THE IMPACT OF 2024 DEADLY FLOODS ON SCHOOLS

Elimu Bora Working Group

RAPID SURVEY, 2024

Executive Summary

The heavy rains and floods that hit Kenya in April-May 2024 caused wanton suffering, destruction of property and inconvenience to the people, resulting in a bigger crisis, especially in education.

The 2024 floods phenomena were more unique and left lots of destructions and disruptions along the way with many residential areas affected, residents displaced, buildings destroyed, schools swept away, latrines sank, roads and bridges destroyed and uprooted, and livelihoods disrupted.

As of May 10, 2024, an estimated 267 people had been killed, 188 injured, and 75 missing, while 281,835 people (56,367 families) were displaced and almost 380,573 (76,114 families) affected by persistent heavy rains and flooding, according to the National Disaster Operations Centre (Kenya, 2024).

In addition, more than 9,973 livestock had been lost, 41,562 acres of cropland and 61 roads damaged, 886 businesses, 1,967 schools, 1,465 water sources and 62 health facilities damaged in 11 out of 42 counties affected by floods.

As schools prepared to be reopened, the Kenya government announced that Sh1 billion (US$7.5 million) was needed to rehabilitate schools affected by the floods.

The floods had submerged or destroyed at least 62 primary schools throughout Kenya. The government projected that an estimated 15,000 children may not get back to school and raised the risk of waterborne diseases.

More than 20,000 toilet blocks were either sunken or severely damaged by raging floodwaters, posing serious health risks to over 1.5 million schoolchildren across the country.

Some 34 cases of cholera had been reported along the Tana River, with fears that the number could rise as children were poised to resume school.

Several informal settlements in urban areas suffered massively. For instance, in Nairobi, more than 7,000 people had been displaced in the informal settlement of Mathare alone.

The Elimu Bora Working Group (EBWG) had serious safety, security and quality concerns about the return to school program and resumption of normal school learning activities.

Consequently, the group set out to undertake a rapid survey to ascertain the situation.

Key Findings

The disaster response framework remains grossly inadequate, leading to prolonged recovery efforts following emergencies like the persistent annual floods. Rapid response mechanisms are either absent or compromised, failing to effectively mitigate disaster impacts.

Data from 60 surveyed schools revealed that the student population dropped from 23,530 to 21,453 after the floods, a decrease of nine percent. The return rate of female students fell by approximately 10 percent, and 11 percent of students with special needs—40 out of the original 337—had yet to return.

There were notable collaborative efforts among headteachers, management boards, and parents' associations from four schools: Nduru primary school in Kadibo, Kisumu; Kobuya primary and secondary school in North Karachuonyo, Homa Bay; Kibubuti primary school in Kiambaa, Kiambu; and Mathare North primary school in Ruaraka, Nairobi. They worked together with national government administrative officers. These partnerships facilitated the construction of temporary learning structures and the creation of a detailed disaster response framework. Coordination efforts were led by the assistant county commissioner and the sub-county administrator.

Recommendations

Schools should develop emergency and disaster response plans, ensuring that students, teachers, administrators, staff, parents, local leaders, and community members are all informed.

To combat flooding, mitigation measures are essential. Embankments, gabions, and tunnels should be built in flood-prone areas. Schools should be constructed on raised, firm ground for a stronger foundation, and proper land-use design should ensure that building sites have stable soil.

A school infrastructure improvement and maintenance scheme should be established to keep buildings resilient. Regular assessments and necessary repairs should be part of this plan.

Public outreach and education programs are crucial for raising awareness about disaster preparedness and early warning detection among learners, teachers, parents, and local communities.

In case of a disaster, a multi-stakeholder recovery process should be launched to restore standards. Additionally, school-community partnerships should focus on getting children back to school quickly.

Flood mitigation should be integrated into physical planning systems, with a focus on the quality and strength of construction materials.

Finally, continuous training and capacity development programs are needed to ensure effective disaster preparedness, response, and mitigation.

Acknowledgement

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Table of Contents

Introduction and background to the survey

Number of primary schools submerged or destroyed by floods

1.1 Background to the survey

In April 2024, Kenya experienced heavy rains and severe flooding, surpassing the typical levels seen in previous high seasons (Onyango et al., 2024). These rains and floods usually bring significant suffering, property damage, and inconvenience, leading to increasingly severe crises each year.

The crisis typically unfolds during the two rainy seasons, March–June and October–December, when even moderate storms cause excessive surface water runoff and intensify flooding (Kariuki et al., 2024). The situation has worsened due to ongoing climate change (Arreyndip & Kitengu, 2024).

The floods in April 2024 were particularly devastating, causing widespread destruction and disruption. Many residential areas were affected, with residents displaced, buildings destroyed, schools washed away, latrines collapsed, and roads and bridges damaged.

