



Research Article

Uganda People's Defence Forces Roles in Disaster Management

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Abstract

This study examines the role of Uganda People's Defence Forces (UPDF) in disaster management and response. The study is necessary to address gaps in national government crisis and disaster response and coordination mechanisms. The specific objectives were to examine types, causes, and impacts of disasters in Uganda, assess role of UPDF and identify strategies for strengthening national crises response mechanisms by government. The research adopted mixed methods approaches, utilizing both qualitative and quantitative methods. The study using Yamane sample size formula, applied stratified simple sampling to identify 384 respondents from 5 million target population frequently affected by disasters in Uganda. The study areas were West Nile sub-region, (drought and refugee influx), Bududa District (landslides), and Kasese District (flooding of River Nyamwamba). Data was quantitatively analysed using SPSS through nonparametric descriptive statistics generating tables, pie-charts, and bar graphs. The study found that floods and droughts are the most prevalent disasters in Uganda, largely driven by climate variability, deforestation, unplanned urbanization, population pressure and weak institutional policies. The study recommends strengthening Office of the Prime Minister, Disaster Preparedness and Management and UPDF response capabilities with specialised surveillance infrastructure, equipment, training of technical personnel, acquisition of early warning AI driven technology and sufficient budgetary allocations for proactive planning, responses, control and management. Civil-Military coordination with humanitarian agencies for efficiency and effectiveness. The Uganda government should also establish permanent communication channels in areas prone to disasters for flowless communication, reporting, coordination, response and management as part of overall national development, defence and security strategy.

Keywords

Civil Military Relations, Disaster Response, National Crises, Securitization, Uganda People Defence Forces

1. Introduction

Uganda continues to experience frequent and complex disasters [3-8, 80]. These phenomenon's includes political violence, large scale human displacements and natural hazards such as floods, landslides, droughts, and disease outbreaks, as

well as human-made industrial disasters such as technological and chemical accidents and large scale refugee influxes from neighboring conflict affected countries [18, 26-30, 44, 77].

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Disasters, whether natural or human-made have become increasingly complex, exposing the limitations of civilian institutions and compelling governments worldwide to rely on military resources for rapid response [9-13, 56, 89]. Uganda sitting on the rift valley basin is often prone to disasters; Bududa District, the eastern part of Uganda prone to recurring landslides due to heavy rains and fragile soils [26, 29, 30, 35, 79, 80]. Similarly, Lake Kyoga basin and surrounding lowlands are prone to flooding. Seasonal floods, which have intensified due to climate change, have displaced thousands of people and destroyed critical infrastructure such as roads and schools [18, 44, 62, 77, 78].

Militaries possess organizational advantages, including disciplined manpower, airlift and engineering capacity, and nationwide deployment networks, making them indispensable in emergencies [9, 10, 14, 16, 17]. Globally, the involvement of armed forces in disaster response has shifted from being an occasional intervention to an institutionalized role embedded within national disaster management frameworks [16, 17, 20, 22, 23]. Since 2017, case studies across continents have shown how the military's role in disaster response reflects broader questions of governance, civil-military relations, and state legitimacy [12, 38, 74-76].

