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# Assessing Disaster Risk Communication Strategies in the Lake Region Economic Bloc Counties of Kenya

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**Abstract**

This study assessed the nature of disaster risk communication in the Lake Region Economic Bloc (LREB) Counties of Kenya. Disaster risk communication is expected to support continuous, inclusive, and participatory stakeholder engagement. However, it remains unclear whether existing strategies exhibit these characteristics or predominantly involve top-down dissemination of disaster risk information. A convergent parallel mixed methods research design was adopted. Three counties, Busia, Kisumu, and Nandi, were purposively selected based on their historical disaster experiences, significant losses, and established disaster risk reduction systems. A quantitative sample of 384 emergency responders was selected through multistage, proportionate, and simple random sampling. Additionally, purposive sampling was used to select 17 key informants, while quota sampling identified 30 focus group discussion participants. Quantitative data were collected using questionnaires, while qualitative data were obtained through key informant interviews (KII) and focus group discussions (FGD). Secondary data were obtained from reports, books, policies, and plans. Quantitative data were analysed using descriptive statistics in SPSS version 20, while qualitative data were analysed thematically using NVivo. Of the 384 questionnaires administered, 300 were fully completed, yielding a 78 per cent response rate. Findings revealed that media (88%), hotlines (68%), public forums (43%), multi-agency emergency operation centres (77%), and posters (83%) were used in disaster risk communication. The study concluded that communication relied predominantly on formal, structured channels, with limited community-driven and participatory approaches. Strengthening public involvement, trust, and inclusive dialogue is essential for improving communication effectiveness and responsiveness. The findings will inform policy formulation and strengthen community and emergency responder capacities.

**Key terms:** Disaster risk, communication strategies, lake region economic bloc, participatory risk communication, risk communication.

## INTRODUCTION

Disaster risk communication aims to translate disaster-related occurrences into actions that can save lives and property prior to and during a phenomenon. Past studies have pointed out the need for the first-line responders to move beyond one-time alerts and embrace affected community involvement. This should be in ways that respect local community culture, employ a range of media channels and conform to existing frameworks like the Crisis and Emergency Risk Communication model (CERCs) (Jensen, 2025; Hinata et al., 2024; Ross, 2024). Worldwide, it is evident that risk communication needs to be swift, precise and gain credibility from the local populations prior to the occurrence of the emergency (Jensen, 2025; Ross, 2024).

Studies have indicated that emergency risk communication alerts originating from the community have been significantly more effective than any from other quarters. In essence, risk communication has been made more meaningful by and for the communities, especially when employing a range of activities such as songs, drills, and equally co-designing messages in a language that local communities can understand and respond to when relayed (Bubeck et al., 2024). In other versions, it is recognised that innovations in line with digital practices have significantly aided early warning communication. (Bono et al., 2022). However, studies have also indicated that there seems to be no identifiable channel that is suitable for general risk communication. In essence, a channel that works best for wildfires may not be suitable for other hazards such as heat waves and hurricanes to permit communication to reach populations in their different backgrounds. In connection, Bubeck et al. (2024) noted that it is therefore evident that blending community-initiated messages and digital strategies may be reliable and more effective in reaching all populations for early, timely action.

In Africa, evidence from pandemics such as COVID-19, Ebola and M-pox has indicated both positive and negative outcomes in relation to risk communication. In a study in 13 countries, a range of best practices that depended on capacity strengthening and partnering with community-based organisations registered major success. Similarly, the evidence on challenges was depicted by lack of trust, cultural barriers and misinformation (Adebisi et al., 2021). In comparison, a study conducted on health care facility preparedness for disasters identified planning, coordination and staffing as major bottlenecks that contributed towards ineffective risk communication (Mansour et al., 2026).

Several studies in Eastern Africa have pointed out reasons why interpersonal communication is critical for disaster risk communication. According to Modeyin (2025), leaders from faith-based organisations often outperform one-way broadcasts, especially where planning is weaker. They help people interpret warnings into realistic, context-specific actions. Similarly, region-wide anticipatory-action programs have also trained journalists to explain forecasts before disasters strike, improving the quality of pre-event communication (Luganda et al., 2025). However, it is evident that irrespective of these interventions taking shape within the communities, a good number of them still struggle to connect locally with these efforts.