As of May 10, 2024, the National Disaster Operations Centre reported 267 deaths, 188 injuries, and 75 missing persons. Additionally, 281,835 people (56,367 families) were displaced, and nearly 380,573 people (76,114 families) were affected by the persistent heavy rains and flooding (Kenya, 2024).

The floods also resulted in the loss of more than 9,973 livestock, damage to 41,562 acres of cropland and 61 roads, and destruction of 886 businesses, 1,967 schools, 1,465 water sources, and 62 health facilities across 11 of the 42 affected counties.

As schools prepared to reopen, the Kenyan government announced a need for Sh1 billion (US$7.5 million) to rehabilitate the affected schools. However, detailed information about the damage and specific needs was not yet available as headteachers were still compiling status reports.

Kenya Red Cross and Save the Children reported that the floods had submerged or destroyed at least 62 primary schools across Kenya, estimating that 15,000 children might not return to school and raising concerns about the risk of waterborne diseases (Kenya Floods, 2024).

More than 20,000 toilet blocks were either sunken or severely damaged by the floodwaters, posing serious health risks to over 1.5 million school children nationwide.

Thirty-four cases of cholera had been reported along the Tana River, with fears of an increase as children were set to return to school. Several informal settlements in urban areas suffered greatly; for example, over 7,000 people were displaced in Mathare informal settlement in Nairobi alone.

The Elimu Bora Working Group expressed serious concerns about safety, security, and quality regarding the return-to-school program.

1.2 Philosophical underpinnings that informed the rapid survey

The Elimu Bora Working Group conducted a rapid survey to ensure a safe and smooth return to school, aiming to support every student and prevent setbacks. Several reasons prompted this survey:

- Persistent floods in Kenya from April to May 2024, leading to multiple delays in school reopening.
- Commitment to uphold the rights of all children and youth affected by crises, ensuring they can access free, safe education without barriers, with governments as primary duty-bearers (Education Cannot Wait | The Global Fund For Education In Emergencies, n.d.).
- Respect for international conventions allowing parents to choose non-public educational institutions, and the establishment of private schools meeting state standards (Barrera-Rojas, 2023).
- Obligation of governments to implement measures protecting the right to education, including oversight of community-led and private schools (Ainscow, 1995).
- Ongoing challenges in Kenya's education system, threatening progress, despite efforts to promote inclusive, equitable, and high-quality education.

The following guided us in seeking for school reopening:

- A well-organized disaster response framework based on accurate data.
- Assessment of how schools, teachers, and communities handle disasters like floods, ensuring safety and rights.
- Evaluation of readiness for reopening without compromising access or quality.
- Measures to protect student safety, public health, and overall well-being.
- Plans to catch up on missed curricula and support teachers and vulnerable students.
- Continuous training in disaster preparedness and response to enhance readiness.

1.3 Problem statement

The floods in April-May 2024 resulted in widespread destruction and disruption across communities and schools. Residents were displaced, buildings destroyed, schools inundated, latrines submerged, and roads and bridges damaged or destroyed. Livelihoods were also severely impacted.

By May 10, 2024, the toll included over 267 fatalities, 188 injuries, and 75 missing persons. Additionally, 281,835 people (56,367 families) were displaced, with nearly 380,573 individuals (76,114 families) affected.

The floods also led to the loss of more than 9,973 livestock, damage to 41,562 acres of cropland and 61 roads, and destruction of 886 businesses, 1,967 schools, 1,465 water sources, and 62 health facilities in 11 out of 42 affected counties.

Despite these extensive damages, education had to continue.

The Elimu Bora Working Group embarked on a rapid survey of selected schools affected by the floods to assess the extent of damage, initiate rehabilitation projects, implement disaster management measures, plan curriculum catch-up strategies, and other initiatives aimed at ensuring preparedness for the resumption and continuation of learning.

1.4 Purpose and objectives of the survey

The Elimu Bora Working Group initiated this rapid survey to determine the condition of schools and learning centers in order to facilitate the resumption and continuation of education.

The specific objectives were:

i. Evaluation of the effects of floods on the sampled schools, including damage to infrastructure, equipment, and learning materials.
ii. Assessment of how schools were managing flood-related damage and identification of government support available to enhance learning, curriculum coverage, and disaster management.

Survey questions

- What were the impacts of floods in the affected schools across Kenya?
- How ready were the schools to resume and continue facilitating learning?
- How were the schools coping with damages caused by the floods?
- Was there any government support for better learning, curriculum coverage and disaster management?

Survey methodology

Number of children who were at risk of not returning to school

3.1 Method

The rapid survey employed a mixed-method approach with predetermined, adaptable guiding questions to facilitate data capture and analysis by enumerators. This method was chosen for its effectiveness in evaluating the impact of flooding on schools and education in affected areas of Kenya, and for its ability to capture insights from affected individuals such as students, teachers, parents, and others associated with or within the learning centers.

