

Impact of Climate Change on the Livelihoods of Learners from Child-Headed Families at a Selected Secondary School, Zimbabwe

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ABSTRACT

This study aimed to explore the impact of climate change on the livelihoods of secondary school learners from child-headed families. Anchored in a qualitative approach, data were collected through document analysis and in-depth interviews. Purposive sampling ensured the inclusion of 15 learners from child-headed families and 5 class teachers to achieve data triangulation. Thematic analysis of the findings revealed that participants perceived climate change as the long-term alteration of global weather patterns caused by human activities and natural factors. Climate change exacerbated food insecurity among these learners due to increasing droughts and extreme weather events disrupting agriculture. Participants reported emotional and psychological stress linked to climate-related challenges but highlighted adaptive strategies such as sustainable agricultural practices, community support, and participation in resilience-building educational programmes. The findings concluded that climate change significantly disrupts livelihoods by intensifying food insecurity, water scarcity, and economic hardships, limiting educational opportunities and overall well-being for learners in child-headed households. To address these issues, the study recommends promoting food security programmes and providing educational opportunities focused on climate adaptation to enhance resilience among affected learners. This study underscores the urgent need for targeted interventions to mitigate the adverse impacts of climate change on vulnerable populations.

Keywords: child-headed families, climate change, learners' livelihoods.

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INTRODUCTION

Climate change has emerged as one of the most pressing global challenges, characterised by shifting weather patterns, rising temperatures, and extreme weather events such as droughts and floods.¹ These disruptions threaten ecosystems, livelihoods, and food security worldwide. In Zimbabwe, where agriculture is the backbone of the economy and sustains rural livelihoods, climate change has had severe repercussions.² Rising temperatures and erratic rainfall patterns lead to reduced agricultural productivity and directly impact food security and economic stability for many, especially vulnerable populations such as child-headed families.³ These families, already disadvantaged due to the absence or incapacity of adult caregivers, bear the brunt of food insecurity and economic strain exacerbated by climate-induced challenges.

Despite growing acknowledgement of climate change as a significant development challenge, there remains a notable gap in literature focusing on its impact on child-headed families, particularly in rural Zimbabwe.⁴ Existing studies have largely concentrated on the broad effects of climate change on agriculture, food security, and public health but they overlook the unique vulnerabilities faced by children forced to take on caregiving roles.^{5,6} These families often contend with limited access to resources, inadequate social support, and heightened exposure to climate-induced hardships, yet their specific experiences remain underrepresented in current research.⁷ Moreover, the psychological and social toll of these circumstances further complicates their ability to adapt and thrive, reinforcing the importance of addressing their needs in a targeted and holistic manner.⁸

This study sought to bridge this gap by exploring how climate change has impacted on the livelihoods of learners from child-headed families at a selected rural secondary school in Zimbabwe. It aims to dissect their understanding of climate change, the direct impacts on food security and well-being, and adaptation strategies they employ to navigate these

¹ Upadhyay, Ravi Kant. "Markers for global climate change and its impact on social, biological and ecological systems: A review." *American Journal of Climate Change* (2020). <https://doi.org/10.4236/ajcc.2020.93012>

² Mugambiwa, Shingirai. "The Impact of Climate Change on Agricultural Risks in Southern Africa: A Case Study of Mutoko District, Zimbabwe." *Research on World Agricultural Economy* (2025): 111-122. <https://doi.org/10.36956/rwae.v6i2.1232>

³ Chitongo, Leonard. "Rural livelihood resilience strategies in the face of harsh climatic conditions. The case of ward 11 Gwanda, South, Zimbabwe." *Cogent Social Sciences* 5, no. 1 (2019): 1617090. <https://doi.org/10.1080/23311886.2019.1617090>

⁴ Lake, Iain R., Lee Hooper, Asmaa Abdelhamid, Graham Bentham, Alistair BA Boxall, Alison Draper, Susan Fairweather-Tait et al. "Climate change and food security: health impacts in developed countries." *Environmental Health Perspectives* 120, no. 11 (2012): 1520-1526. <https://doi.org/10.1289/ehp.1104424>