According to the Kenya Red Cross Society, efforts to institutionalise early warning-to-action protocols are critical in the management of floods and droughts in various communities in Kenya. (Kenya Red Cross Society, 2023). Evidently, Counties such as Narok have been identified as having developed flood early-warning communication strategies using easy-to-understand language and have integrated them into locally trusted community communication channels (Yore et al., 2023). In addition, recent reports on anticipatory-action pilots have revealed the value of mapping who receives what information through which channels, i.e. social media, WhatsApp groups, local FM stations, faith-based organisations, and National and County government Administration officers' meetings before heavy rains (Luganda et al., 2025).

In Kenya, other studies have similarly noted the human factors that determine whether communication leads to population actions or inactions. Evidently, clear and consistent COVID-19 messages improved adherence to risk messages in rural areas, but message fatigue and limited access reduced overall reach (Cholo et al., 2025). Additionally, in urban areas such as Nairobi,

distrust of community health volunteers and conspiracy beliefs weakened vaccine uptake, illustrating how trust remains the decisive ingredient in effective risk communication (Ireri et al., 2023). In relation to other hazards, community radios have emerged as a critical platform for stakeholders' engagement and rumour control, though it is no universal fix (Wachira & Cumiskey, 2022).

Despite the previous studies' contribution to disaster risk communication, a good number focused on specific and individual hazard communication. These ignored sufficient comparative evidence on the design of various disaster risk communication globally, regionally, in Kenya, and in the Lake Region Economic Bloc Counties. Relatively, there is a lack of clarity on whether the currently applied strategies depict the same characteristics or are predominantly top-down risk information dissemination models. This knowledge gap limits an understanding of the characteristics and qualities of various risk communication strategies in disaster scenarios in the Lake Region Economic Bloc counties. Efforts to address this gap will enhance understanding of the existing risk communication strategies and their potential contribution towards the reduction of disaster vulnerabilities in disaster-prone areas. It is against this background that this study sought to assess the nature of disaster risk communication strategies in the Lake Region Economic Bloc of Kenya.

## LITERATURE REVIEW

Disaster risk communication aims to translate disaster-related occurrences into actions that can save lives and property prior to and during a phenomenon. Past studies have pointed out the need for the first-line responders to move beyond one-time alerts and embrace affected community involvement. This should be in ways that respect local community culture, employ a range of media channels and conform to existing frameworks like the Crisis and Emergency Risk Communication model (CERCs) (Jensen, 2025; Hinata et al., 2024; Ross, 2024). Worldwide, it is evident that risk communication needs to be swift, precise and gain credibility from the local populations prior to the occurrence of the emergency (Jensen, 2025; Ross, 2024).