3.2 Design

The survey utilized a descriptive design framework to conduct the study. This framework was chosen for its ability to precisely describe the characteristics of the phenomena and variables being investigated.

Furthermore, the descriptive design was deemed appropriate due to the detailed nature of the survey questions. These questions required a comprehensive description of the actual damage caused by floods in schools, characteristics of the study population, including the number and nature of targeted schools, school accessibility, and availability of resources for conducting the study within a limited timeframe.

Moreover, practical constraints related to feasibility, logistics, and ethical considerations clearly identified the descriptive design as the most suitable and practical approach to guide the study.

3.3 Strategy

The research strategy adopted was a survey. More specifically, it was a rapid survey using questionnaires, observations, and secondary data sources such as media reports.

This strategy was found appropriate because of the short time available and the purposive nature of the survey. It was necessary to gather requisite data for analysis and to provide much-needed information for policy and administrative action.

3.4 Sampling

The survey used purposive sampling to select flood-affected schools and key informants, representing the entire population. This method was chosen for its appropriateness, efficiency in saving resources and time, and manageability in data collection and analysis.

Unlike probability sampling methods, which are based on random selection, non-probability sampling allowed for the deliberate selection of schools and informants with specific characteristics relevant to the research—specifically, schools affected by floods and their readiness for continuing education.

As a result, nine counties were selected: Nairobi, Kiambu, Kisumu, Busia, Homa Bay, Baringo, Nakuru, Tana River, and Kilifi. Each county included a minimum of five schools, with Kisumu and Nairobi

having at least 10 each, given their larger number of affected schools at the sub-county level.

3.5 Scales and units of measurement

The survey covered a minimum of 60 schools, interviewing key informants such as headteachers, members of boards of management, parents, chiefs, and sub-county directors of education.

The Elimu Bora Working Group assigned one lead researcher, five field coordinators, and 14 enumerators to conduct the rapid survey. They focused on specific areas outlined in the data collection and key informant interview tool.

Enumerators closely observed and interviewed individuals to assess preparedness and strategies for resuming and continuing education in the sampled schools and counties.

3.6 Ethical considerations

The survey implemented measures to prevent deception and bias. Multiple responses from various stakeholders of each school enabled enumerators to approach as close to the actual situation as possible.

Field coordinators also conducted spot checks on collected materials.

Key informants were provided with consent forms to sign, and all collected materials were governed by a confidentiality agreement to protect their privacy. Data storage adhered strictly to these privacy and safety agreements.

During training, enumerators and field coordinators were extensively briefed on research ethics and emphasized the importance of maintaining high professional standards in research (Science, Technology and Innovation Act of 2013).

Data collection, analysis and presentation

Number of cholera cases reported along the Tana River

4.1 Data collection, team selection and training

The members of the Elimu Bora Working Group selected survey teams based on their areas of expertise and operational focus. Each member assumed responsibility for the sub-counties and counties where they regularly worked.

A data enumerator was designated for each sub-county. Enumerators and field coordinators underwent a comprehensive day-long training session covering the survey's objectives, sampling methods, targets, and tools. Following pre-tests conducted with the enumerator from Homa Bay county, the survey materials and tools were reviewed and adjusted to incorporate new information and address identified gaps.

4.2 Data quality assurance

The survey implemented several measures to uphold data quality:

4.2.1. The survey tool underwent a pre-test in Rachuonyo North, Homa Bay, and feedback from this exercise was used to enhance the tool before its full-scale rollout across all selected counties. The pre-test in this sub-county also served as a pilot for work in all selected schools.

4.2.2. Highly qualified and experienced data enumerators were carefully selected and trained on the survey's objectives, procedures, and expected outcomes. Identified through members of the Elimu Bora Working Group, competent field coordinators and enumerators participated in a comprehensive three-hour training session conducted via the Microsoft Teams platform. They were subsequently contracted to conduct data collection within their designated operational areas.

4.2.3. Each data enumerator received direct supervision from a field coordinator assigned to their respective sub-county. This ensured that fieldwork adhered to all project guidelines. County coordinators kept the lead researcher and host organization, Kenya Human Rights Commission (KHRC), informed and updated on the progress of fieldwork.

4.3 Responses, data capture, clean up and entry

Respondents' answers varied but were largely influenced by enumerators who conducted interviews with key informants, following guidelines from interviewer-administered questionnaires. Interviewers ensured the quality of responses, determined what to document in photographs, and recorded observations.

Literature reviewed as part of the secondary data collection also aligned with the research needs, providing a comprehensive understanding of the impact of heavy rains and floods, the resulting damages, and their effects on schools and communities.

Field coordinators meticulously verified and cleaned the collected data to ensure completeness and

accuracy before data entry. They addressed any significant outliers.

Data entry was conducted using a prepared coding framework that matched the survey questions and observation guidelines.

