

Teaching and Learning in Fragile Contexts (TLFC) Policy Brief



Interrogating Teaching and Learning Practices in Flood-affected Basic Schools in the Volta Region of Ghana

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Executive Summary

The 2023 floods in the Volta Region of Ghana profoundly disrupted educational processes, revealing vulnerabilities in teaching, and learning practices, school leadership, and community support, while highlighting the urgent need for systemic improvements to ensure accessible, inclusive, and quality education in fragile contexts.

This study explored how repeated flooding in Ghana's Volta Region disrupts teaching and learning in public basic schools, focusing on four districts most affected by floods in 2023: North Tongu, Keta, Central Tongu, and Ketu South. The floods forced more than 32,000 learners and over 1,200 teachers to relocate, making 90 schools unsafe or unreachable. This situation directly challenges Ghana's promise (under Education Act 778) to provide safe and accessible quality education for all.

Our research aimed to answer four key questions:

1. How have the perennial floods affected teaching and learning, school leadership, and community members' support for learning?
2. What are the perceived impacts of the floods on learners' access to schools in terms of gender and inclusion?
3. In what ways have flood-related challenges influenced the quality of teaching and learning in relation to (a) foundational literacy, and (b) utilisation of age-appropriate teaching and learning materials?
4. What policy measures are in place or could be instituted to (a) make education accessible and inclusive, (b) gender-responsive, and (c) to improve the health and safety of teachers and learners, and the quality of teaching and learning?

A convergent mixed methods design enabled us to gather both quantitative and qualitative data for the study. Participants headteachers, teachers, learners, three district education directors and school management committee members participated in structured questionnaires, focus group discussions, and interviews.

Key Findings

The findings have revealed that the floods profoundly affected educational processes across the affected schools. Many learners missed weeks of school, while others struggled to concentrate when present in class because of physical, emotional, and academic hardships they endured due to the floods.

- Floods halted normal classroom activities, with over 75% of teachers missing 2 to 4 weeks of instruction. Before the floods, over 90% of teachers saw active learner participation, but during flooding, that dropped to under 10%, recovering only slightly afterward. Learners attributed this to emotional stress over lost homes and poor learning spaces: *"It's hard to focus on learning when we're tired and worried about unsafe classrooms and where we live."* (Learners FGDs)
- Girls and children with disabilities faced greater barriers to attending school. Around 25% of school heads reported a sharper drop in girls' participation. Girls

spoke openly about the extra challenges floods posed to their dignity, especially around menstrual hygiene, which discouraged attendance. Only about 30% of schools were seen as adequately supporting learners with disabilities during floods.

- Nearly 90% of school heads said floods severely hurt learners' reading, writing, and math skills because floods destroyed textbooks and teaching resources, made classrooms unsafe and crowded.
- Policies promoting gender equity exist, yet crises expose gaps particularly in meeting basic needs like sanitary pads or food, putting girls at risk of dropout or early pregnancy.

Context

The research focused on the educational challenges in the Volta Region of Ghana, marked by a vulnerable geography prone to climate change effects. The region faces recurrent floods due to heavy rains and dam spillage often necessitated by the opening of the Akosombo Dam when it is at the risk of breaking its boundaries. This has often disrupted education by damaging infrastructure, displacing communities, and causing school closures in the Volta enclave. Specifically, the Lower Volta Basin has experienced severe impacts, including displacing families and rendering schools fragile and unsafe. For instance, 32,379 learners and 1,288 teachers were forced to vacate schools due to adverse weather conditions, underscoring the urgent need for investigation (Ghana Education Service, 2023).

On the back of these intriguing statistics, the study aimed to explore teaching and learning practices in affected schools, recognising the Volta Region as a fragile context shaped by the significant impact of climate change on education delivery and provision. It is instructive to note that our focus in the study was on flood-affected public basic schools (i.e., kindergarten, primary, and junior high schools) in the affected districts in the Region.

Methodology

Design

The convergent mixed methods design (Creswell & Gutterman, 2019; Tashakkori & Teddlie, 2018; Yin, 2018) was deployed to gather quantitative and qualitative data to address the research questions. Figure 1 represents a summary of the research design.