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**METHODOLOGY**

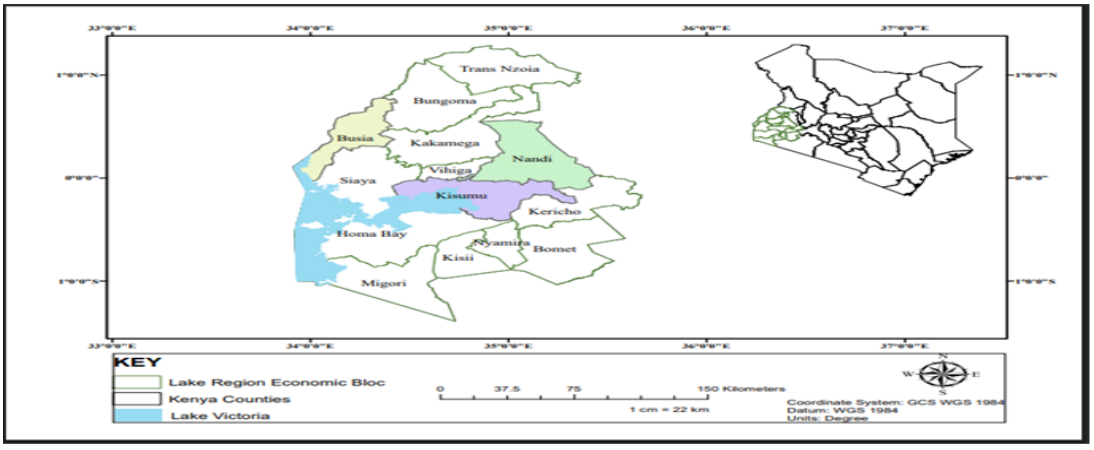



**Figure 1: Map of The Study Area**

The study was conducted in the Lake Region Economic Bloc (LREB) Counties of Kenya, within the Lake Victoria Basin. A convergent parallel mixed methods research design was adopted, whereby quantitative and qualitative data were collected concurrently, analysed separately, and integrated to assess disaster risk communication strategies. Three counties, Busia, Kisumu, and Nandi, were purposively selected based on their historical disaster experiences, significant losses, and established disaster management directorates. Fisher's formula was used to determine a quantitative sample of 384 emergency responders. Multistage, proportionate, stratified, and simple random sampling techniques were employed to select respondents across emergency response organisations. Purposive sampling was used to select 17 key informants from a target population of 28 representatives of disaster management institutions and humanitarian organisations. Additionally, quota sampling was used to select 30 focus group discussion participants, comprising 10 members from each county's disaster management committee, for three focus group discussions.

Primary quantitative data were collected using questionnaires, whereas qualitative data were obtained through key informant interviews and focus group discussions using respective guides. Secondary data were collected from journals, reports, policies, plans, and other relevant documents using a document checklist. Quantitative data were analysed using descriptive statistics in SPSS version 20.0 and presented in tables. Qualitative data from interviews and discussions were analysed thematically using NVivo and presented through themes and verbatim quotations. Secondary data were analysed using documentary and qualitative content analysis to identify and categorise disaster risk communication strategies.

**Table 1: Sample Size Distribution of Target Populations**

| **Categories of respondents (Emergency responders)** | **Population** (from 3 Counties -Kisumu, Busia and Nandi) | **Sample size** (30% of population sample) | **Sampling Technique** |
|---|---|---|---|
| Kenya Red Cross staff | 230 | 69 | Purposive, stratified, simple random |
| St. John Ambulance staff | 220 | 66 | Purposive, stratified, simple random |
| Fire Brigade | 190 | 57 | Purposive, stratified, simple random |
| National Police Service | 160 | 48 | Purposive, stratified, simple random |
| Community emergency volunteers | 60 | 18 | Purposive, stratified, simple random |
| Social workers | 270 | 81 | Purposive, stratified, simple random |
| Government Admin. officers | 150 | 45 | Purposive, stratified, simple random |
| **Quantitative data** | | 384 | |
| LREB Board advisory Committee members | 14 | 3 | Purposive |
| County Disaster mgt. Directors | 3 | 3 | Purposive |
| County coordinators KRCS | 3 | 3 | Purposive |
| County Commissioners | 3 | 3 | Purposive |
| Local Media House Heads | 3 | 3 | Purposive |
| Dhamira Moja CBO (Busia) | 1 | 1 | Purposive |
| Department of Special Program (Kisumu) | 1 | 1 | Purposive |
| **Qualitative Information** | 28 | 17 | |

**Source:** Researcher, 2026

## FINDINGS AND DISCUSSION

This section presents results, findings and discussions on the nature of disaster risk communication in the study area. These findings were mainly on traditional, social media and digital platforms; usage of hotlines; multi-agency frameworks; emergency operation centres; and the use of posters and public forums in risk communication in the study area. The results are as presented in Table 1, followed by an interpretation and discussion of the findings in the subsequent sections.

Explore the practical or theoretical implications of your findings. Avoid extensive citations and discussion of published literature. Report whether the hypothesis was supported or rejected. Acknowledge limitations under a separate sub-heading.

