are packed with heavy stones, car tires or large logs to prevent the roof from being blown away. In some instances, they prefer sleeping or sheltering in outdoor grass-thatched kitchen structures which are perceived to be less risky.

"Yes, my roof was blown away once so we just put the iron sheets back. So now when it rains my house leaks and there is water everywhere." (Religious Leader IDI, Chilipa Village)

Respondents reported that recurrent extreme weather events, at times yearly, makes rebuilding or recovery a never-ending process.

"The cyclones have made it impossible for our community to develop because they destroy our houses and property which makes it difficult for us to start all over again." (Religious Leader IDI, Chilipa Village)

"Lack of resources, and people do not even prepare for the disaster even though they are aware that a disaster is coming and they are used to such things happening here in Nsanje." (Community-based Organisation Representative IDI)

Facilitators and barriers of child protection efforts

Under this theme, we identified several factors influencing effectiveness of community-led child protection which served as facilitators or barriers.

Facilitator

Cultivating operational excellence

Most respondents reported proliferation of technology use paired with reliable leadership and structures as a facilitator to child protection.

"Having reliable leaders who can direct people on what to do when a natural disaster strikes." (Community Leaders FGD, Mlolo Village)

"Knowledge is shared better using technology." (Community Member IDI, Mlolo)

"We have a camp committee at the evacuation centre and they help us identify which families or which children are most vulnerable." (Community Leaders FGD, Mlolo Village)

Barriers

Capacity and resource limitations

Respondents shared that insufficient or lack of resources such as foodstuffs, medicines and medical products, capacity and manpower contribute to suboptimal efficacy of community-led child protection efforts.

"Lack of resources, and people do not even prepare for the disaster even though they are aware that a disaster is coming and they are used to such things happening here in Nsanje." (Local NGO Female Staff member IDI, Tengani Village)

"... we need trainings because we just do some things without any knowledge so we need them to give us expertise." (Female Community Member IDI, Mlolo Village)

Extreme weather events as a social mess

Respondents reported that communities impacted by extreme weather events frequently experience infrastructure and material loss or damage. This exacerbates overstretched resources for any meaningful recovery and reconstruction.

“Most of the time cyclones wash away all the children’s learning materials so they refuse to go to school, they need new resources so that they can go back to school.” (Parent IDI, M’gona Village)

They also reported insufficient readiness of authorities.

“Lack of resources, and people do not even prepare for the disaster even though they are aware that a disaster is coming and they are used to such things happening here in Nsanje.” (Local NGO Female Staff member IDI, Tengani Village)

Decoupled interventions

Some respondents shared that conventional interventions are removed from traditional realities. Blending the two would multiply the positive impact of interventions.

“Formal structures should start by understanding local communities traditional practices and knowledge, such as their methods for predicting cyclones. By engaging with the community and learning from their experiences, formal structures can then share their own approaches. This exchange may reveal similarities between the two, paving the way for collaborative efforts that combine traditional and scientific knowledge to improve outcomes.” (Social Welfare Officer, IDI)

5. Discussion and Recommendations

This study examined how community-led approaches, particularly those grounded in intergenerational knowledge transfer, contribute to the protection and resilience of young children during and after cyclone emergencies in Nsanje District, Southern Malawi. The results reveal two important points: 1) an intricate relationship between formal interventions, social institutions, ecological observations and cultural practices, and 2) child protection benefits immensely from both broader crisis management frameworks and indigenous knowledge systems. Viewed through Resilience Theory (Folke, 2016; Ungar, 2011), Social-Ecological Systems Theory (Berkes & Ross, 2013), and the Child-Centred Disaster Risk Reduction (CC DRR) framework (Peek et al., 2018; Ronan et al., 2016), community resilience in Nsanje emerges as active, generative, and deeply relational rather than residual or passive.

Traditional knowledge as anticipatory capacity

Respondents described rich repertoires of stories, folk tales, songs, and environmental cues that guide how families anticipate and interpret cyclones. Unusual wildlife behaviour, sudden weather changes, and dramatic shifts in river levels were widely cited as early warning signs and were used to teach children vigilance and preparedness from a young age. This indigenous knowledge and cultural practices reflect generations of lived experience with extreme weather events, including floods and storms. It can be understood as anticipatory capacity, that is, the ability to read signals and act before formal warnings are

issued (Folke, 2016). This aligns with Iloka's (2016) notion of indigenous disaster risk knowledge as locally validated, culturally embedded, and particularly important where formal early warning systems are slow, limited, or absent.