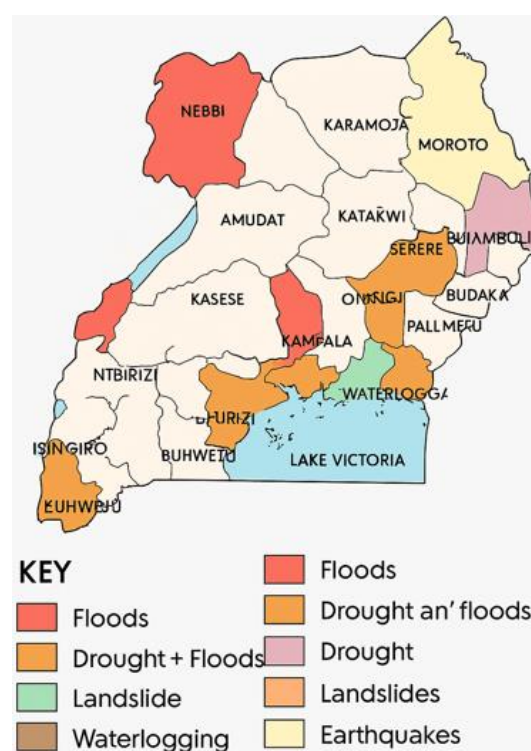
Regionally, African militaries have become central actors in disaster management, primarily because of their superior logistical capacity, mobility, and ability to mobilize personnel rapidly. In Kenya, for instance, the Kenya Defence Forces (KDF) have been pivotal in responding to climate-induced disasters, particularly floods and droughts [4, 11, 65]. During the 2020 and 2023 heavy rains that caused large-scale flooding across western and coastal Kenya, KDF units were deployed to evacuate civilians, reinforce collapsing riverbanks, and distribute food aid to affected populations [3, 4, 11, 64]. Their interventions not only saved lives but also highlighted how militaries are increasingly supplementing civilian institutions that often struggle with inadequate resources. This reflects a broader pattern across Africa, where climate change has intensified the frequency and severity of disasters, thereby demanding military engagement as a key component of national disaster preparedness [35, 37, 40, 43-45, 49, 50, 81].

On average around 50,000 people are affected by floods each year with economic losses estimated at USD 62 million every year [31-34, 48, 77-79]. Droughts have also been very devastating on livelihood and agricultural productivity. Droughts afflicted approximately 2.4 million people between 2014 and 2019 with droughts and COVID causing losses to the tune of USD 1.2 billion in the year 2020 estimated at 7.5% of GDP [6, 46-48, 60-64]. Against this backdrop, the study examines multifaceted role of UPDF response to natural disasters, landslides, floods, drought, fire, large scale accidents, refugee crises and public health emergencies and coordination of civil-military relations and long-term national resilience programmes [5, 31-33, 42, 43, 66, 67, 84]. Ultimately, this research study seeks to contribute to broader debates on the militarization of disaster management in Africa, offering policy

recommendations on how Uganda and other security institutions can strengthen national security during crises and emergencies while safeguard democratic civilian governance in Africa.

2. Materials and Methods

The research adopted mixed methods applying both qualitative and quantitative data approaches in collection and analysis of research data. Secondary data plays critical role as the primary literature which consists of academic and research reports from sectoral discipline scholars and civil society agencies. Survey qualitative data was collected from field respondents. The target population was 5, 000, 000 people from five districts of Bududa, Kasese, Bulambuli, Kampala, Gulu and Karamoja regions often affected by disasters in Uganda as illustrated in Figure 1 below:



Source: Research, 2026

Figure 1. Map of Disaster Prone Districts in Uganda.

Simple random stratified sample of 381 respondents was determined using Yamane (1967) formula [41, 73]. Data was analysed using descriptive statistics on SPSS software. The study complied with academic and social research ethics as authorised by National Commission for Science, Technology and Innovation in Kenya (NACOSTI). Respondents were voluntarily sought and the research complied with non-disclosure of respondent identities except for those who expressed interest in research findings and policy recommendations. Pilot

survey involving 10 respondents were conducted in Jinja District for the purpose of validating the research questionnaire and field tools.

The study was analysed through the lenses of Systems Theory by Ludwig von Bertalanffy [38, 41, 73]. The theory perceives organizations, institutions, processes and decision making as network interdependent subsystems, the effectiveness of which relies on coordination, exchange of information and integration. UPDF is an important security institution and subsystem critical not only in national security but stability in governance, societal cohesion and resilience of national economy to accommodate economic shocks and turbulences caused by disruptive emergencies [7, 8, 51, 57-59]. This system's perspective of assessing phenomenon is important for appreciation by UPDF because it enhances stakeholder integration facilitating quick deployment, engineering support, logistics, medical provision, and command-and-control capability of the military stakeholders. The UPDF improves information and resource flow, especially during disasters like floods, landslides, or epidemics to enable the civilian and humanitarian systems to work more in unison [2, 24, 25, 36, 52-

54].

3. Results and Discussion

The study presents the following results and discussion.