Table 2 Nature of disaster risk communication strategies

| Disaster risk communication strategies | Strongly Disagree | Disagree | Neutral | Agree, | Strongly Agree |
|---|---|---|---|---|---|
| Usage of media (traditional and modern) | 3% (9) | 7% (21) | 2% (6) | 45% (135) | 43% (126) |
| Use of hotlines | 8% (24) | 15% (45) | 9% (27) | 37% (111) | 31% (93) |
| Use of Public forums | 12% (36) | 20% (60) | 25% (75) | 30% (90) | 13% (39) |
| Multi agency framework | 5% (15) | 15% (45) | 3% (9) | 35% (105) | 42% (126) |
| Emergency Operation Centers operations | 10% (30) | 20% (60) | 5% (15) | 30% (90) | 35% (105) |
| Use of posters | 5% (15) | 10% (30) | 2% (6) | 40% (120) | 43% (129) |

**Source:** Field data

**Usage of Media (Traditional and Modern) in Disaster Risk Communications**

Results in Table 1 show that 45 per cent of the respondents agreed, and 43 per cent strongly agreed, that both traditional outlets like radio and TV, as well as modern channels such as social media, played a central role in disaster risk communication. 10 per cent of the respondents either disagreed or strongly disagreed, while a minority of 2 per cent decided to be neutral in their response. The findings clearly indicated the important role of the media in the dissemination of disaster risk information to the populations within the counties of the Lake Region Economic Bloc. It was therefore evident that media outlets such as radio have been preferred to reach the communities prior to and during disasters in the study area.

In the sampled counties such as Nandi, Busia and Kisumu, the study found that traditional media have taken the lead in risk communication. This was mainly evident in reaching the community with risk advisories on hazards such as floods, droughts, landslides, and disease outbreaks. The study found that the most used mainstream stations were Bulala FM in Busia, Lolwe, Dala, Radio Lake Victoria in Kisumu, and Chamgei FM in Nandi. These stations mainly used vernacular to ensure 100 per cent reach to the communities of Luhya, Luo and Nandi who are inhabitants of the study area. This study found that the use of the local language had the potential to strengthen effective communication for enhanced emergency responses. According to Ndavula and Lungahi (2018), vernacular radio stations have played a vital role in creating awareness of hazards and the nature of preparedness at all levels, particularly amongst the poor and semi-illiterate communities in western Kenya. Furthermore, mandated institutions such as the Kenya Meteorological Department and the Kenya Red Cross Society often collaborate with these Meteorological departments to deliver real-time alerts on where and when and practices recommended for safety during that time.

In Consistence, Wambua (2018) affirmed that traditional media, specifically local radios, have bridged the last-mile communication gap in community-based early warning systems, particularly where digital illiteracy is high, and the use of smartphones is low. In this sense, it is akin to the Lake Region Economic Bloc communities with informal settlements, fishing communities, and small-scale farmers that are highly reliant on radio for both entertainment and risk and safety information. This study found that during the 2020 floods in Budalang'i of Busia County, vernacular radio stations such as Bulala FM were instrumental in broadcasting evacuation information through notices and also gave weather updates, which helped reduce the number of victims of the disaster and property damage. This study is hence aligned with such evidence, reaffirming that maximising the power of traditional media can significantly strengthen disaster readiness, build

community resilience, and promote early action in the face of increasing climate risks.

These findings also conform with the sentiments from the focus group discussion participants in Nyando Sub County of Kisumu County who were officials from the Kenya Red Cross, police and social workers:

> *People in this village have no other way of getting information from the authorities other than from radios such as Radio Lake Victoria and Radio Nam Lolwe. We are grateful for always giving us important information when the floods are about to occur.*

Similarly, these findings also agree with the evidence on the important roles of social media in disaster risk communication across Kenya. According to Bakti et al. (2026), social media platforms such as Twitter, WhatsApp, and Facebook have become indispensable media for county governments in sharing real-time information prior to, during, and after disasters such as floods, droughts, pandemics, and fire outbreaks, particularly in vulnerable counties such as Kisumu and Homa Bay counties. The Kisumu County Disaster Management and Project Department emphasises the value of WhatsApp in enhancing the issuance of early warning information, coordination of response initiatives, and citizen involvement in preparedness campaigns. The current study confirms the incorporation of digital platforms into community disaster risk communication systems by complementing similar findings. This was also agreed by most of the people who participated in the focus group discussions in Kisumu County, who were Kenya Red Cross and community Volunteers.