Indigenous knowledge is also socially inclusive because it is easily accessible. It is shared orally and visually, so it is reachable to community members regardless of literacy, income, or technological access. In this way, disaster preparedness is a community-wide phenomenon. Similar concepts of climate change-related indigenous knowledge were revealed in a systematic review by (Nyadzi et al., 2021). However, respondents also described an ongoing generational shift. With the proliferation of mobile phone technology, younger people increasingly rely on mobile phones, radio, and formal meteorological forecasts. In addition, younger people are more likely to frame cyclones scientifically than spiritually. While this shift may increase information accuracy and timeliness, it risks weakening ecological literacy and the authority of elders. The schism between technological modernisation and cultural continuity is therefore a central sustainability challenge for community-led child protection. A key implication is that policy and practice should aim to integrate, rather than replace, indigenous environmental knowledge with scientific information.

Informal caregiving networks and communal solidarity

The study highlights informal caregiving networks as a core pillar of child protection during cyclones. Caregivers described escorting children to school, monitoring their movements, pooling food, and sheltering children in neighbouring households. Grandmothers, aunts, and older siblings often assumed protective roles when parents were absent, injured, or overwhelmed. This ethic of shared responsibility resonates with wider African traditions of communal care and mirrors Social-Ecological Systems Theory, which views communities as interconnected systems in which social and ecological elements co-evolve (Berkes & Ross, 2013). These caregiving networks form the primary protective infrastructure in rural and isolated areas where state capacity is limited and with sparsely distributed formal child protection services.

At the same time, these networks have limits. Their effectiveness depends heavily on social cohesion, which can be eroded by repeated disasters, chronic poverty, and migration. Caregivers themselves acknowledged that they lack training, material resources, and psychosocial support and that these gaps constrain what they can offer children. Informal networks also vary between households and villages, which can lead to uneven levels of protection. While it is typical in developing nations like Malawi to emphasise community-driven solutions (Ansah et al., 2024; Mousavi et al., 2020; Opoku et al., 2021), these results underscore the urgent need for sustained financial support mechanisms; external actors to support, rather than assume or romanticise, community solidarity, and to recognise that informal networks require complementary institutional backing.

Technology, access, and a hybrid opportunity

A key insight from this study is that mobile phones, radios, and meteorological forecasts emerged as important tools that shape how communities prepare for and respond to cyclones. Compared to indigenous knowledge and cultural practices, respondents noted that technology has increased the speed with which warnings are received and has helped shift understandings of cyclones away from purely supernatural

explanations. In principle, this can build adaptive capacity and support earlier evacuation and preparedness.

However, access to devices, electricity, and network coverage is uneven. Poorer and more remote households are least likely to own phones or radios. They may struggle to trust or interpret formal forecasts, especially when these appear to contradict local environmental cues. This digital divide reinforces existing inequalities in protection. Similar to a qualitative study on Early Warning Systems (EWS) in Zimbabwe (Mabumbo, 2026), the findings suggest that the most promising pathway is a hybrid model in which meteorological information is translated and disseminated through trusted local leaders and is explicitly linked to indigenous indicators. Such an approach would decolonise climate governance, validate ecological knowledge, build trust in formal systems, and improve the reach and equity of early warning messages.

Cross-sector collaboration and systemic gaps

Data from the study sites showed evidence of active collaboration between community structures and formal actors. Examples included police stations providing temporary shelter for separated children, NGOs supplying food and relief items, health workers participating in camp committees, and local leaders helping to identify vulnerable families. From a Social-Ecological Systems perspective, these represent points where formal and informal subsystems connect and jointly contribute to child protection (Berkes & Ross, 2013).

Yet significant systemic gaps remain. Poor housing quality, limited access to safe land, and repeated destruction of infrastructure mean that many households are caught in a cycle of rebuilding with little prospect of cumulative resilience. Respondents described formal interventions that arrive late, are poorly tailored to local realities, or withdraw once immediate relief is complete. Community mechanisms, such as grandmother networks and camp protection committees, are rarely incorporated into formal planning and are seldom resourced. This pattern reflects what (Hambati, 2021) calls invisible resilience, in which the most important protective systems operate below the radar of policy and are left to absorb repeated shocks with minimal support. Addressing this requires not just better coordination but a fundamental reorientation, formally recognising community systems as legitimate and complementary partners in DRR governance, a principle with growing empirical support from comparable African contexts (Motsumi & NemaKonde, 2024).