⁵ Ndlovu, Everson, Barend Prinsloo, and Tanya Le Roux. "Impact of climate change and variability on traditional farming systems: Farmers' perceptions from south-west, semi-arid Zimbabwe." *Jàmá: Journal of Disaster Risk Studies* 12, no. 1 (2020): 1-19. <https://hdl.handle.net/10520/ejc-jemba-v12-n1-a9>

⁶ Magwegwe, Everjoy, Taruberekerwa Zivengwa, and Mashford Zenda. "Adaptation and coping strategies of women to reduce food insecurity in an era of climate change: A case of Chireya District, Zimbabwe." *Climate* 12, no. 8 (2024): 126. <https://doi.org/10.3390/cli12080126>

⁷ Rurinda, J., Paul Mapfumo, M. T. Van Wijk, F. van Mtambanengwe, Mariana C. Rufino, Regis Chikowo, and Kenneth E. Giller. "Sources of vulnerability to a variable and changing climate among smallholder households in Zimbabwe: A participatory analysis." *Climate Risk Management* 3 (2014): 65-78. <https://doi.org/10.1016/j.crm.2014.05.004>

⁸ Agostoni, Carlo, Mattia Baglioni, Adriano La Vecchia, Giulia Molari, and Cristiana Berti. "Interlinkages between climate change and food systems: the impact on child malnutrition—narrative review." *Nutrients* 15, no. 2 (2023): 416. <https://doi.org/10.3390/nu15020416>

challenges. By shedding light on the nuanced and context-specific struggles faced by learners from child-headed families, this study provides insights into tailored interventions that address their unique needs. Ultimately, the findings aim to inform policy and programming, ensuring that the voices and experiences of child-headed families are reflected in climate change mitigation and adaptation strategies, and promoting equitable and sustainable development in vulnerable communities.

METHOD

This study adopted a qualitative research design to explore the nuanced experiences and perspectives of participants⁹ concerning the impact of climate change on the livelihoods of learners from child-headed families. Document analysis of relevant policies and semi-structured interviews (class teachers and learners) served as the primary data generation method. These contributed a flexible yet directed framework, permitting participants to express their lived experiences in depth. Interview protocols were developed based on a preliminary literature review and pilot-tested to ensure clarity and relevance. These interviews were conducted in participants' favourite languages and settings to nurture ease and authenticity, and each session was audio-recorded and transcribed verbatim for precision. A purposive sampling approach was employed to select 20 participants (15 learners and 5 class teachers) for their direct experience with the issue under study. The inclusion criteria created a basis to maintain consistency in data generation. In addition, it ensured the generation of rich and contextually grounded data aligned with the study's main theme.

The thematic analysis for this study included the phases such as data familiarisation, generation of initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report.¹⁰ The coding was performed manually to enhance data organisation and traceability. The researchers conducted consensus meetings to ensure analytical rigour. For this study, reflexivity was entrenched throughout the study. Researchers maintained reflexive journals to document their positionality, expectations, and evolving interpretations, thereby mitigating bias.¹¹ Member checking was also conducted, allowing participants to review and corroborate preliminary accounts of their accounts. Data triangulation will be employed by comparing findings from different sources to enhance the study's credibility.

Ethical protocols were rigorously followed in accordance with institutional guidelines and international standards.¹² Informed consent was obtained from all participants, with

⁹ Lim, Weng Marc. "What is qualitative research? An overview and guidelines." *Australasian Marketing Journal* 33, no. 2 (2025): 199-229. <https://doi.org/10.1177/14413582241264619>

¹⁰ Braun, Virginia, and Victoria Clarke. "Using thematic analysis in psychology." *Qualitative Research in Psychology* 3, no. 2 (2006): 77-101. <https://doi.org/10.1191/1478088706qp063oa>

¹¹ Tuffour, I. (2017). A critical overview of interpretative phenomenological analysis: A contemporary qualitative research approach. *Journal of Healthcare Communications*, 2(4), 52. <http://healthcare-communications.imedpub.com/a-critical-overview-of-interpretative-phenomenological-analysis-a-contemporary-qualitative-research-approach.php?aid=20787>