> *WhatsApp has turned into our main means of communication with regard to disaster management. The main reason is that we all have smart phones and messages are sent just once to a group and it reaches even a thousand individual at a go. Thus, making it very convenient so many have got it.*

Social media has become an increasingly essential channel for disaster risk reduction communication. As a result, feedback mechanisms can be established and incorporated into the plans. According to Ndungu et al. (2019), counties that utilise social media for the DRR process are highly likely to get real-time feedback from affected populations, which helps in speeding up emergency responses. This capability is particularly vital within Kenya's Lake Region Economic Bloc (LREB) owing to the recurrent disasters that are climate-induced, such as floods and disease. Counties like Busia and Nandi have embraced the use of WhatsApp groups to coordinate inter-agency response efforts and also circulate early warning information at the community level.

Yet, continuous structural obstacles limited the full potential of these platforms. In this regard, rural communities' access is limited due to digital illiteracy, inadequate internet infrastructure and high data charges. According to Ouma and Awuor (2021), despite urban areas in the LREB opting for the use of digital communication, rural and marginalised areas still use traditional media, especially community radio and public address systems. The results from the study show that the majority of the respondents consider digital platforms effective for risk communication. Still, equitable access and intentional integration of offline channels are necessary for inclusive and community-based DRR strategies like those in Nandi and Busia Counties.

**Use of Hotlines in Disaster Risk Communications**

Table 1 results show that the majority of respondents 37 per cent agreed that hotlines exist and are always used before, during and after disasters for risk communication. A further 31 per cent of respondents strongly agreed, 9 per cent were neutral, 15 per cent disagreed, while a minority of 8 per cent strongly disagreed that hotlines are commonly used for disaster risk communication in the Lake Region bloc of Kenya. The study indicates that although hotlines are quite widely accepted as useful tools, their specific utility is not yet widely and effectively used by the studied populations.

Past studies showed a similar trend where citizens believe volunteer emergency hotlines are important and their views depend on awareness, accessibility and reliability (Kiptum et al., 2023; Mukuna, 2015). Due to the imperfect nature of service delivery and communication, especially in disaster areas, respondents exhibited partial scepticism.

Effectiveness of the exchange of information in disaster-prone areas.

Study findings show that in Kenya and parts of Africa, hotlines work best if part of integrated risk communication systems that use various channels. This corresponds closely with evidence that the Kenya Red Cross Society Toll-free Number (1199) and the Ministry of Health 719 hotline were mostly used during the COVID-19 pandemic. The study found that they were mostly effective with bulk SMS alerts, community radio messages and county-based briefings, which created redundancy and wider reach (KRCS, 2023). In Sierra Leone, 117 was used for information on the Ebola hotline, which shows the potential for two-way communication for quick surveillance, but the efficacy depended on the degree of trust-building as well as community outreach (Alpren et al., 2017). Thus, while the positive findings here suggest a valued role for hotlines, the literature makes clear that they are most effective when paired with other communication technologies and trusted intermediaries.

Still, the share of respondents who were neutral/disagreed shows the presence of systemic barriers to using hotlines. Infrastructure challenges like unstable mobile networks, congestion of lines, and a shortage of multilingual operators continue to limit reliability (Jalloh et al., 2021). In regions like Budalang'i in Kenya, Mukuna (2015) noted that households relied on community radio stations, like Bulala FM, and local leadership to interpret early warning messages, as the hotlines do not work properly or provide the local message. This suggests that, while hotlines exist, their perceived reliability and inclusiveness vary a lot, pointing to persistent gaps in last-mile connectivity and communication. According to Roberts et al. (2022), the findings illustrate a larger critique of Africa's disaster communication systems, which suffer from over-dependence on formal systems in the absence of community reinforcement.

The study aims at three critical areas to strengthen hotline-based disaster risk communications. Integrating hotlines with impact-based forecasting as well as proactive SMS or voice alerts to increase salience and timeliness (Kiptum et al., 2023; WMO, 2021). Secondly, embedding clear feedback mechanisms and service standards can build public trust and help convert neutrality into positive engagement (UNDRR, 2025). We would ensure that hotlines not only provide information but also build trust, inclusiveness and responsiveness in times of crisis.

Ultimately, these findings were backed by a sentiment expressed by a key informant from the Kisumu County Directorate of Disaster Management. She said,
"By working with community media in Kisumu, Busia and Nandi hotline advice will speak directly to people's local realities while at the same time reaching a larger audience. Once these gaps are filled, disaster communication systems can better respond to the Sendai Framework's demand for early warning and response systems that put people at the centre helping hotlines become a tool that communities trust and use more confidently."