3.1. Respondent Rate

The study issued 381 structured questionnaires to the field containing both fixed and open questions for the four study objectives. The questionnaire had five major sections comprising demographic data, types, causes and impacts of disasters, UPDF responses and strategies to improve overall disaster management in Uganda. The research received back a total of 261 questionnaires representing 68.5% out of which 253 were found valid for processing and analysis representing 66.4% response rate. According to Mugenda and Mugenda [41], response rate above 50% is considered sufficient and valid for analysis, interpretation and inference in social science.

Table 1. Questionnaire Response Rate.

Sno	Category	Frequency	Percentage (%)
1	Pilot Questionnaires	10	100
2	Distributed Questionnaires	381	100
3	Questionnaires Returned	261	68.5
4	Questionnaires Not Returned	128	33.6
5	Cleaned & Valid Questionnaires	253	66.4

Source: Research, 2026

3.2. Demographic Characteristics of Respondents

The respondents' demographics are presented as follows:

3.2.1. Gender Distribution

The findings on respondents' gender distribution are as displayed below.

Table 2. Gender Distribution.

	Frequency	Percentage%
Male	159	62.8
Women	94	37.2

	Frequency	Percentage%
Total	253	100.0

Source: Research, 2026

Among the 253 respondents 62.8% were men while 37.2% were women. The response rate was male dominated. The higher participation of men is linked to social and cultural factors of communities in Uganda. The study finds this generally representative, credible and sufficient to cover gender roles without affecting the aim and objectives of the study.

3.2.2. Respondents Age

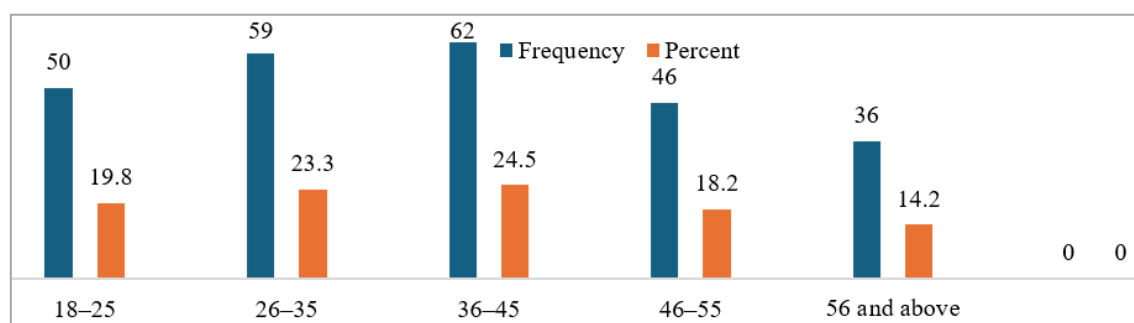
The findings on respondents' age distribution are as displayed below.

Table 3. Respondents Age.

Age	Frequency	Percentage%
18-25	50	19.8
26-35	59	23.3
36-45	62	24.5

Age	Frequency	Percentage%
46-55	46	18.2
56 and above	36	14.2
Total	253	100.0

Source: Research, 2026



Source: Research, 2026

Figure 2. Respondents Age.

Figure 2 indicates that respondents ages were evenly distributed with ages 26-45 years reporting higher response rate at 23.3% and 24.5% respectively. The study considers this even age distribution as sufficient and credible enough for measuring varied opinion across all ages as experienced by the impacts of disasters and government responses.

3.2.3. Education Level

The findings on respondents' Education level distribution are as displayed below.

Table 4. Education level.

Education	Frequency	Percentage%
Primary	26	10.3
Secondary	62	24.5
Tertiary	78	30.8
University	87	34.4
Total	253	100.0

Source: Research, 2026

The results from Table 4 show that majority of respondents attended higher education. The study finds this high level of education extremely satisfactory for meeting the objectives set.

The respondents have higher mental acuity and experience to make responsive judgement on the impacts of natural disasters in Uganda and deliver better assessment on UPDF and government responses during emergencies and crisis periods.

3.2.4. Respondent's Work Category

The findings on respondents' work category distribution are as displayed below.

Table 5. Respondent's work category.