Changes in student populations before and after the floods, including those who were left behind, were also documented as seen in the table below.

School	Before floods	Female	Male	After floods	Female	Male	With special needs before/after
Sintan Primary School (Marigat, Baringo)	296	140	156	281	132	149	0
Lake Bogoria Primary School(Marigat, Baringo)	151	63	88	151	63	88	0
Eldume Primary School (Baringo South, Baringo)	305	159	143	303	158	142	3/3
Leswaa Primary School (Baringo South, Baringo)	116	52	44	105	49	56	0
Longewan Primary School (Baringo South, Baringo)	358	162	196	274	133	141	1/1
Osodo Primary School (Rachuonyo North, Homa Bay)	700	342	358	650	330	320	0
Kibubuti Primary (Kiambaa, Kiambu)	922	458	464	840	420	420	20/5
Mugumo-Ini Academy (Kiambaa, Kiambu)	286	156	130	296	164	132	0
Bale Primary School (Ganze, Kilifi)	559	289	270	571	275	296	0
Godoma High School (Ganze, Kilifi)	727	0	727	727	0	727	0
Imanii Kadzunyuni Primary School (Kaloleni-Vishakani, Kaloleni)	544	265	279	544	265	265	0
Mrima Wa Nege Primary School (Ganze, Kilifi)	606	336	270	606	336	270	0
Ngamani Primary School (Kilifi South, Kilifi)	230	135	95	230	135	95	1/1
Nduru Primary School (Kadibo, Kisumu)	560	212	348	540	210	330	0/5
Nyamrundu Primary School (Kadibo, Kisumu)	531	202	327	523	196	325	2/2
Oseth Primary School (Kadibo, Kisumu)	631	289	340	627	315	310	2/0
Odienya Primary and Secondary School (Kadibo, Kisumu)	681	328	352	681	328	352	1/1
Nyamware Primary School (Kadibo, Kisumu)	629	340	289	615	337	278	0

School	Before floods	Female	Male	After floods	Female	Male	With special needs before/after
Apondo Primary School (Nyando, Kisumu)	341	176	165	350	181	169	4/5
St. Christopher Kolunga Primary School (Nyando, Kisumu)	763	384	369	718	363	348	10/7
St. Christopher Ayweyo Comprehensive School (Nyando, Kisumu)	380	219	161	371	214	157	0
Nyamasao Primary School (Nyando, Kisumu)	424	217	207	413	215	189	82/81
Kogwedhi Comprehensive School (Nyando, Kisumu)	380	180	200	360	160	200	27/19
Laini Saba Maranatha Academy (Kibra, Nairobi)	250	110	140	180	96	84	0
Emuhaya Rescue Centre (Kibra, Nairobi)	300	180	120	169	108	61	3/2
Akili Complex (Kibra, Nairobi)	180	100	80	160	90	70	0
Lindi Friends Primary School (Kibra, Nairobi)	125	70	55	103	50	53	0
St. Juliet Education Centre (Kibra, Nairobi)	524	274	250	522	272	250	0
Happy Star (Mathare, Nairobi)	250	140	110	200	120	80	0
St. Teresa's Sirls Primary (Mathare, Nairobi)	1426	1426	0	1024	1024	0	5/4
Bridge (Mathare, Nairobi)	100	55	45	90	50	40	0
Kiboro Primary School (Mathare, Nairobi)	1126	600	506	980	557	413	12/10
Mathare North Primary School (Ruaraka, Nairobi)	1268	668	600	1020	500	520	0
Why Knot (Mathare, Nairobi)	60	35	25	50	25	25	0
Hanka Education Center (Ruaraka, Nairobi)	400	-	-	375	-	-	-
Excellent Care Center (Ruaraka, Nairobi)	450	200	250	350	200	150	0
Mathare Light Center (Ruaraka, Nairobi)	350	140	210	345	3	2	0
Mathare Brillient Center (Ruaraka, Nairobi)	300	200	100	150	70	80	0
Brave Heart (Naivasha, Nakuru)	200	92	108	190	83	107	2/2

School	Before floods	Female	Male	After floods	Female	Male	With special needs before/after
Margin Junior (Naivasha, Nakuru)	130	76	54	110	64	46	1/1
Melanie (Naivasha, Nakuru)	300	180	120	200	110	90	1/1
Ngeya Comprehensive School (Naivasha, Nakuru)	3056	1133	1923	2880	1045	1081	84/80
Peace Kids Center (Naivasha, Nakuru)	280	149	131	244	133	117	0
Burgei Primary School (Rongai, Nakuru)	345	152	193	345	152	193	0
Matuiku Mixed Secondary School (Rongai, Nakuru)	210	89	121	210	89	121	0
Kampi aa Moto Primary and Junior Secondary School (Rongai, Nakuru)	780	384	393	780	384	393	3/3

In Tana River, the majority of schools affected by heavy rains and floods suffered primarily due to inadequate drainage systems. Consequently, many areas remained submerged with waterlogged fields during the survey.