**Use of Public Forums in Disaster Risk Communications**

As shown in the results in Table 1, the majority of the respondents 30 per cent) agreed, 25per cent were neutral, 20 per cent disagreed, 13 per cent strongly agreed, while 12 strongly disagreed that disaster risk communications were done in public forums on the pending disasters and on how to manage them in the Lake Region Economic Bloc of Kenya. The effectiveness of disaster communication is related to the channels used in disseminating information, according to Ngigi et al. (2022). Public forums are still a recognised medium, but their reach and reliability vary. This reflects national evidence that access to and trust in sources of information vary according to community context. (Kenya Red Cross Society [KRCS], 2020). Differences in risk communication are not uncommon, especially in fora and meetings that lack strong, clear messages and inclusiveness.

According to Wycliffe and Ndirangu (2022), barazas, which are public community meetings, are a form of public forum in Kenya. The importance of such public forums lies in their participatory governance and grassroots dialogues.

The Lake Region Economic Bloc "barazas" is an engagement platform where citizens not only receive official information, but also share local knowledge. According to the study, collective preparedness has

strengthened against floods, disease outbreaks, fires, and road accidents through this exchange. As per Omanga (2015), if modern tools, for example, SMS alerts, are not included, then such forums will have a lesser impact, as not everyone will attend and attendance is sporadic.

This extension may help explain the regulated neutrality revealed in the data. Although community meetings by the administrative officers do occur and serve important purposes, they may not always reach or resonate with every segment of the community. In line with this, the focus group discussion participants indicated that public "barazas" convened by chiefs and assistant chiefs were key in accessing information relevant to disasters.

One participant in an FGD that brought together KRCS and social workers' staff that was conducted in Budalangi in Busia County stated that;

> *Various people of the community wait for us in barazas to tell them about floods and the programs that we have to help them in case their houses and farms are affected. Although we also frequently receive such communications from WhatsApp groups that we share with other responders within this county and others. This has greatly helped in trying to inform our people.*

According to Mbewe (2023), the communities around Lake Victoria have continued to experience recurrent flooding and disease outbreaks due to the use of the wrong and loose communication. The study found that, similarly within the Lake Region Economic Bloc (LREB), Beach Management Units (BMUs) in many instances acted as important conveners of fishermen through "baraza" fora. Obiero et al. (2015) warned that weak co-management arrangements often undermined the effectiveness of these participatory structures. As a result, in flood-prone settings, something was found useful in functioning to the extent that it gave comprehensive, broad-based messages, as opposed to a flood stand-by at the level of specific actionable triggers like river-level thresholds. Because of a lack of such precision, audience disengagement thus often results. This is evident from the 25 per cent neutrality and 32 per cent disagreement in the survey results (WMO, 2021).

In a related study, the Kenya Red Cross Society (KRCS, 2020) established that, when paired with targeted digital tools like the TERA SMS platform, public fora have a greater reach and are timelier in the dissemination of information about disaster risk and management. While Kenya's early warning policy still considers public forums as important spaces for local dialogue, their design should change so that they become more inclusive, gender-responsive, and ICT innovation-inclusive (Adem et al., 2017). As a result, the results indicated that disaster risk practitioners in LREB should not just rely on physical meetings but should locate their exchange within a hybrid communication framework leveraging radio communications, SMS and digital alert systems for more effective community engagement in Disaster risk communication management.

**Existence of Multi-Agency Frameworks for Disaster Risk Communications**

According to Table 1, most respondents (35%) agreed, 3 per cent were neutral, 42 per cent strongly agreed, 15 per cent disagreed, while 5 per cent strongly disagreed that there is a multi-agency framework for disaster risk communication in the Lake Region Economic Bloc of Kenya. The findings revealed that the county governments in the Lake Region Economic Bloc (LREB) often collaborate with agencies such as the Kenya Red Cross, St. John Ambulance, public health departments, and county disaster management committees. The degree to which they are effective varies considerably by county. Inter-agency cooperation in Kisumu and Busia is relatively strong; in Nandi counties, there are weak or less noticeable coordination mechanisms. Many people may liken these collective efforts to a 'much ado about nothing kind of situation', hence neutral responses.