Category of respondents	Frequency	Percentage%
Government	40	16
UPDF	35	14
Community	164	65
humanitarian organizations	13	5
Total	253	100.0

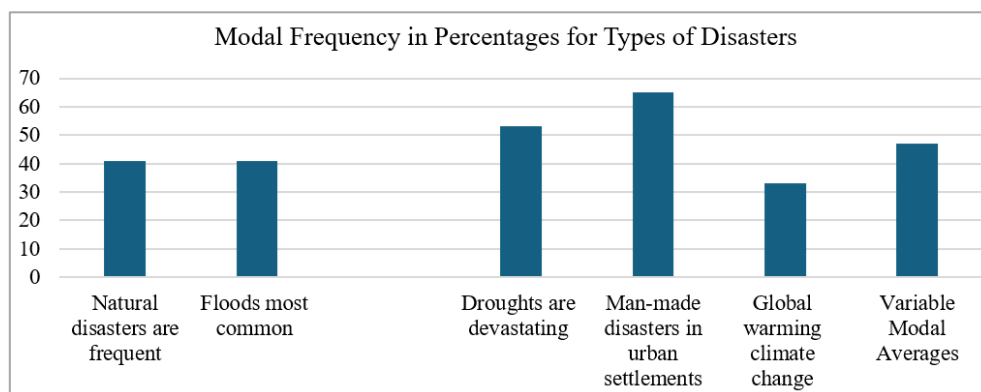
Source: Research, 2026

Table 5 indicates that majority of respondents were drawn from the community and the least consisted of the humanitarian agencies. The study finds the response rate extremely responsive to the research objectives. The civilian population is

best placed to assess and evaluate government responses during disaster and emergency situations. The composition of respondents will give a better performance evaluation of UPDF.

3.3. Types, Causes, and Impacts of Disasters in Uganda

The results and analysis of responses on types, causes and impacts of disasters in Uganda are summarized below:



Source: Research, 2026

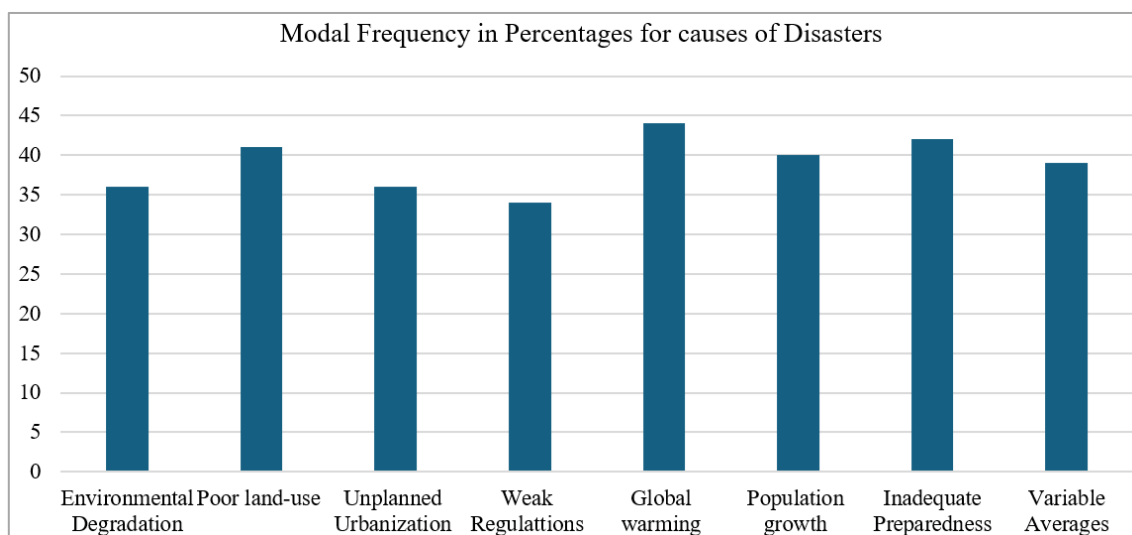
Figure 3. Types of Disasters.

The results in Figure 3 provide summary of responses from data analysis. The respondents identified frequent natural disasters, floods, drought, man-made disasters and climate change as prevalent in Uganda. This finding corroborates similar research conducted by [9, 36, 53-55], which established that floods and droughts disrupted livelihoods in Uganda costing the government over 2% of national GDP in emergency response and infrastructure restoration. This implies that UPDF must remain seized of these perennial challenges and

remain proactive in disaster preparedness, training, capacity development and acquisition of critical disaster response equipment and early warning systems for effective response and management.