Kongo primary school faced an exacerbated situation with hippos residing in the flooded fields. Local communities supported schools by donating books and clothing and digging trenches to drain classrooms and fields.

The area chief, local administrators, and school chairpersons ensured students returned for reopening, resulting in full or increased attendance from nearby schools.

However, the floods severely impacted school feeding programs—fewer students received lunches—and school latrines were flooded or collapsed, forcing students to use older, unsafe facilities. State support was minimal, with frustrations over the lack of NG-CDF funds allocated for repairs, despite promises to aid in renovations.

In Kibra, Nairobi, schools experienced significant drops in student attendance after the floods. For example, Emuhaya school saw a decrease to 169 from 300 students. Many schools suffered severe damage to stationery, furniture, classrooms, latrines, and playgrounds, hindering normal operations. Despite community donations and cleanup efforts, schools lacked pre-flood disaster measures, NG-CDF funds, and feeding programs.

Kilifi's school reopening efforts were more successful, thanks to local chief and stakeholder mobilization. However, some schools remained hazardous due to precarious construction materials and makeshift structures.

In Rachuonyo North, 50 students did not report back to Osodo primary school after floods. Some

schools, which are often used as displacement camps, were not prepared for the disaster that struck; they relied on instinctive coping mechanisms. Other schools with strong, elevated infrastructure fared better against storms and floods.

Mathare and Ruaraka in Nairobi faced infrastructure damage, with classrooms, libraries, and administrative offices suffering severe structural damage from floodwaters.

Sanitation facilities were destroyed, posing health risks, and educational materials like textbooks were lost. Furniture and equipment were damaged or swept away, displacing students and staff and disrupting learning. Permanent relocations occurred due to home demolitions, affecting mental health.

Emerging issues

Girls from disadvantaged backgrounds lacked access to sanitary towels, prompting teachers at Osodo primary school to seek donations to support them.

Damage to boreholes and water sources, such as those at Kampi ya Moto school in Rongai, Nakuru, posed significant challenges in accessing water.

School feeding programs were disrupted, adversely affecting many students who relied on them.

Urgent actions taken

Internally Displaced Persons (IDPs) were relocated to closer church facilities, and children from these campsites continued to attend school. For instance, Kibubuti school, in Kiambu implemented remedial classes in the morning, at lunchtime, and in the evening to catch up on the curriculum.

Fencing off damaged areas of the school was a common practice to protect students from collapsed buildings, landslides, or sunken latrines.

Capacity development

We discovered that most schools lack training in disaster preparedness and mitigation. The majority of schools had not received NG-CDF funds for repairs over the period. An exception was Mathare North primary school in Nairobi, which received some allocation.

4.4 Data analysis

The analysis benefited from coded frames that facilitated the grouping of data according to themes and content. Given the survey's use of questionnaires, observations, and secondary sources like media reports, a diverse range of data was collected for compilation. The aggregation methods involved categorizing data based on familiar content and identifying emerging themes, which provided a framework for in-depth discussion leading to the results presented in the next sub-sections.

4.4.1 Impact of floods on the affected schools

Most of the affected schools suffered extensive damage to their infrastructure, raising significant safety concerns regarding the use of these structures by students and teachers. For instance, in Kibubuti primary school in Kiambaa, Kiambu, the buildings, despite the floodwaters receding, did not meet architectural standards for strength and safety.

The latrines in many schools, such as Osodo primary in Rachuonyo North, Homa Bay, Ngeya comprehensive school in Naivasha, Nakuru, and Nyangwani primary school in Gaze, Tana River, which were constructed entirely of mud, collapsed or were on the verge of collapse due to the rains and floods.

At Hola school in Tana River, classes were relocated under trees after classrooms and furniture were destroyed. Some schools, like Nduru and Odienya in Kadibo, Kisumu, temporarily housed IDPs before the space was cleared to construct makeshift classrooms for students. Additionally, tents previously used by IDPs were repurposed into classrooms.

4.4.2 Readiness of schools for resumption and continuation of learning

Most of the affected schools were not fully prepared for teaching and learning when they reopened in May 2024. Some schools had served as IDP camps, and after reopening, the displaced were relocated to higher ground in temporary structures.

Even in cases like Kobuya school, where IDPs had been moved to other facilities, students and their parents continued to seek support from nearby schools.

In places such as Tana River, sampled schools faced challenges as students and parents struggled to replace items like books, uniforms, and other necessities lost to the floods. Direct support from the government and other partners could have better prepared these schools.

The road network around these schools was severely damaged. There were washed-out and potholed roads. Many students returned to school three to four weeks late due to impassable roads, causing them to lag behind in their studies.