¹² O'Sullivan, Lydia, Ronan P. Killeen, Peter Doran, and Rachel K. Crowley. "Adherence with reporting of ethical standards in COVID-19 human studies: a rapid review." *BMC Medical Ethics* 22, no. 1 (2021): 80. <https://doi.org/10.1186/s12910-021-00649-9>

additional assent procedures for learners. Confidentiality was safeguarded through anonymisation of transcripts and secure data storage. Researchers prioritised participants' emotional well-being by offering debriefing sessions. This comprehensive and transparent methodological approach not only ensured the integrity of the study but also provided a vigorous context for capturing the multifaceted interchange between climate change and the lived experiences of learners from child-headed families.

RESULTS AND DISCUSSION

This section looks at various dimensions of climate change and its impact on child-headed families, drawing insights from participants' experiences. It addresses themes such as participants' profiles, their understanding of climate change, its effects on food security and livelihoods, the psycho-social implications, and the adaptive strategies employed by child-headed families to navigate these challenges.

Participants' understanding of climate change

In this section, data generated from the selected participants were analysed and discussed to provide answers to the issue raised. This section was centred on the participants' understanding of climate change. In addition, this section articulates the possible causes of climate change from the participants. In this regard, one participant highlighted that:

Climate change is the cause of floods (Cyclone Idai) and droughts. I think it's also the Earth's warming, which affects the community's livelihoods (Learner 1).

Another participant acknowledged that:

My understanding is that this is a weather phenomenon, which results from human activities, for example, deforestation, burning fossil fuel and pollution. This can lead to the accumulation of greenhouse gases, which cause global warming (Learner 3).

One of the participants highlighted climate change as:

It is a worldwide consequence that includes ecosystem disruptions and biodiversity loss, and it transcends across regions (Class Teacher 1).

In support, one of the participants noted that:

Climate change in our community is associated with more frequent wildfires and changes in productivity when it comes to farming activities (Learner 9).

In the same vein, a participant indicated that:

I understand climate change as a weather phenomenon that threatens our local water sources and natural resources, with possible effects on our health (Class Teacher 2).

The varied understandings of climate change among participants highlight its multifaceted nature and diverse ways it impacts different communities. Participants viewed climate change as not only an environmental issue but also a human-induced phenomenon with far-reaching consequences for health, livelihoods in both local and global ecosystems. This aligns with Ghil and Lucarini who characterised climate change as a long-term alteration in weather patterns, encompassing changes in temperature, precipitation, and wind dynamics over extended periods.¹³ In support, Rawat et al. highlighted that human activities such as burning fossil fuels, deforestation, industrialisation, agriculture, and transportation were identified as significant contributors to the release of greenhouse gases, exacerbating these climatic shifts.¹⁴ These perspectives underscore the need for enhanced awareness campaigns to educate communities about climate change's causes and consequences, fostering a more unified understanding that can guide effective mitigation strategies.

Moreover, the intricate interplay between environmental, economic, and social dimensions of climate change necessitates a collaborative approach to address its challenges.¹⁵ Climate change is not a problem confined to any single region or sector but rather a global crisis that requires sustainable solutions spanning mitigation and adaptation.¹⁶ For example, integrating community-level action plans with international frameworks can help bridge the gap between local impacts and global responses.¹⁷ Thus, efforts like reducing greenhouse gas emissions, promoting reforestation, and transitioning to renewable energy sources are essential for addressing the root causes of climate change. Simultaneously, adaptive measures like climate-resilient agricultural practices and infrastructure development can help vulnerable communities, such as those represented by the participants, better cope with the immediate threats to their livelihoods and well-being.¹⁸ These multidimensional strategies are crucial to ensuring that the environmental, economic, and social challenges posed by climate change are holistically addressed.