3.3.1. Causes of Disasters

The results and analysis of responses on causes of disasters in Uganda are summarized below:



Source: Research, 2026

Figure 4. Causes of Disasters.

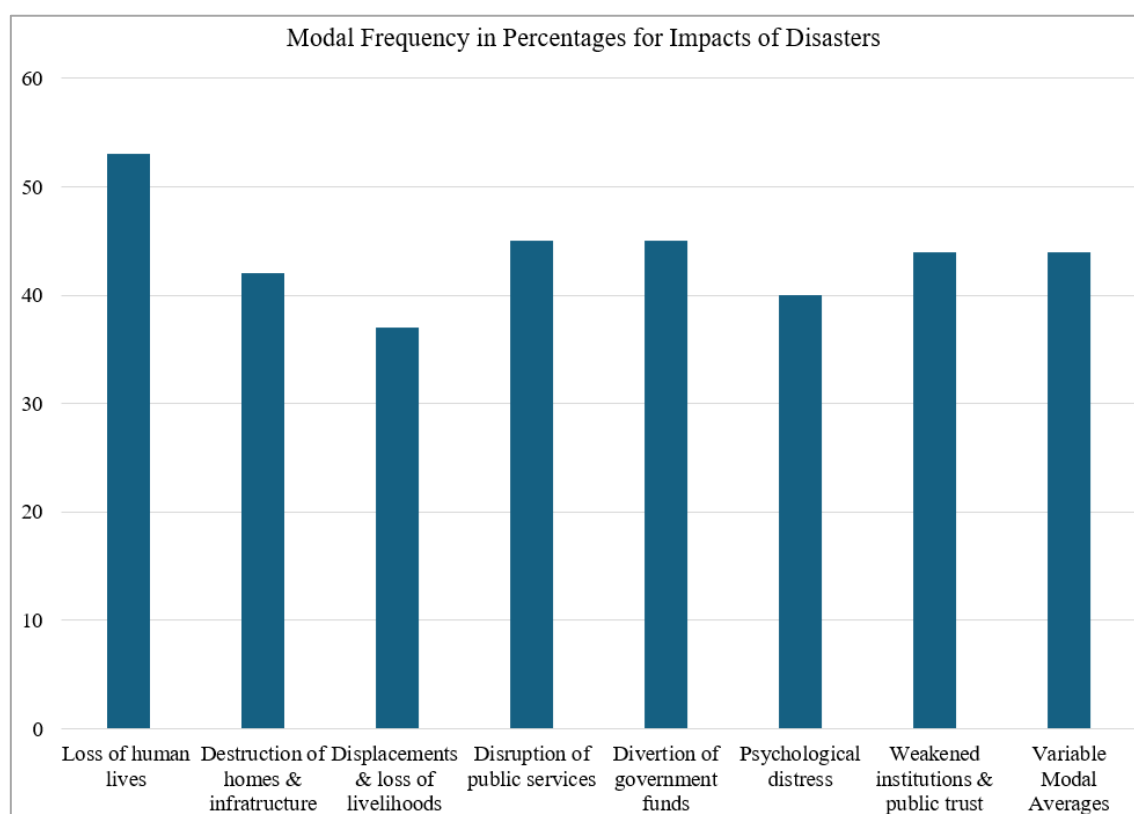
Figure 4 provides summary of responses from data analysis. The respondents identified several causes of disasters in

Uganda. They identified environmental degradation arising from deforestation on mountain slopes, this increased prevalent for floods and landslides. They also reported that unplanned urbanization and poor environmental law enforcement interfered with natural water ways and natural geographic storm drainage. Population growth and encroachment on wetlands increased vulnerability to natural disasters. The study observes that climate change and global warming, coupled by poor institutional coordination and inadequate national preparedness, have hampered government responses to disaster emergencies. This finding corroborates similar research conducted by World Weather Attribution and other hu-

manitarian and relief agencies [39, 53-55, 81, 84], which observed that population growth had led migrations into wetlands. The study finds these weaknesses and omissions necessitating policy reviews on demographic management, environmental laws, urbanizations and enforcement mechanisms within government institutions. These critical areas can be fast tracked by UPDF and the Office of the Prime Minister in whole government approaches.