These findings confirm the need for a hybrid integration model in which community-led mechanisms and formal DRR systems are treated as mutually reinforcing parts of a single protective system for children rather than as parallel tracks.

Limitations

Several limitations of this study should be noted. First, the research focused on two sites within a single district. While Nsanje is one of the most cyclone-affected and socioeconomically marginalised districts in Malawi, the findings are not statistically generalisable to all cyclone contexts in the country or region. Instead, they offer analytical insights that may be transferable to similar low-resource, disaster-prone settings. Second, data collection took place during the dry season, which limited opportunities to observe

real-time responses to cyclone events. Participants' accounts of behaviour during emergencies are therefore retrospective and may be affected by recall bias.

Third, although the adapted photovoice methodology was designed to be child-centred and trauma-sensitive, children's expressions are mediated through drawing, photography, and adult facilitation. Their accounts should therefore be interpreted with caution and recognised as one layer of evidence among several. Finally, as a qualitative study, the research does not measure the prevalence of particular practices or outcomes. Its contribution lies in depth of understanding and theoretical insight rather than in quantification, leaving this as an avenue for future research.

Recommendations

The findings generate several implications for policy, practice, and future research in Malawi and in other cyclone-prone contexts.

For the national and district governments

- Explicitly recognise community-led protection mechanisms in DRR policies, contingency plans, and ECD strategies. This includes intergenerational knowledge systems, informal caregiving networks, and community protection committees.
- Allocate resources to support these mechanisms, for example by funding training for community volunteers, grandmother networks, and camp committees, and by integrating them into formal early warning and evacuation protocols.
- Improve child-disaggregated data on disaster risk and protection outcomes, with specific attention to children under eight, children with disabilities, and those in grandparent- or child-headed households. This data should inform district planning and budget allocation.

The 2023 Disaster Risk Management Act's new civil society provisions offer a concrete entry point for embedding community-led protection into formal governance.

For NGOs and humanitarian actors

- Prioritise co-design of programmes with communities, rather than importing predefined models. This involves engaging elders, caregivers, ECD practitioners, and children in identifying priorities, designing interventions, and monitoring outcomes.
- Invest in and partner with existing community structures, such as grandmother groups, faith-based organisations, and camp committees, rather than creating parallel systems. Support should be long term and should include psychosocial support and capacity-building, not only material aid.
- Strengthen coordination across sectors (child protection, DRR, health, ECD, education) at district level, using clear referral pathways for children at risk of separation, abuse, or neglect during disasters.

For ECD practitioners and policymakers

- Position ECD centres and primary schools as hubs for child-centred DRR. This can include integrating age-appropriate disaster preparedness activities into ECD curricula, practising safe evacuation drills, and establishing child-friendly spaces as permanent community infrastructures that can be rapidly adapted in emergencies.
- Train ECD teachers and community-based childcare workers as frontline responders who can identify, support, and refer at-risk children and caregivers before, during, and after cyclones.
- Develop materials and activities that blend indigenous environmental knowledge with child-friendly explanations of climate and weather, helping children to make sense of both traditional and scientific information.

For researchers

- Conduct longitudinal studies to track how community-led protection mechanisms, intergenerational knowledge, and child wellbeing evolve as climate impacts intensify.
- Compare different hybrid integration models across districts and countries to identify which forms of collaboration between community mechanisms and formal systems most effectively improve outcomes for children aged 0–8.
- Explore children’s own agency in more depth, including how they understand risk, support younger peers, and participate in preparedness and response.

Overall, the evidence from Nsanje suggests that the most important protective systems for young children are already embedded in everyday community life. Protecting children in cyclone-prone communities requires recognising these systems, resourcing them, and building genuine partnerships between communities, government, and humanitarian actors. The task for policy and practice is not to replace community-led protection but to stand alongside it.

6. Conclusions

This study set out to examine how community-led approaches, grounded in intergenerational knowledge transfer, contribute to protecting young children during cyclone emergencies in Nsanje District. The evidence is clear. Communities are not passive victims of disaster. They are active, resourceful, and knowledgeable, drawing on generations of ecological understanding, cultural practice, and mutual care to protect their youngest and most vulnerable members. These systems operate before formal responders arrive, while they are present, and long after they leave.