Climate change and its effect on child-headed families' food security

This section centres on interrogating the effect of climate change on learners from child-headed families concerning their food security. In this regard, one of the participants underlined that:

¹³ Michael Ghil and Valerio Lucarini, "The Physics of Climate Variability and Climate Change," *Reviews of Modern Physics* 92, no. 3 (July 31, 2020): 035002, <https://doi.org/10.1103/RevModPhys.92.035002>.

¹⁴ B. S Rawat, A., Kumar, D., & Khati, "A Review on Climate Change Impacts, Models, and Its Consequences on Different Sectors: A Systematic Approach.," *Journal of Water and Climate Change* 15, no. 1 (2024): 104–26.

¹⁵ Olorunsogo, Tolulope O., Jane Osareme Ogugua, Muridzo Muonde, Chinedu Paschal Maduka, and Olufunke Omotayo. "Environmental factors in public health: A review of global challenges and solutions." *World Journal of Advanced Research and Reviews* 21, no. 1 (2024): 1453-1466. <https://doi.org/10.30574/wjarr.2024.21.1.0176>

¹⁶ Adanma, Uwaga Monica, and Emmanuel Olurotimi Ogunbiyi. "A comparative review of global environmental policies for promoting sustainable development and economic growth." *International Journal of Applied Research in Social Sciences* 6, no. 5 (2024): 954-977.

¹⁷ Gaillard, Jean-Christophe, and Jessica Mercer. "From knowledge to action: Bridging gaps in disaster risk reduction." *Progress in Human Geography* 37, no. 1 (2013): 93-114. <https://doi.org/10.1177/0309132512446717>

¹⁸ Singh, Pramod K., and Harpalsinh Chudasama. "Pathways for climate resilient development: Human well-being within a safe and just space in the 21st century." *Global Environmental Change* 68 (2021): 102277. <https://doi.org/10.1016/j.gloenvcha.2021.102277>

Climate change leads to the occurrence of drought (like the one we experienced last year) and floods that disrupt activities in the fields. This makes it difficult for child-headed families to access enough food (Class Teacher 3).

In support, one of the participants highlighted that:

I think drought causes food shortages, leading to higher prices, making it difficult for us [learners from child-headed families] to access food (Learner 13).

One of the participants had the following to express concerning the effects of climate change on child-headed families' food security:

I still remember that after Cyclone Idai, we had poor yields from the fields. This forced my sister to go around the whole village begging for food to enable us to survive (Learner 5).

In the same vein, a participant acknowledged that:

Learners from child-headed families are more vulnerable to the effects of climate change due to limited adult support to adapt to challenges such as food shortages and economic hardships (Class Teacher 1).

In addition, a participant elaborated that:

The lack of resources and agricultural productivity due to climate change can result in learners from child-headed households becoming more dependent on unreliable and insufficient food aid and relief programmes (Class Teacher 5).

The impact of climate change on food availability is profound, as evidenced by the participants' experiences with unpredictable weather patterns such as floods and droughts, severely disrupting agricultural productivity. For learners from child-headed families, who depend on farming for both sustenance and income, these climatic stresses exacerbate their vulnerability.¹⁹ corroborates this by noting the economic strain induced by climate-related challenges, particularly the escalation of food prices during shortages, which renders basic nutrition unaffordable for many.²⁰ This economic strain further compounds the daily struggle faced by these learners, who lack adult support to mitigate these challenges and are forced to balance caregiving responsibilities with the pursuit of education.²¹ Consequently, this highlights the urgent need for targeted interventions such as agricultural support programs to improve productivity and stabilise food supplies, alongside subsidies that reduce the cost of essential goods for child-headed households.

¹⁹ A. A. Abdullahi, A. M., Kalengyo, R. B., & Warsame, "The Unmet Demand of Food Security in East Africa: Review of the Triple Challenges of Climate Change, Economic Crises, and Conflicts.," *Discover Sustainability* 5, no. 1 (2024): 244.

²⁰ Abdullahi, A. M., Kalengyo, R. B., & Warsame.