3.3.2. Impact of Disasters

The results and analysis of responses on impacts of disasters in Uganda are summarized below:



Source: Research, 2026

Figure 5. Impacts of Disasters.

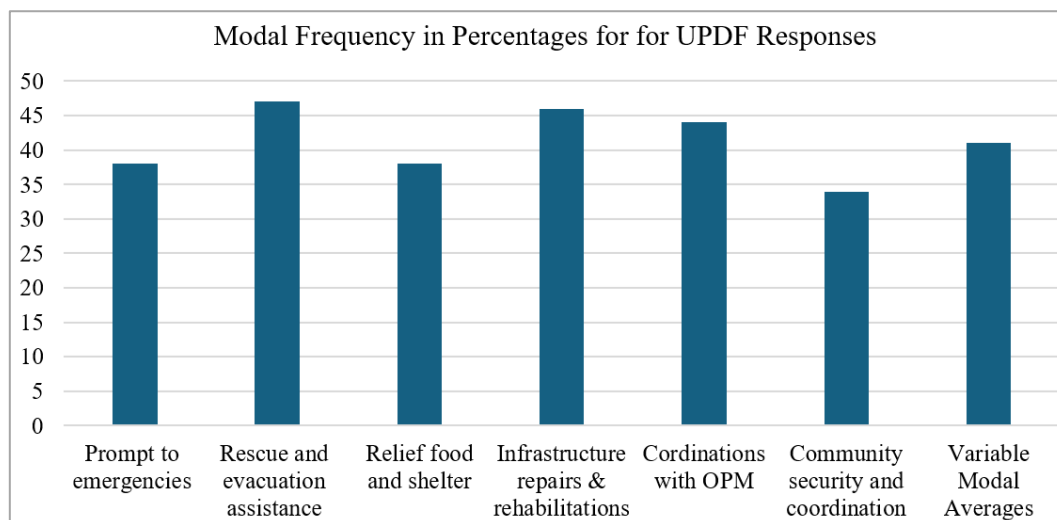
The results in Figure 5 provide summary from data analysis. The respondents identified several devastating impacts of disasters in Uganda. They identified loss of lives, livestock, destruction of homes, livelihoods and public facilities such as schools and medical hospitals, roads and bridges. The emergencies also cause psychological trauma and stress disorders, anxiety and depression. The disasters also cause strain on public resources by diverting funds for national development onto relief emergencies. Respondents also reported that weak institutional delay disasters response and prolong community recovery and resilience. Some of these findings corroborate

study reports by United Nations Office for Disaster Risk Reduction and other international relief agencies [15, 66, 68-72, 82, 83], which observed that disasters in developing countries cause massive destruction to national infrastructure with drain to budgetary finances. The study finds that these devastating impacts are cause of concern necessitating government to review several policies on disaster preparedness, early warning, response, long term planning and community collaborations.

3.4. UPDF Responses to Disasters

The results and analysis of responses on response strategies

to disaster management in Uganda are summarized below:



Source: Research, 2026

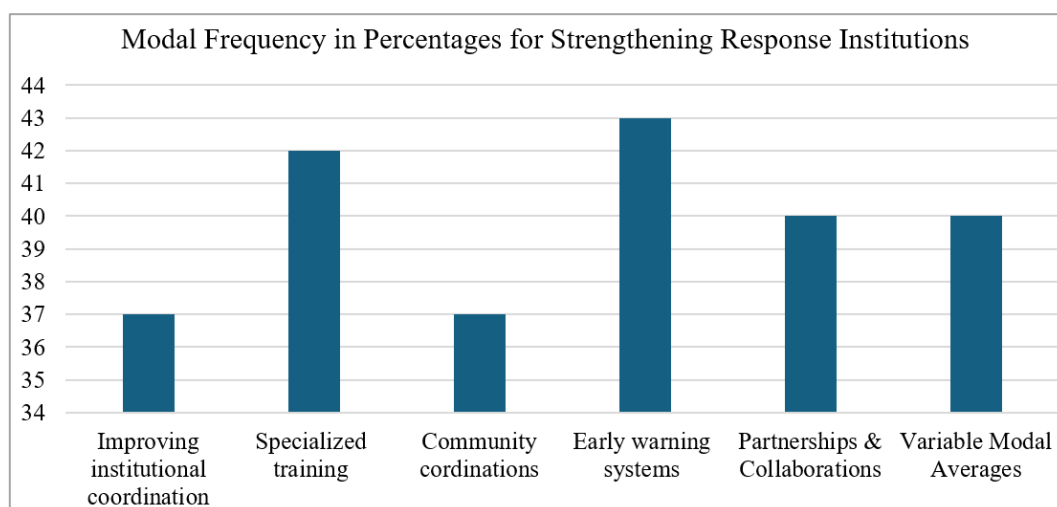
Figure 6. *UPDF Responses to Disasters.*