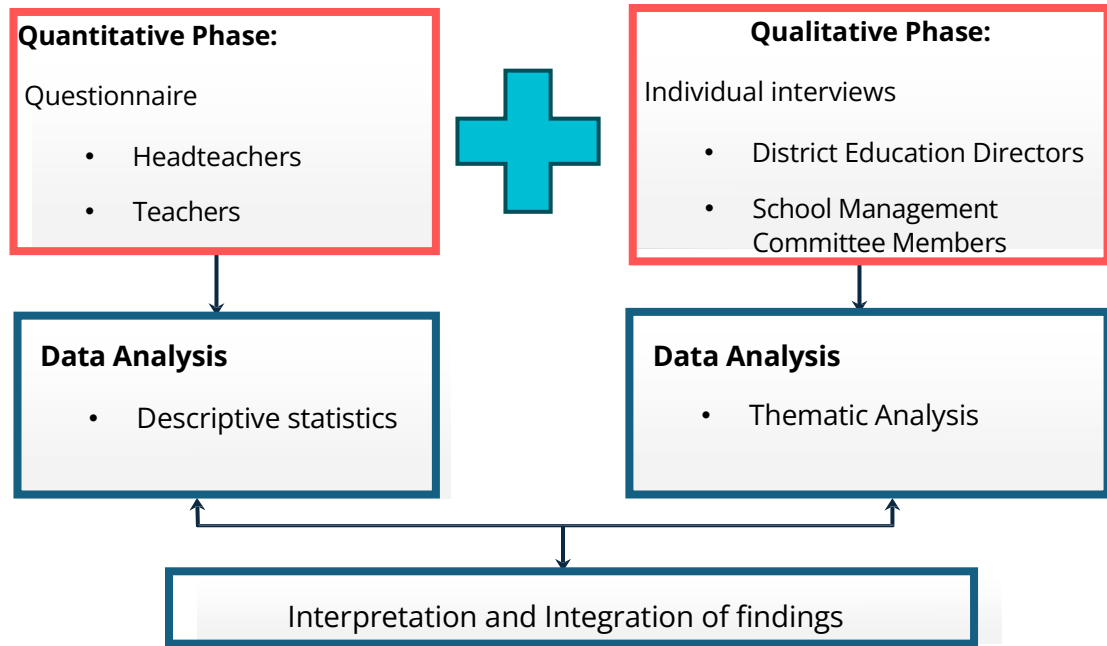


Figure 1. Convergent Mixed Methods Design for Fragile Context Study

Sampling

This study employed a multistage sampling procedure to ensure the representation of diverse and relevant districts, schools, and participant pool. A total of 646 research participants were sampled for the study.

Table 1. Sample Distribution of Flood-Affected Districts, Schools and Participants

| S/N | Districts | No. of Schools | Number of Participants | | | | | Total |
|-----|---------------|----------------|------------------------|----------|----------|-------------|--------------|-------|
| | | | Head Teachers | Learners | Teachers | SMC Members | DED Officers | |
| 1 | North Tongu | 25 | 25 | 200 | 145 | 1 | 1 | 372 |
| 2 | Keta | 11 | 11 | 65 | 48 | 1 | 0 | 125 |
| 3 | Central Tongu | 10 | 10 | 50 | 36 | 1 | 1 | 98 |
| 4 | Ketu South | 6 | 6 | 25 | 18 | 1 | 1 | 51 |
| | Total | 52 | 52 | 340 | 247 | 4 | 3 | 646 |

Note: SMC = School Management Committee; DED = District Education Directorate

Tools and Analysis

Structured questionnaires, interview guides, and observations were used to collect data for the study. The questionnaires were administered to teachers and headteachers. The qualitative data analysis involved coding, categorisation, thematic, and narrative

analysis techniques whereas statistical software was deployed for quantitative data analysis.