What constrains these efforts is not a lack of capacity but a lack of recognition and support. Formal disaster risk reduction systems continue to operate in parallel rather than in partnership with community-led mechanisms, duplicating effort in some areas and leaving critical gaps in others. Recurrent disasters compound this fragility, eroding the social cohesion and material resources that informal protection depends on. Addressing these structural disconnects is not a purely technical task. It is a political one that requires deliberate policy choices to fund, formalise, and integrate what communities are already doing.

In this context, integration is not only desirable but necessary. Child protection in disaster-prone settings will not improve through better protocols alone. It requires sustained investment in community capacities, genuine co-design with caregivers and local leaders, and a willingness to treat indigenous knowledge as a legitimate form of evidence rather than as cultural background.

Several directions for future research emerge from these findings. Longitudinal work is needed to track how community-led protection evolves as climate pressures intensify. Comparative studies across Chikwawa, Phalombe, and other cyclone-affected districts in Southern Malawi would test how transferable these patterns are. Participatory action research that co-designs hybrid protection models with communities and district councils would help move from documentation to implementation. Further research that centres children's own voices, building on the adapted photovoice approach used here, remains an important frontier in African DRR scholarship.

The question this study leaves for policymakers is not whether community-led systems work. The findings show that they do. The real question is whether the institutions responsible for child protection in Malawi are prepared to build with them.

AI Disclosure Statement

AI tools were used in limited ways to support the preparation of this report. Specifically, AI-assisted drafting and editing were used to: (i) refine the clarity, structure, and flow of sections that the author had already drafted; (ii) suggest alternative phrasing to improve readability; and (iii) help check consistency between the abstract, introduction, methodology, discussion, and conclusion. No AI tools were used to generate or interpret data, conduct analysis, create findings, or formulate core arguments and recommendations. All empirical analysis, coding, theme development, and substantive interpretation of results were conducted by the author. The author has reviewed, revised, and takes full intellectual and ethical responsibility for all content in this report.

References & Works Cited

- Abid, S. K., Sulaiman, N., Samman, B., Al-Wathinani, A. M., & Goniewicz, K. (2025). Cultural Dynamics in Disaster Management: Exploring Sociocultural Influences on Disaster Response in Malaysia. *Disaster Medicine and Public Health Preparedness*, 19, e69. <https://doi.org/10.1017/dmp.2025.68>
- Adugna, M. B., Nabbouh, F., Shehata, S., & Ghahari, S. (2020). Barriers and facilitators to healthcare access for children with disabilities in low and middle income sub-Saharan African countries: a scoping review. *BMC Health Services Research*, 20(1), 15. <https://doi.org/10.1186/s12913-019-4822-6>
- Ansah, E. W., Amoadu, M., Obeng, P., & Sarfo, J. O. (2024). Health systems response to climate change adaptation: a scoping review of global evidence. *BMC Public Health*, 24(1), 2015. <https://doi.org/10.1186/s12889-024-19459-w>
- Atkinson, R. (2001). *Accessing Hidden and Hard-to-Reach Populations: Snowball Research Strategies*. <https://www.researchgate.net/publication/46214232>
- Bazile, J., Rigodon, J., Berman, L., Boulanger, V. M., Maistrellis, E., Kausiwa, P., & Yamin, A. E. (2015). Intergenerational impacts of maternal mortality: Qualitative findings from rural Malawi. *Reproductive Health*, 12(S1), S1. <https://doi.org/10.1186/1742-4755-12-S1-S1>
- Berkes, F., & Ross, H. (2013). Community Resilience: Toward an Integrated Approach. *Society and Natural Resources*, 26(1), 5–20. <https://doi.org/10.1080/08941920.2012.736605>
- Braka, F., Daniel, E. O., Okeibunor, J., Rusibamayila, N. K., Conteh, I. N., Ramadan, O. P. C., Byakika-Tusiime, J., Yur, C. T., Ochien, E. M., Kagoli, M., Chauma-Mwale, A., Chamla, D., & Gueye, A. S. (2024). Effects of tropical cyclone Freddy on the social determinants of health: the narrative review of the experience in Malawi. *BMJ Public Health*, 2(1), e000512. <https://doi.org/10.1136/bmjph-2023-000512>
- Braun, Virginia., & Clarke, Victoria. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706QP0630A>
- Bray, A. C. Y., Orchiston, C., & Shrestha, S. (2023). *Using Photovoice for Disaster and Hazard Preparedness: A Methodological Review*. <https://doi.org/10.2139/ssrn.4326520>
- Cambaza, E., Mongo, E., Anapakala, E., Nhambire, R., Singo, J., & Machava, E. (2019). Outbreak of Cholera Due to Cyclone Kenneth in Northern Mozambique, 2019. *International Journal of Environmental Research and Public Health*, 16(16), 2925. <https://doi.org/10.3390/ijerph16162925>
- Caruso, G., & Sosa, L. C. (2022). *Poverty Persistence in Malawi: climate shocks, low agricultural productivity, and slow structural transformation*. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099920006302215250>