²¹ Hailu, Gebrezabher Niguse, Muntaha Abdelkader, Hailemariam Atsbeha Meles, and Tesfay Teklu. "Understanding the support needs and challenges faced by family caregivers in the care of their older adults at home. A qualitative study." *Clinical Interventions in Aging* (2024): 481-490. <https://doi.org/10.2147/CIA.S451833>

Moreover, the absence of parental guidance leaves learners from child-headed families disproportionately exposed to the adverse effects of food insecurity and economic hardship. As noted, such learners often lack the resources and resilience needed to adapt effectively to food scarcity and its cascading effects.²² Participants' responses emphasize the necessity of comprehensive interventions that address both immediate and long-term needs. Short-term measures, such as the introduction of school-based feeding programmes, could alleviate immediate nutritional deficiencies.²³ While long-term strategies that include economic empowerment initiatives and resilience-building workshop, these would enable learners to better cope with climate-induced shocks.²⁴ Additionally, fostering partnerships among governments, NGOs, and local communities can ensure that these interventions are sustainable and culturally relevant. By implementing a multidimensional approach that integrates food access, economic opportunities, and climate resilience, child-headed learners can be better equipped to navigate the intersecting challenges posed by caregiving, education, and climate change.

Psycho-social effects of climate change on learners from child-headed families

In this section, data presentation, analysis and discussion are centred on exploring the psycho-social effects of climate change on learners from child-headed families. In this context, one of the participants submitted that:

Yes learners [from child-headed families] often experience emotional stress and anxiety due to constant uncertainties in their daily lives due to food insecurity (Class Teacher 5).

In support, a participant acknowledged that:

In case of drought, I feel scared and worried because we don't have adequate food in reserves. This makes it difficult to focus on class work when I'm focusing all my energy on how we are going to get the meal on the table (Learner 11).

Another participant indicated that:

In my class, some of these learners [from child-headed families] experience a deep sense of loss, due to the absence of adult caregivers to assist them in sailing through the effects of the climate change-induced challenges (Class Teacher 1).

One of the selected participants in the interview highlighted that:

²² Tambo, Ernest, Chen-Sheng Zhang, Gildas B. Tazemda, Bertin Fankep, Ngo T. Tappa, Cremona F. Bette Bkamko, Laura M. Tsague et al. "Triple-crisis-induced food insecurity: systematic understanding and resilience building approaches in Africa." *Science in One Health* 2 (2023): 100044. <https://doi.org/10.1016/j.soh.2023.100044>

²³ Fang, Guanfu, and Ying Zhu. "Long-term impacts of school nutrition: Evidence from China's school meal reform." *World Development* 153 (2022): 105854. <https://doi.org/10.1016/j.worlddev.2022.105854>

²⁴ Yadav, Seema. "Empowering Communities for Climate Resilience: Bridging Knowledge and Action to Combat Climate Change." In *Community Climate Justice and Sustainable Development*, pp. 83-104. IGI Global Scientific Publishing, 2025. <https://doi.org/10.4018/979-8-3373-0619-3.ch005>

Yes, I feel stressed as the eldest sibling because I'm always afraid that we might not have enough to eat. I feel like we don't have control over what happens in our daily lives (Learners 10).

From another angle, a participant contributed that:

These learners [from child-headed families] experience the emotional burden of being responsible for their siblings, including managing household activities alone. This can ultimately push them into grief, depression or withdrawal (Class Teacher 2).

This concurs with what the participants advanced:

At times, I try not to focus much on what is happening at home and focus on my science project, but it's difficult. I pray for help and at times, I talk to my class teachers when I feel overwhelmed (Learner 6).

The responses highlighted that learners from child-headed families face emotional stress and anxiety due to climate change. It was also revealed that these learners experience a sense of loss and grief from both environmental challenges and the absence of adult caregivers. This concurs with Newlin et al and Goronga²⁵ who postulated that learners from child-headed families face role strain, balancing household responsibilities with schoolwork, which can negatively affect their academic performance and motivation. In addition Kurebwa²⁶ and Pillay²⁷ highlighted that learners from child-headed families have the potential to develop coping mechanisms like emotional withdrawal, as they struggle to manage the psychological toll of their circumstances. Despite the overwhelming challenges, there was evidence of resilience; participants continued to rely on hope, prayer and support from teachers or siblings to cope. From another angle, Prime et al²⁸ indicated that the ongoing uncertainty about learners from child-headed families' future, coupled with the weight of responsibilities, severely impacts their ability to focus on education and maintain emotional well-being.