The results in [Figure 6](#) provide summary of responses from data analysis. The respondents indicate varied responses from UPDF to national emergencies and disasters. The force responds promptly in collaboration with the office of the prime minister and other humanitarian agencies, provides security, coordinates rescues and evacuations to affected populations and provides limited engineering support in infrastructure repairs and rehabilitations. The findings relate to various studies [21, 39, 46-50, 77], which examined humanitarian coordination and support to government agencies. The study observes that military institutions are national insurance and play critical role during state emergencies and disasters. This requires

proactive military contingency plans, necessary capabilities and well-rehearsed response drills with key stakeholders. This has the potential to minimise loss of life, disruption of public services and loss of public trust.

3.5. Strengthening Disaster Response Institutions

The results and analysis of responses on strengthening disaster response institutions in Uganda are summarized below:



Source: Research, 2026

Figure 7. *Strengthening Disaster Response Institutions.*

The results in [Figure 7](#) provide summary of responses from data analysis. The respondents identified several mechanisms for strengthening disaster management agencies coordinated by the office of the prime minister. The respondents identified higher preferences for early warning mechanisms and training of critical skills for first respondents. Respondents further identified need for advanced planning, coordination and training of disaster management teams. Respondents further proposed permanent national structures with clear roles and responsibilities in crisis management. These proposals closely relate to other studies [[1](#), [19](#), [21](#), [39](#), [56](#), [81](#), [85-88](#)], which recommended strengthening government emergency and Crises management institutions. The study notes that military and security institutions have constitutional responsibility to defend the nation against all forms of national security threats. There is necessity for the security agencies to have planned and rehearsed contingency plans for effective response to emergencies and national disasters.

4. Conclusion

The research examines role of Uganda People's Defence Force (UPDF) in disaster management and response in collaboration with the Office of the Prime Minister, Disaster Preparedness and Management. The study was carried out in West Nile sub-region common with drought and refugee influx, Bududa District common with landslides and Kasese District common with flooding of River Nyamwamba. The study found that floods and droughts are the most prevalent disaster phenomenon in Uganda, largely driven by climate variability, deforestation, unplanned urbanization, population pressure and weak institutional coordination and enforcement. The study recommends restructuring the Office of the Prime Minister, Disaster Preparedness and Management and UPDF military response capabilities and subsequently equipping these institutions with specialised equipment, better technical training of disaster response personnel, acquisition of advanced early warning AI technologies and sufficient government budgetary allocations for proactive planning and effective responses to national disasters. Civil-Military coordination with humanitarian agencies for resource rationalization and seamless monitoring, control, responses and management of national crises. The military should also establish permanent communication channels with the populations that inhabit disaster prone geographies for continuous monitoring, control, communication, coordination, response and management of national emergencies, disasters and calamities in strengthening national development, defence and security policies.

Abbreviations

CIMIC	Civil Military Cooperation
COVID-19	Corona Virus Disease
DRU	Disaster Response Unit
GDP	Gross Domestic Product
KDF	Kenya Defence Forces
NACOSTI	National Commission for Science & Technology
NDUK	National Defence University-Kenya
UPDF	Uganda Peoples Defence Forces
USD	United States Dollars

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Author Contributions

Colonel Kenneth Shillingi: Conceptualization, Formal Analysis, Investigation, Resources, Writing – original draft

Colonel Otieno Godfred Ohndyl: Data curation, Methodology, Project administration, Software, Supervision, Validation, Visualization, Writing – review & editing

Conflicts of Interest

The authors declare no conflict of interest.