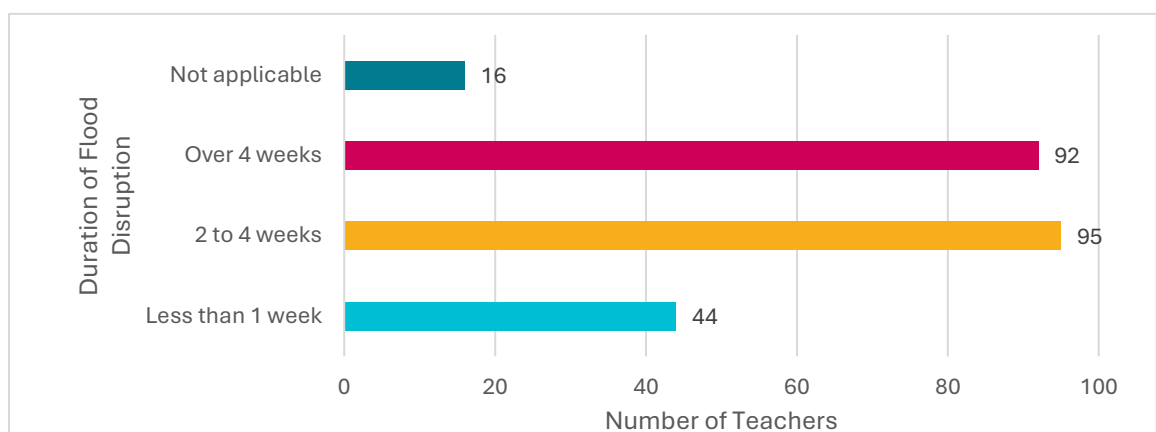
Key Findings

Teaching and learning were disrupted

How have the perennial floods affected teaching and learning, school leadership, and community members' support?

Weeks of instruction were lost

The most immediate effect of the recurrent floods was on teaching and learning activities with over 75% (n=187) of teachers missing 2 to 4 weeks of instruction during the floods. While 93.1% of teachers noted effective learner participation before the floods, this figure plummeted to 9.3% during the disaster. The subsequent recovery post-flood was only 18.2%.



The qualitative findings from the analysis of the learner FGDs and key informant interviews provided reasons for poor school attendance/participation in learning:

*The flood has made it difficult for us to go to class early... When the teacher asks a question, you are even tired, so you won't be able to answer. We find it difficult to concentrate in class... We think about our buildings, we are living with other people who took refuge in the school who are not learners, so how do we feel safe and happy to concentrate on learning?
(A discussant of FGD1)*

"...we are living with other people who took refuge in the school who are not learners, so how do we feel safe and happy to concentrate on learning?"

School leadership felt unprepared

The floods imposed significant stress on school leadership. Only paltry 7.7% of school heads rated themselves as very effective in managing school operations during the floods.

School heads bear the burden of helping teachers and learners to manage emotional distress in addition to academic recovery. This underscores the holistic challenge of crisis response in educational leadership, extending beyond administrative functions to embrace psychosocial support” (DED officer 2).

Community support was constrained

Community support shifted from routine participation in governance to more irregular involvement as households themselves tried to cope with displacement and livelihood loss. Even where willingness remained strong, capacity was constrained.

“Some community members had their houses flooded... Those who had to cross the water... found it difficult to visit or attend school meetings to offer support. I had to relocate because my house was flooded” (SMC member 2).