²⁵ M. M. W. Newlin, M., Reynold, S., & Nombutho, "Children from Child-Headed Households: Understanding Challenges That Affect in Their Academic Pursuits," *Journal of Human Ecology* 54, no. 3 (2016): 158–73; Pedzisai Goronga and Motlalepule Ruth Mampane, "Resilience Processes Employed in Child-Headed Households in Chinhoyi, Zimbabwe," *Journal of African Education* 2, no. 3 (December 1, 2021): 133–61, <https://doi.org/10.31920/2633-2930/2021/V2N3A6>.

²⁶ Jeffrey Kurebwa and Nyasha Yvonne Gatsi Kurebwa, "Coping Strategies of Child-Headed Households in Bindura Urban of Zimbabwe," *International Journal of Innovative Research and Development* 3 (2014), <https://api.semanticscholar.org/CorpusID:56442543>.

²⁷ Jace Pillay, "Experiences of Learners from Child-Headed Households in a Vulnerable School That Makes a Difference: Lessons for School Psychologists," *School Psychology International* 33, no. 1 (February 6, 2012): 3–21, <https://doi.org/10.1177/0143034311409994>.

²⁸ Heather Prime, Mark Wade, and Dillon T. Browne, "Risk and Resilience in Family Well-Being during the COVID-19 Pandemic.," *American Psychologist* 75, no. 5 (July 2020): 631–43, <https://doi.org/10.1037/amp0000660>.

Child-headed families and their adaptation strategies to contest the challenges posed by climate change

Based on the findings from participants are an attempt to advance some of the adaptation strategies employed to fight the challenges posed by climate change on learners from child-headed families' livelihoods. In this regard, one of the participants noted that:

Over the weekends or during the holidays, we involve ourselves in selling products like sweets, second-hand clothing, etc., to generate income for our upkeep (Learner 15).

From another angle, a participant highlighted that:

[.....], yes, we rely on our neighbours and local churches for assistance and at times they pay us some visits just to check on us (Learner 8).

In addition, in an interview, one of the participants indicated that:

As a class teacher, I always try to find time to chat with learners with the view to offering them emotional support to help them cope with whatever challenges they might be facing, be it at school or at home. I try to create a supportive environment in my class so that learners with challenges will feel loved and taken care of (Class Teacher 2).

One of the interviewees acknowledged that:

At times during the holidays, we are invited by well-wishers to participate in some part-time jobs in exchange for either food or money. This assists us in meeting our daily needs while still trying not to drop out of school (Learner 7).

In support, a participant noted that:

I offer extra lessons in my subject to help learners who may be falling behind due to a lack of resources or non-attendance as a result of their household responsibilities. As a school, we connect with community resources like food programmes, the Ministry [of Primary and Secondary Education]'s Psychological Services Department for assistance (Class Teacher 3).

The resilience exhibited by learners from child-headed families underscores their determination to persevere amid adversity; however, the broader systemic challenges they face highlight the need for more robust and sustainable interventions. The reliance on income-generating activities and community support, while commendable, may not always provide consistent or sufficient relief, especially in areas where community resources are

stretched thin.²⁹ This precarious situation emphasises the importance of long-term strategies such as integrating vocational skills training into school curricula to empower these learners with practical skills for sustainable livelihoods. Additionally, the pivotal role of teachers as both academic mentors and emotional anchors cannot be overstated; yet, their effectiveness is often constrained by inadequate training or resources to address the unique needs of child-headed learners.³⁰ Thus, while existing measures like school-based feeding programmes and psychosocial support are beneficial, a multidimensional approach encompassing policy reforms, enhanced teacher support, and community-driven initiatives is crucial to mitigate the compounded effects of climate change, poverty, and caregiving responsibilities on these vulnerable learners. This reinforces the argument for a holistic framework that not only addresses immediate survival needs but also fosters long-term educational and developmental outcomes.