- Changwanda, J., & Clayton, F. (2023, November). *After the Storm, Malawi's Farmers Face a Precarious Future*. <https://Environment.Yale.Edu/>. <https://e360.yale.edu/features/cyclone-freddy-malawi-aftermath>
- Chikodzi, David., & Nhamo, Godwell. (2021). Linking the Impacts of Tropical Cyclones to the Sustainable Development Goals. In G. Nhamo & D. Chikodzi (Eds.), *Cyclones in Southern Africa. Sustainable Development Goals Series*. (pp. 3–16). Springer. https://doi.org/10.1007/978-3-030-74303-1_1
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: choosing among five approaches*. SAGE.
- De Sisto, M., Shearing, C., Heffernan, T., & Sanderson, D. (2024). Reshaping disaster management: An integrated community-led approach. *Australian Journal of Public Administration*. <https://doi.org/10.1111/1467-8500.12668>
- Ellermeijer, R. E. C., Robinson, M. A., Guevara, A. F., O'Hare, G., Veldhuizen, C. I. S., Wessells, M., Reis, R., & Jordans, M. J. D. (2023). A systematic review of the literature on community-level child protection in low- and middle-income countries. *Vulnerable Children and Youth Studies*, 18(3), 309–329. <https://doi.org/10.1080/13548506.2023.2230889>
- Erman, A., De Vries Robbe, S. A., Thies, S. F., Kabir, K., & Maruo, M. (2021). *Gender Dimensions of Disaster Risk and Resilience*. World Bank. <https://doi.org/10.1596/35202>
- Flick, Uwe. (2018). *An introduction to qualitative research*. SAGE. https://books.google.com/books/about/An_Introduction_to_Qualitative_Research.html?id=P7ZkDwAAQBAJ
- Folke, C. (2016). Resilience (Republished). *Ecology and Society*, 21(4), art44. <https://doi.org/10.5751/ES-09088-210444>
- Fothergill, A. (2017). Children, Youth, and Disaster. In *Oxford Research Encyclopedia of Natural Hazard Science*. Oxford University Press. <https://doi.org/10.1093/acrefore/9780199389407.013.23>
- Government of Malawi. (2015). *National Disaster Risk Management Policy*.
- Government of Malawi. (2020). *Nsanje District Council Social Economic Profile 2017-2022*.
- Government of Malawi. (2023). *Tropical Cyclone Freddy Post-Disaster Needs Assessment*.
- Government of Malawi and UNICEF. (2023). *Child Multi-Dimensional Poverty 2023*. www.unicef.org/malawi
- Guest, G., Bunce, A., & Johnson, L. (2006). How Many Interviews Are Enough? *Field Methods*, 18(1), 59–82. <https://doi.org/10.1177/1525822X05279903>
- Halim, B. M. K., Shamsuddin, N. S. A., Abdullah, R., & Kamarudin, K. H. (2024). Factors contributing to Participation in Community-led DRR Programmes in Malaysia. *Disaster Advances*, 17(8), 41–48. <https://doi.org/10.25303/178da041048>