The empirical evidence on Kenya's devolved disaster governance backs the study's dominant viewpoint. In light of the above, a multi-agency framework for disaster risk communication exists within the LREB. According to Murumba et al. (2022), in the county disaster management system, which has been enhanced by the national coordination structures, there is a layered institutional framework within which agencies jointly manage the communication channels, mostly barazas and county forums. This shows that it

was rightly anticipated by respondents, as evidenced by 77 per cent agreement recorded in this study: 35 per cent agree; 42 per cent strongly agree. In a similar way, Omanga (2015) notes that in Kisumu, involving local administrators, health officers, and NGOs in public exercises has enhanced community confidence in the early warning messages, especially during floods. In Nandi, the Government Climate Change Unit conducts participatory climate risk assessment, which has institutionalised cross-sector dialogue which reflects the perception of the respondents against the existing framework (County Government of Nandi, 2023).

However, other studies have pointed out enduring shortcomings that contradict this optimism. Menya et al. (2016) studied the fire disaster response in Nairobi. The study shows that, despite legal requirements for coordination frameworks, restrained communication and lack of inter-agency drills undermine the efficiency of operations. The study finds that, based on the findings, most frameworks often stayed normative rather than functional, so 20 per cent of the respondents disagreed and 3 per cent remained neutral in this study. Likewise, ICHA and KRCS (2025) noted that during the 2020 floods in western Kenya, different agencies issued uncoordinated messages and alerts, which ended up being more confusing than clarifying. The existence of frameworks does not necessarily imply that practices are effective or communities are more informed.

Information sourced from the Kenya Red Cross Society (2020) indicated that the multi-agency approach during floods in Busia facilitated better coordination of evacuation messages with the county government. However, a review conducted by UN Women and the Republic of Kenya (2022) found that gender equity and inclusivity were often sidelined, which limited the inclusiveness and overall suitability of risk communication. The notable duality characterising Scottish respondents holds true for 3 per cent of neutral respondents. Kisumu's Disaster Management Act (2015) provides a strong regulatory framework for coordinating disaster response in the event of a crisis. However, while the regulatory framework assists in reducing disaster risk, Omanga (2015) cautions that unless concerted efforts are taken to become inclusive in risk governance, that governance will continue to be an elite activity, while residents who live in disaster-prone areas will remain uninformed.

**Emergency Operation Centres for Disaster Risk Communications**

In Table 1, results show that emergency operation centres for disaster risk communications in the Lake region economic bloc of Kenya had 10 per cent of respondents who strongly disagreed, 20 per cent disagreed, 5 per cent neutral, 30 per cent Agreed, and an additional 35 per cent strongly agreed. The discovery of these findings shows that the creation of Emergency Operations Centres (EOCs) is limited in the region. Kisumu and Busia Counties had functional EOCs; the rest of the Counties were still at the stage of either setup or operationalisation. The 5 per cent of participants who selected the neutral option may have suggested not being sure whether the EOCs are functional or not.

As per the National Disaster Risk Mitigation Strategy of Kenya, EOCs are meant to serve as the backbone for coordinated risk communication during an incident (Government of Kenya, 2025). The study reveals that 65 per cent agree EOCs played an effective role (30% agree and 35% strongly agree), with a neutral response of 5 per cent. The indication in this pattern was that although many people find EOC's important and effective, there is still a section of the population who do not. The neutral responses indicate that people are not seeing EOCs on the ground, even though they exist elsewhere. This is something often witnessed in devolved governance systems (Murumba et al., 2022). Likewise, the 30 per cent who disagreed on the one end (20% disagreed, 10% strongly disagreed) cited ongoing structural weaknesses, possibly due to underfunding, poor outreach, and weak county-level coordination.

Earlier studies showed that EOCs in Kenya and the East African region often suffer from visibility and accessibility at the community level (Rono, 2018). A study conducted in Kisumu County shows that while an EOC exists to monitor flooding and cholera outbreaks, many residents are unaware of its Outputs. This finding is consistent with the neutral responses in this study (Opondo et al., 2026). Likewise, during the floods of 2020, the Kenya Red Cross assessments noted that, while EOCs did allow for more efficient

coordination between the different agencies responding, the communication that was sent out to the communities became sidetracked in SMS and radio alerts, which were more visible (Kenya Red Cross Society, 2020). According to broader scholarly arguments, these EOCs will function effectively but are not widely recognised as the key minimal source of natural disaster information (WMO, 2021).