While existing measures like school-based feeding programmes and psychosocial support provide significant benefits, a multidimensional approach is essential to mitigate the compounded effects of climate change, poverty, and caregiving responsibilities.³¹ Policy reforms, enhanced teacher support, and community-driven initiatives are necessary to alleviate the pressures faced by these vulnerable learners through a holistic framework.³² In addition, there is also a need to prioritise long-term educational and developmental outcomes, ensuring that learners from child-headed families have the opportunity to thrive despite their challenging circumstances.

The challenges faced by learners from child-headed families also underscore the pressing need for increased collaboration among stakeholders, including governments, non-governmental organisations (NGOs), and local communities. Governments can play a pivotal role by enacting policies that directly target the vulnerabilities of these households, such as offering financial aid or subsidised educational materials.³³ NGOs, on the other hand, can complement these efforts through localised initiatives that provide both immediate relief and long-term developmental support, like mentorship programmes and livelihood training.³⁴ Community-based initiatives, when properly supported, can foster a sense of collective responsibility and ensure that interventions are culturally sensitive and sustainable. By

²⁹ Surender, Rebecca, and Robert Van Niekerk. "Addressing poverty through community-based income generation projects: the evidence from South Africa." *Policy & Politics* 36, no. 3 (2008): 325-342. <https://doi.org/10.1332/030557308X307658>

³⁰ Ombakah, Elieda Pendo Jeremiah. "Roles of women's non-farm income-generating activities to household food security: Case of Bagamoyo District." PhD diss., Sokoine University of Agriculture, 2014.

³¹ Djan, Michael Atuahene, Emmanuel Yeboah, Isaac Sarfo, Michael Kpakpo Allotey, Abraham Okrah, Desmond Nii Ayitey Mettle-Nunoo, Ben Emunah Aikins, Asante Vincent Antwi, Clement Issaka Anaba, and Clement Kwang. "Understanding the Nexus Between Food Insecurity and School Readiness: A Comprehensive Analysis in Ghana." (2025). <https://doi.org/10.24018/ejdevelop.2025.5.1.397>

³² Machin-Mastromatteo, Juan D. "Community-driven and social initiatives." *Information Development* 39, no. 3 (2023): 393-401. <https://doi.org/10.1177/02666669231197243>

³³ Cook, Sarah, and Jonathan Pincus. "Poverty, inequality and social protection in Southeast Asia: An introduction." *Journal of Southeast Asian Economies* (2014): 1-17. <http://www.jstor.org/stable/43264696>.

³⁴ Shannon, Geordan, Parabita Basu, Laura ER Peters, Aaron Clark-Ginsberg, Tania Minka Herrera Delgado, Rajkumar Gope, Maga Guanilo et al. "Think global, act local: using a translocal approach to understand community-based organisations' responses to planetary health crises during COVID-19." *The Lancet Planetary Health* 7, no. 10 (2023): e850-e858.

leveraging the combined efforts of these stakeholders, it becomes possible to create a safety net that allows learners from child-headed families to focus more on their education without the constant strain of caregiving and survival responsibilities.

CONCLUSION

This study underscores the critical intersection between climate change and the compounded vulnerabilities experienced by learners from child-headed families, particularly in relation to food insecurity, psycho-social distress, and educational disruption. The participants demonstrated a clear awareness of climate change and its far-reaching consequences, while the findings illuminated the urgent need for targeted, multidimensional interventions that address both the instantaneous and structural challenges confronting learners from child-headed families. By proposing strategies that integrate educational support, psycho-social care, and climate resilience, the study advocates for a holistic framework to safeguard the well-being and future prospects of these learners. However, the research is constrained by its limited geographic scope and the absence of longitudinal data, which restricts the ability to evaluate long-term outcomes. Therefore, future studies should adopt longitudinal and cross-regional methodologies to assess the enduring efficacy of integrated support mechanisms, thereby contributing to more sustainable and inclusive policy responses for child-headed families navigating the impacts of climate-induced adversity.

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