4.4.3 Coping mechanisms and restoration of school and learning infrastructure

Temporary structures, which had previously housed IDPs, became the primary shelters for students in the affected schools. Despite the damage to existing buildings, there were no immediate plans for infrastructure restoration.

These makeshift structures were utilized as classrooms, toilets, and staff rooms, with no new development projects initiated for school improvement after the flooding.

4.4.4 Governmental and other partner support to schools during and after floods

Both national and county governments needed to prioritize education and provide more support for improved learning, curriculum coverage, and disaster management. Despite numerous requests, most schools had not received significant assistance from the NG-CDF or the office of the Member of Parliament (MP) in their respective areas, except for Mathare North comprehensive school.

There were allegations from key informants that area MPs had shown favouritism in school development projects, neglecting schools like Odienya in Kadibo sub-county, Kisumu due to perceived lack of political capital.

Following the flooding, schools were yet to receive capitation grants, although the sub-county education office indicated they requested support from the Ministry of Education.

Some schools temporarily housed IDPs, but they were relocated to make room for makeshift classrooms, utilizing tents formerly occupied by IDPs as classrooms.

4.4.5 Psychosocial support and mental wellness program

Schools and educational institutions failed to incorporate psychosocial and mental health support into their programs and activities that would have provided necessary assistance to students, teachers, staff, and parents during and after the disaster.

There were no regular mental health assessments and appropriate support to those affected. As such, they could not regain the mental stability necessary to perform effectively.

Survey findings

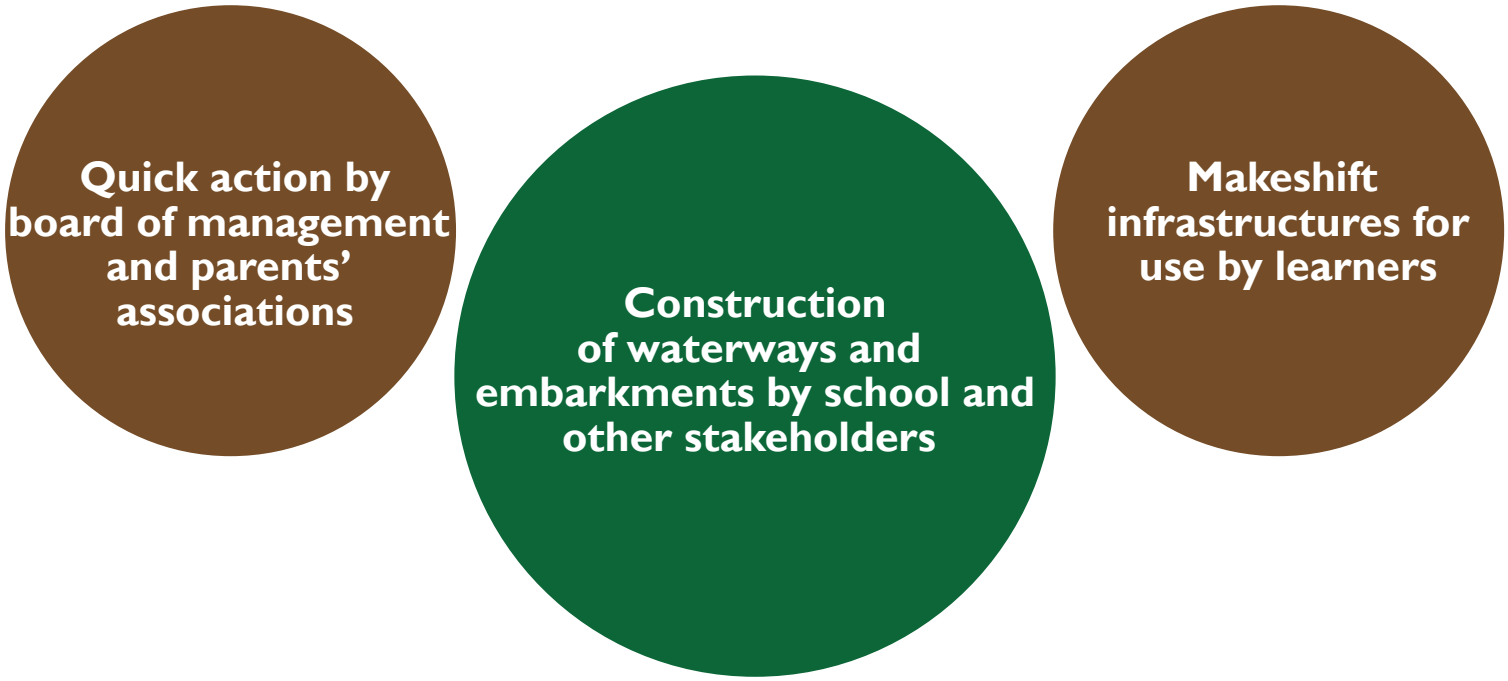
Number of toilets sunkened or damaged by floods

The disaster preparedness cycle often falls short, leading to delayed responses during emergencies such as annual floods. Existing avenues for rapid response are either inadequate or compromised, failing to effectively mitigate disasters.