Some studies provided a more optimistic picture. At the onset of the pandemic, both national EOCs and county-level EOCs in Kenya took a very prominent role in coordinating health messages and issuing guidelines on prevention that greatly improved public awareness (WHO, 2021). Recent assessments conducted in Kisumu and Busia Counties in 2023 have noted that communities view the EOCs as credible and reliable sources of information on flooding and disease outbreaks. This is in contrast to the perception of low visibility suggested by current findings (NEMA, 2023). The EOCs of Kenya are also among the most institutionalised and better resourced in East Africa, according to comparative analyses. It indicates that they may not have recognised their work, not that they are actually underperforming (Yore et al., 2023).

**Use of Posters in Disaster Risk Communications**

Table one shows that, among respondents, 5 per cent strongly disagree, 10 per cent disagree, 2 per cent are neutral, 40 per cent agree, while 43 per cent strongly agree that posters have been commonly used effectively to communicate disaster risk in the Lake Region Economic Bloc of Kenya by authorities. In other words, 83 per cent agree, 15 per cent disagree, while 2 per cent are neutral when it comes to using posters in disaster risk communications regionally. The outcome indicates that posters have effectively turned into a routine way of publishing disaster information. Around two per cent of those polled chose to remain neutral, and a further 15 per cent had a contrary opinion, which seems likely to vary according to type of incident, location or resources available. Deeply embedded as a practice across the community, though, overall.

IFRC (2011) says posters are among the classic visual tools still used by many people in Africa to communicate risk. As reported by Nhamo and Muchuru (2019), posters serve a vital function at the intersection of literacy levels and community mobilisation. Posters form a visual, permanent reminder at the start of campaigns. They help reinforce the oral and broadcast messages on disasters, which form part of the large agreement found in this study. Posters displayed in Kisumu's market, bus station and chiefs' camps raised awareness on cholera prevention and flood preparedness (Okaka & Odhiambo, 2018). Near the conclusion of such interventions, posters contributed to promoting protective behaviour, especially when used alongside baraza meetings and radio announcements (Omanga, 2015). On the whole, posters are still regarded as a useful tool for disaster risk communication.

According to Manyena (2014), posters alone may not be enough, especially during instances of rapid change and the need for information. For example, flooding poster campaigns in Busia County often reached fishing communities late because community members relied more on word of mouth and mobile phone alerts (Wachira and Cumiskey, 2022). These limitations, due to their inflexibility, ease of damage, and inability to reach non-literate fellas, explain why a few respondents challenged their efficacy. On the basis of the findings, the need for more active digital and oral communication besides posters is imperative to ensure disaster messages are timely and inclusive.

The views of social workers and Kenya Red Cross volunteers in an FGD done in Kisumu County corroborated the findings. It was pointed out that posters are susceptible to damage during the rainy season and that they are ineffective for risk communication, as they fail to reach the majority of the audience. As one participant said,

"Although posters can help, they are only useful during good seasons. I remember those we patched on posts and trees during CORONA, and the next day they all disappeared. Clearly, that message reached too few through those."

The disaster risk governance framework which the Ministry of Interior and National Administration of Kenya (2025) has specified states that communicating effectively on risks requires more than one mode of communication. To encourage re-use, these posters should be part of a complete awareness campaign

that includes community barazas, radio, SMS and social media. Combining approaches overcomes the limitations one has and improves the effectiveness of the individual ones. Nhamo and Muchuru (2019) observe that posters are most effective when designed through participatory approaches that ensure cultural suitability, translation into local languages, and installation at high-traffic public places.

## CONCLUSION AND RECOMMENDATIONS

**Conclusion:** In conclusion, the study sought to assess the disaster risk communication strategies, and it found that while there existed formal communication structures through channels including media, posters, multi-agency coordination, hotlines, and the emergency operation centre, the strategies were largely top-down and reactive.

**Recommendation:** Enhancing prior and active public engagement, cultivating trust, and designing more inclusive spaces for dialogue could significantly improve the effectiveness and responsiveness of disaster risk communication in the Lake Region Economic Bloc of Kenya.

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