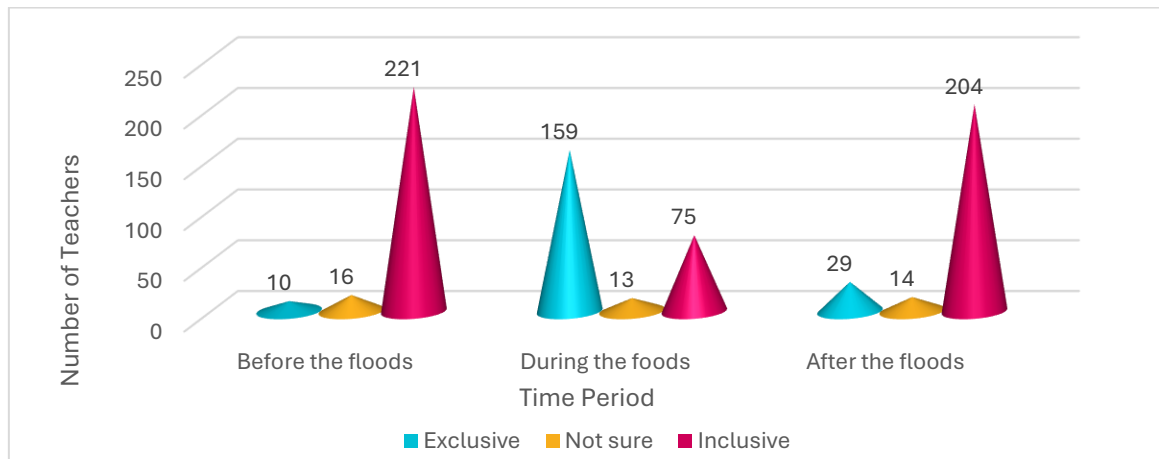
Based on these findings, we conclude that the perennial flood significantly disrupted the conditions necessary for effective classroom engagement as well as the capacity of school and community leaders to sustain effective teaching and learning.

Girls and learners with disabilities worst affected

What are the perceived impacts of the floods on learners' access to schools in terms of gender and inclusion?

The floods disrupted access to schooling in ways that disproportionately affected specific learner groups, particularly girls and learners with disabilities.

While 50% of school heads reported parity in school participation, 25% observed a greater decrease in girls' participation compared to boys. This suggests that female learners may have been disproportionately affected by the disruptions caused by flooding. Only 31% of school heads perceived their schools were adequately supporting learners with disabilities. The absence of robust support mechanisms leaves vulnerable learners at greater risk of marginalisation in disaster contexts, indicating an urgent need for systemic improvements.



Prior to the floods, a strong majority of teachers (n = 221; 89.5%) perceived their classrooms as inclusive, implying that inclusive environments and teaching practices were generally well established under normal/safe school and classroom contexts. However, during the floods, 64.4% of teachers (n = 159) reported that exclusive classroom situations surged. After the floods, perceptions of inclusivity improved to n = 204 (82.6%).

“As girls crossing the water to school, because the water reaches the level of our waist when crossing it, if we happen to be in that time of our menstrual flow... we feel so disgusted.”

Female learners specifically identified the challenging and uncomfortable conditions created by flooding, which directly compromised their dignity and discouraged them from accessing and participating in learning. A member of FGD17 explained:

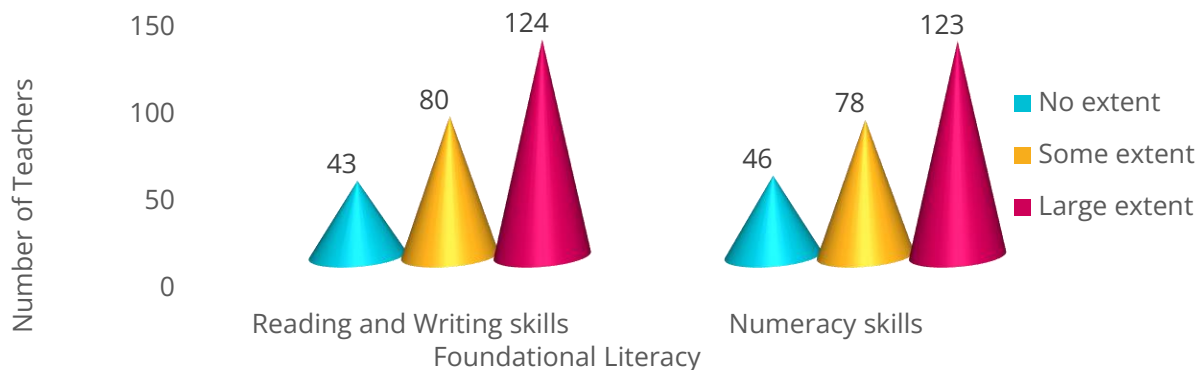
As girls crossing the water to school, because the water reaches the level of our waist when crossing it, if we happen to be in that time of our menstrual flow... we feel so disgusted. To come to school with our drenched uniforms and bodies and sit in class to learn, some of us feel so disgusted with ourselves (FGD17).