In one example, before heavy rains and floods, surveyed schools enrolled 23,530 students, which decreased to 21,453 afterward—a nine percent reduction due to flooding. Female student return rates dropped by approximately 10 percent, and 11 percent of students with special needs—40 out of 337—were yet to return.

Nduru primary school in Kadibo sub-county, Kisumu, took in 839 students from three submerged neighbouring schools, adding to its original 560 students. Post-floods, its enrolment dropped to 540.

In other instances, collaboration among headteachers, boards of management, parents' associations, and national government administrative officers facilitated temporary solutions like makeshift classrooms. Coordination with local authorities, such as the office of the assistant county commissioner, was crucial.



Governmental resources earmarked for recovery, such as county emergency funds and constituency development allocations, were severely inadequate and underfunded. These funds lacked sufficient reserves to promptly alleviate public suffering. Less than 20 percent of the surveyed schools had received any financial or material assistance to reconstruct or repair their damaged infrastructure. Many classrooms, deemed unstable and unsafe, continued to be used for teaching.

Across all assessed sub-counties, there was a glaring absence of a well-structured disaster response and coordination framework. This absence hindered accurate and timely data collection and fact-checking at the school, local, and sub-county levels. Ad-hoc responses based on trial and error had proven insufficient in addressing these disasters.

Schools, teachers, non-teaching staff, students, and communities were largely unprepared for the reopening and continuity of learning due to widespread destruction and lack of repairs in classrooms, staff rooms, latrines, laboratories, workshops, playgrounds, libraries, dormitories, and other facilities.

Surrounding infrastructure, such as roads and pathways to schools, including easements and corridors, remained impassable. Apart from limited community interventions, government agencies did not undertake sufficient ongoing improvements.

One risky coping mechanism observed was the placement of submerged stones to assist learners, teachers, and other path users in crossing to Mugumo-Ini academy Kiambaa, Kiambu.

Kenya, a signatory to the UN Convention on the Rights of the Child (1989) and the African Charter on the Rights and Welfare of the Child (1999), had not effectively implemented measures to ensure the safety, security, and best interests of children. Instances of neglect included unsafe classrooms, collapsed latrines, unaddressed medical emergencies, and a lack of trauma therapy for flood victims.

Despite the delayed reopening of schools, there were no structured curriculum catch-up strategies or adequate support systems for teachers, non-teaching staff, and vulnerable groups. These groups included those in remote or marginalized communities, urban and rural poor, persons with disabilities, girls, and children in need of special protection. Schools like Mathare North comprehensive school in Nairobi attempted to continue with the curriculum, but the interrupted infrastructure renovation disrupted learning.

Schoolbooks and other educational materials destroyed by floods had not been replaced by the time of the survey. Schools, teachers, non-teaching staff, students, and communities largely relied on varied coping mechanisms. Some communities, like at Kongo primary school in Kiambaa, Kiambu, assisted schools with resources.

In places like Kampi ya Moto in Rongai, Nakuru, learning had resumed with catch-up programs underway. However, boys' and girls' toilets remained unusable due to waterlogging, and staffrooms were damp but operational.