- Hallegatte, S., Rentschler, J., & Rozenberg, J. (2019). *Lifelines: The Resilient Infrastructure Opportunity*. Washington, DC: World Bank. <https://doi.org/10.1596/978-1-4648-1430-3>
- Hambati, H. (2021). Invisible Resilience: Indigenous Knowledge Systems of Earthquake Disaster Management in Kagera Region, Tanzania. *Utafiti*, 16(2), 247–270. <https://doi.org/10.1163/26836408-15020050>
- Hanspal, M. S., & Behera, B. (2024). The Disaster Management Act, 2005: A Critical Review. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4920160>
- Hennink, M. M., Hutter, Inge., & Bailey, Ajay. (2020). *Qualitative research methods*. SAGE. https://books.google.com/books/about/Qualitative_Research_Methods.html?id=_InCDwAAQBAJ
- Hidayat, H. Y., Hasyemi, S. A., & Saputra, M. G. (2020). The strategies and challenges of non-governmental organization roles in flood disaster management in Jakarta. *NATAPRAJA*, 8(2), 94–105. <https://doi.org/10.21831/jnp.v8i2.34371>
- Holding, G. (2025, April 23). *Building with community voices: the power of co-designing spaces with the people who use them*. Bond. <https://www.bond.org.uk/news/2025/04/building-with-community-voices-the-power-of-co-designing-spaces-with-the-people-who-use-them/>
- Iloka, N. G. (2016). Indigenous knowledge for disaster risk reduction: An African perspective. *Jamba: Journal of Disaster Risk Studies*, 8(1), 1–7. <https://doi.org/10.4102/JAMBA.V8I1.272>
- Johnson, V., Lewin, T., & West, A. (Eds.). (2024). *Voices of Activists and Academics: Working with Children in Communities*.
- Khan, S. M., Shafi, I., Butt, W. H., Diez, I. de la T., Flores, M. A. L., Galán, J. C., & Ashraf, I. (2023). A Systematic Review of Disaster Management Systems: Approaches, Challenges, and Future Directions. *Land*, 12(8), 1514. <https://doi.org/10.3390/land12081514>
- Kitzinger, J. (1995). Qualitative Research: Introducing focus groups. *BMJ*, 311(7000), 299–302. <https://doi.org/10.1136/bmj.311.7000.299>
- Kristian, I., & Fajar Ikhsan, O. K. M. (2024). Integrating Community-Based Approaches into National Disaster Management Policies: Lessons from Recent Natural Disasters. *The International Journal of Law Review and State Administration*, 2(4), 115–125. <https://doi.org/10.58818/ijlrsv2i4.150>
- Kvale, Steinar., & Brinkmann, Svend. (2015). *InterViews : learning the craft of qualitative research interviewing*. Sage Publications.
- Lubanga, Focus. A., Nazir, A., & Uwishema, O. (2023). The devastating effect of cyclone Freddy amidst the deadliest cholera outbreak in Malawi: a double burden for an already weak healthcare system—short communication. *Annals of Medicine & Surgery*, 85(7), 3761–3763. <https://doi.org/10.1097/MS9.0000000000000961>

- Mabumbo, D. (2026). Operational Performance of Community-Based Early Warning Systems for Climate-Related Hazards: Evidence from Lake Kariba, Zimbabwe. *Journal of Hazards, Risk and Resilience*, 1(1). <https://doi.org/10.53941/jhrr.2026.100009>
- Mason, M. (2010). *Sample Size and Saturation in PhD Studies Using Qualitative Interviews*. <http://www.qualitative-research.net/>
- Maulana, P. D., Koestoer, R. H. S., & Karuniasa, M. (2024). Public policies on sustainable flood risk management: Study cases of the Netherlands and Malawi. *ASEAN Natural Disaster Mitigation and Education Journal*, 2(1). <https://doi.org/10.61511/andmej.v2i1.2024.953>
- Metzler, J., Diaconu, K., Hermosilla, S., Kaijuka, R., Ebulu, G., Savage, K., & Ager, A. (2019). Short- and longer-term impacts of Child Friendly Space Interventions in Rwamwanja Refugee Settlement, Uganda. *Journal of Child Psychology and Psychiatry*, 60(11), 1152–1163. <https://doi.org/10.1111/jcpp.13069>
- Mkwanda, N. (2023, April 13). *Malawi: Parliament Passes Disaster Management Bill*. <https://allafrica.com/stories/202304140348.html>
- Moholo, M. S. (2019). *Intergenerational adaptability to natural hazards: A case study of the Kasane community*.
- Motsumi, M. M., & Nemaconde, L. D. (2024). A framework to integrate indigenous knowledge into disaster risk reduction to build disaster resilience: insights from rural South Africa. *Disaster Prevention and Management: An International Journal*, 33(6), 73–85. <https://doi.org/10.1108/DPM-08-2024-0220>
- Mousavi, A., Ardalan, A., Takian, A., Ostadtaghizadeh, A., Naddafi, K., & Bavani, A. M. (2020). Health system plan for implementation of Paris agreement on climate change (COP 21): a qualitative study in Iran. *BMC Public Health*, 20(1), 1388. <https://doi.org/10.1186/s12889-020-09503-w>
- Mwalwimba, I. K., Manda, M., & Ngongondo, C. (2024). The role of indigenous knowledge in disaster risk reduction and climate change adaptation in Chikwawa, Malawi. *Jambá: Journal of Disaster Risk Studies*, 16(2). <https://doi.org/10.4102/jamba.v16i2.1810>
- Nkombi, Z., & Wentink, G. J. (2022). The role of public participation in disaster risk reduction initiatives: The case of Katlehong township. *Jambá: Journal of Disaster Risk Studies*, 14(1). <https://doi.org/10.4102/jamba.v14i1.1203>
- Noy, C. (2008). Sampling Knowledge: The Hermeneutics of Snowball Sampling in Qualitative Research. *International Journal of Social Research Methodology*, 11(4), 327–344. <https://doi.org/10.1080/13645570701401305>
- Nyadzi, E., Ajayi, O. C., & Ludwig, F. (2021). Indigenous knowledge and climate change adaptation in Africa: a systematic review. *CABI Reviews*. <https://doi.org/10.1079/PAVSNNR202116029>