These narratives underscore menstrual dignity and personal comfort as critical yet often overlooked dimensions of equitable access to education.

Literacy levels declined

In what ways have flood-related challenges influenced the quality of teaching and learning in relation to (a) foundational literacy, and (b) utilisation of age-appropriate teaching and learning materials?

Foundational literacy – the quality of learners reading, writing and numeracy skills were negatively influenced by the floods. 88.4% of the school heads (n=52) and 82.6% of teachers (n=247) reported that the floods have negatively influenced learners’ reading and writing quality.



Similarly, 92.3% of the school heads and 81.4% teachers reported that the floods adversely influenced the quality of learners' numeracy. Learners attributed to poor literacy and numeracy skills to floods.

We are unable to write ... When the floods came, they destroyed everything. The books in which we write and the ones for reading are all not only soaked by the flood water but are carried away. (A member of FGD3). Also, the classrooms [are] dark, so you cannot see and write anything on the paper. The dark classroom environments affected our reading and writing... Our learning became poor (FGD 13).

Before floods, 93.1% of the school heads (n=52) reported that teachers used age-appropriate teaching materials. However, during floods, this dropped to 42.9%. This was because,

In the temporary classrooms, you can find five children trying to read one textbook because that is the only age-appropriate textbook available to them. Many others resort to reading whatever material that is available irrespective of its appropriateness for their age. That is why their reading really suffered (SMC member 1).

Thus, we conclude that ill-fitting teaching and learning spaces and mismatched resources could compromise comfort and posture, which in turn hinder handwriting, attention span, and learning engagement. This negatively affected, especially early-grade learners, who required consistent, hands-on engagement with age-appropriate materials to build foundational literacy skills.

Pursue policies vigorously

What policy measures are in place or could be instituted to (a) make education accessible and inclusive, (b) gender-responsive, and (c) to improve the health and safety of teachers and learners, and the quality of teaching and learning?

One DED officer reported that,

UNICEF organised an Education in Emergency programme for Municipal Directors and focal persons. After the training, we were tasked to form emergency response teams to plan for disasters like floods or storms. These teams are engaging stakeholders to put

in place temporary and long-term measures ... such as relocating schools on lowlands to higher grounds or digging canals to divert water (DED officer 1).

Gender equity policies exist but implementing them during the flood-disaster was a challenge (DED officer 2). However, there were acute health and safety pressures facing girls in flood-affected households pointing to lack of equity in health policies. Poverty and disrupted livelihoods increased the likelihood that girls would lack some health and safety essentials.

Some parents can't afford things like sanitary pads or food, so the girls are left to fend for themselves. That's when they start chasing men for support and end up with teenage pregnancies. We don't stigmatise them; we encourage even the pregnant ones to return to school, and we support them with basic items and encourage them to stay in school (DED officer 3).

"We don't stigmatise them; we encourage even the pregnant ones to return to school, and we support them with basic items and encourage them to stay in school."

Therefore, education stakeholders must be more intentional about these policies and pursue them vigorously to avert teaching and learning losses whenever the perennial floods strike.

Key recommendations

Based on our study findings and practical realities, we propose the following recommendations to policymakers and practitioners:

1. Institutionalise a dedicated Education-in-Emergencies (EiE) framework and ring-fence contingency funds at national and district levels for rapid educational response during floods.
2. Incorporate trauma-informed pedagogy, adaptive scheduling, community mobilisation, and psychosocial support training in teacher and school leadership professional development programmes as well as in higher educational institutions to build their capacities for education disaster situations.
3. Train teachers and school heads on gender-sensitive crisis management, equipping them to recognise and mitigate gender-specific barriers that can exacerbate risks of dropout, exploitation, or teenage pregnancy.
4. Prioritise the development and maintenance of flood-resilient infrastructure and apply climate-smart design principles when constructing new school buildings to ensure that all future educational facilities in vulnerable zones minimise flood impact and enable rapid recovery.

Acknowledgments

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