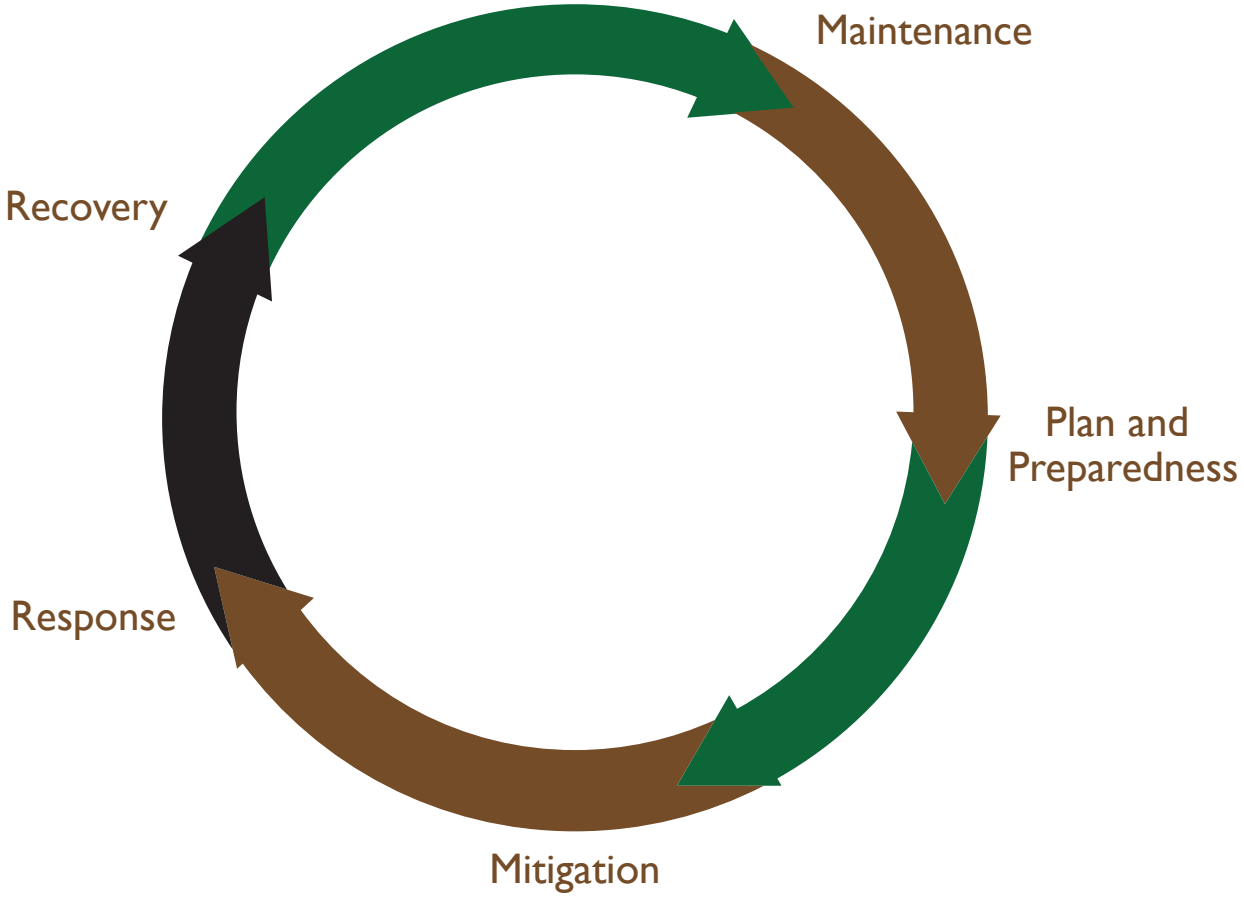
Families displaced from their homes and sheltered in schools and church compounds primarily came from low-income backgrounds. Their unstable resettlement reduced the number of students returning to school.

Despite minimal support from the government and other agencies, these children continued to face hardships. They lacked essentials like clothing and exercise books even after relocating to new schools.

Recommendations

Uptake of the findings by various stakeholders

Schools ought to develop an emergency and disaster response strategy, ensuring that all stakeholders—students, teachers, administrative staff, parents, local leaders, and community members—are informed and involved in its implementation.



Mitigation measures should be implemented to reduce or prevent flooding. This includes constructing gabions and tunnels in flood-prone areas and building structures on elevated and stable ground to create a stronger foundation for infrastructure.

Proper land-use planning, including modifying the current school environment, should ensure that building sites have improved soil conditions and structural integrity.

- **School infrastructure development and improvement**

There should be a structured schools infrastructure development, improvement, and maintenance program so these institutions can maintain resilient infrastructure. This program should regularly evaluate the infrastructure of each school and make necessary repairs to consistently keep the buildings in good condition.

- **Public outreach**

Public outreach and educational initiatives should be implemented to educate students, teachers, parents, local communities, and leaders about disaster preparedness and early warning systems.

A collaborative, multi-stakeholder recovery approach should be implemented after every disaster to ensure that restoration meets established standards.

Additionally, fostering school-community partnerships is essential for mobilizing children to return to school.

Future plans and other possible research

Flood and flooding mitigation measures should be incorporated into the physical planning system, ensuring that quality standards are met, including the use of materials with appropriate strength for construction.

Additionally, there should be a program for ongoing training and capacity development focused on disaster preparedness, prevention, response, and mitigation.

Conclusion

The heavy rains of 2024 have had devastating impacts on both learners and teachers. Perennial floods and disruptions to learning during Kenya's long and short rainy seasons require careful planning.

The government must prioritize long-term solutions and urgent action plans, coupled with well-designed strategies, to prevent the recurrence of such adverse experiences. A multi-stakeholder approach should be embraced to address these issues.

In urban areas where almost 70 percent of children do not attend public schools, alternative provision of basic education and training schools are crucial for providing education to children in informal settlements like Mathare, Ruaraka, and Kibra in Nairobi. These schools often serve students who face economic, social, or logistical barriers to formal education.

However, recurrent flooding and demolitions in areas like Mathare have severely impacted these schools, worsening existing challenges and creating new obstacles to delivering quality education.

While the government's response faced criticism for its inadequacies, there is a clear opportunity to improve preparedness, response, and recovery efforts. By collaborating with partners, boards of management, and communities, the government can better protect schools from future floods and ensure that students receive the education they deserve, even in the face of natural disasters.

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