- Opoku, S. K., Filho, W. L., Hubert, F., & Adejumo, O. (2021). Climate Change and Health Preparedness in Africa: Analysing Trends in Six African Countries. *International Journal of Environmental Research and Public Health*, 18(9), 4672. <https://doi.org/10.3390/ijerph18094672>
- Pandey, C. L. (2019). Making communities disaster resilient. *Disaster Prevention and Management: An International Journal*, 28(1), 106–118. <https://doi.org/10.1108/DPM-05-2018-0156>
- Peek, L. (2008). Children and Disasters: Understanding Vulnerability, Developing Capacities, and Promoting Resilience — An Introduction. *Children, Youth and Environments*, 18(1), 1–29. <https://doi.org/10.1353/cye.2008.0052>
- Peek, L., Abramson, D. M., Cox, R. S., Fothergill, A., & Tobin, J. (2018). *Children and Disasters* (pp. 243–262). https://doi.org/10.1007/978-3-319-63254-4_13
- Pickering, C. J., Phibbs, S., & Kenney, C. (2023). *WHO Guidance on Research Methods for Health Emergency and Disaster Risk Management Qualitative Research*.
- Rahmafitria, F., Sukmayadi, V., Suryadi, K., & Rosyidie, A. (2021). Disaster management in Indonesian tourist destinations: how institutional roles and community resilience are mediated. *Worldwide Hospitality and Tourism Themes*, 13(3), 324–339. <https://doi.org/10.1108/WHATT-01-2021-0014>
- Ronan, K. R., Haynes, K., & Alisic, E. (2016). Child-centred disaster risk reduction: Can disaster resilience programs reduce risk and increase the resilience of children and households? In *Australian Journal of Emergency Management* • (Vol. 31, Number 3). <https://www.researchgate.net/publication/311260133>
- Sacks, E., Yangchen, S., & Marten, R. (2021). COVID-19, climate change, and communities. *The Lancet Planetary Health*, 5(10), e663–e664. [https://doi.org/10.1016/S2542-5196\(21\)00257-6](https://doi.org/10.1016/S2542-5196(21)00257-6)
- Save The Children. (2023, September 4). *Number of children displaced across sub-Saharan Africa by climate shocks doubled to a record high in 2022*. <https://www.savethechildren.org/us/about-us/media-and-news/2023-press-releases/children-displaced-in-sub-saharan-africa-by-climate-shocks-reached-record-high-in-2022>
- Takahashi, K., Kodama, M., Gregorio, E. R., Tomokawa, S., Asakura, T., Waikagul, J., & Kobayashi, J. (2015). School Health: an essential strategy in promoting community resilience and preparedness for natural disasters. *Global Health Action*, 8(1), 29106. <https://doi.org/10.3402/gha.v8.29106>
- Tall, A., Patt, A. G., & Fritz, S. (2013). Reducing vulnerability to hydro-meteorological extremes in Africa. A qualitative assessment of national climate disaster management policies: Accounting for heterogeneity. *Weather and Climate Extremes*, 1, 4–16. <https://doi.org/10.1016/j.wace.2013.07.007>
- Tatebe, J., & Mutch, C. (2015). Perspectives on education, children and young people in disaster risk reduction. In *International Journal of Disaster Risk Reduction* (Vol. 14, pp. 108–114). Elsevier Ltd. <https://doi.org/10.1016/j.ijdr.2015.06.011>

- Trogrlic, R. S., Duncan, M., Wright, G., Homberg, M., Adeloye, A., & Mwale, F. (2022). *Why community-based disaster risk reduction fails to learn from local knowledge? Experiences from Malawi*.
- Trogrlić, R. Š., & van den Homberg, M. (2018). *Indigenous knowledge and early warning systems in the Lower Shire Valley in Malawi*. <https://zcralliance.org/resources/item/indigenous-knowledge-and-early-warning-systems-in-the-lower-shire-valley-in-malawi/>
- Trogrlić, R. Š., Wright, G. B., Duncan, M. J., van den Homberg, M. J. C., Adeloye, A. J., Mwale, F. D., & Mwafulirwa, J. (2019). Characterising local knowledge across the flood risk management cycle: A case study of Southern Malawi. *Sustainability (Switzerland)*, 11(6). <https://doi.org/10.3390/su11061681>
- UNDP. (2024). *2024 Global Multidimensional Poverty Index (MPI): Poverty amid conflict*. <http://hdr.undp.org>
- UNDRR. (2015). *Sendai Framework for Disaster Risk Reduction 2015 - 2030*. <https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>
- Ungar, M. (2011). The social ecology of resilience: Addressing contextual and cultural ambiguity of a nascent construct. *American Journal of Orthopsychiatry*, 81(1), 1–17. <https://doi.org/10.1111/j.1939-0025.2010.01067.x>
- UNICEF. (2021). *The climate crisis is a child rights crisis: Introducing the Children's Climate Risk Index*. <https://www.unicef.org/reports/climate-crisis-child-rights-crisis>
- UNICEF. (2023a). *Malawi draft country programme document 2024-2028*.
- UNICEF. (2023b). *Malawi Humanitarian Situation Report: 01 January to 31 December 2023*.
- UNICEF. (2023c). *Time to act: African children in the climate change spotlight*. <https://www.unicef.org/esa/documents/time-to-act>
- Wang, C., & Burris, M. A. (1997). Photovoice: Concept, Methodology, and Use for Participatory Needs Assessment. *Health Education & Behavior*, 24(3), 369–387. <https://doi.org/10.1177/109019819702400309>
- Weeda, L. J. Z., Bradshaw, C. J. A., Judge, M. A., Saraswati, C. M., & Le Souëf, P. N. (2024). How climate change degrades child health: A systematic review and meta-analysis. *Science of The Total Environment*, 920, 170944. <https://doi.org/10.1016/j.scitotenv.2024.170944>
- Wessells, M. (2009). *What Are We Learning About Protecting Children in the Community? An inter-agency review of the evidence on community-based child protection mechanisms in humanitarian and development settings*. www.savethechildren.org.uk/onlinelibrary
- Wessells, M. G. (2015). Bottom-up approaches to strengthening child protection systems: Placing children, families, and communities at the center. *Child Abuse and Neglect*, 43, 8–21. <https://doi.org/10.1016/j.chiabu.2015.04.006>
- Yin, R. K. (2017). *Case Study Research and Applications: Designs and Methods* (6th ed.). Sage.

Appendixes

Participant Demographics								
<i>Community-Led Approaches to Protecting Young Children During Cyclone Emergencies in Nsanje District, Malawi (July–October 2025)</i>								
Participant Category	n	Female	Male	Age Range	Mean Age	With Disaster Training (%)	Tengani	Mlolo (Ndamera)
Primary Caregivers	24	14	10	23–88	55	16 (67%)	10	14
Community Leaders & Volunteers	12	8	4	32–74	45	12 (100%)	4	8
ECD Practitioners	11	6	5	24–62	47	9 (82%)	7	4
Government Officials	26	7	19	30–68	45	24 (92%)	12	14
NGO Officials	6	6	0	30–81	51	5 (83%)	4	2
Children (aged 5–8) ¹	20	10	10	5–8	7	N/A	20	0
TOTAL	99	51	48	5–88	40	66 (67%)	57	42
¹ Children participated via adapted Photovoice only (Tengani site). Disaster training not applicable.								
Note: Adult participants (n=79): 52% female, 48% male; age range 23–88 years (mean 49); 84% with prior disaster training.								