Appendix: Linkert Scale Results

Appendix I: Types, Causes, and Impacts of Disasters in Uganda

Respondents were requested to indicate their level of agreement with the following statements.

Scale: 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

Table 6. *Types of Disasters.*

Types of Disasters	1	2	3	4	5	N	Mode%
Natural disasters such as floods, landslides, droughts, and earthquakes frequently occur in my area.	28	14	32	103	76	253	$103/253*100=40.71\%$ (Agree)
Floods are the most common and destructive natural disasters affecting lives, property, and livelihoods in Uganda.	19	31	35	104	64	253	$104/253*100=41.11\%$ (Agree)
Droughts frequently lead to crop failure, food shortages, and livestock deaths in my community.	32	40	33	134	14	253	$134/253*100=52.96\%$ (Agree)
Man-made disasters such as road accidents, industrial explosions, and urban fires are also common.	32	0	45	165	11	253	$165/253*100=65.22\%$ (Agree)
Climate change has increased the frequency and intensity of floods, droughts, and landslides.	25	21	44	84	79	253	$84/253*100=33.20\%$ (Agree)

Table 7. *Causes of Disasters.*

Causes of Disasters	1	2	3	4	5	N	Mode%
Deforestation and environmental degradation have increased the risk of floods and landslides.	26	14	47	91	75	253	$91/253*100=35.96\%$ (Agree)
Poor land-use practices and cultivation on steep slopes make communities more prone to disasters.	21	4	40	104	84	253	$104/253*100=41.11\%$ (Agree)
Rapid and unplanned urbanization has worsened flooding in towns such as Kampala.	30	41	8	83	91	253	$91/253*100=35.96\%$ (strongly Agree)
Weak enforcement of environmental and safety regulations contributes to man-made disasters.	25	27	50	64	87	253	$87/253*100=34.39\%$ (strongly Agree)
Climate variability and global warming have made weather patterns more unpredictable.	19	6	28	90	110	253	$110/253*100=43.48\%$ (strongly Agree)
Population growth and encroachment on wetlands and riverbanks increase disaster vulnerability.	28	12	38	100	75	253	$100/253*100=39.53\%$ (Agree)
Poor institutional coordination and inadequate disaster Preparedness systems worsen disaster impacts.	7	7	40	94	105	253	$105/253*100=41.50\%$ (Agree)

Table 8. *Impacts of Disasters.*

Impacts of Disasters	1	2	3	4	5	N	Mode %
Disasters in my community have destroyed homes, schools, and public infrastructure such as roads and bridges.	7	0	40	100	106	253	$106/253*100=41.90\%$ (strongly Agree)
Disasters often cause displacement and loss of livelihoods among community members.	18	21	58	118	38	253	$118/253*100=46.64\%$ (Agree)
Disasters have led to loss of human lives and livestock, reducing household income and food security.	11	7	43	134	58	253	$134/253*100=52.96\%$ (Agree)
Floods and landslides have disrupted access to healthcare, education, and markets.	0	30	51	94	78	253	$94/253*100=37.15\%$ (Agree)
Disasters have long-term economic impacts by diverting government funds from development to relief operations.	7	0	33	114	99	253	$114/253*100=45.06\%$ (Agree)

Impacts of Disasters	1	2	3	4	5	N	Mode %
People affected by disasters often suffer psychological distress such as trauma, anxiety, and depression.		12	58	83	100	253	100/253*100=39.53% (Strongly Agree)
Institutional weaknesses delay disaster response and prolong community recovery.	18	5	46	72	112	253	112/253*100=44.27% (Strongly Agree)

Appendix II: UPDF Responses to Disasters

Respondents were requested to indicate their level of agreement with the following statements.

Scale: 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

Table 9. UPDF Responses to Disasters.

Statement	1	2	3	4	5	N	Mode%
The UPDF responds promptly to disasters in my community.	7	29	36	86	95	253	95/253*100= 37.53% (Strongly Agree)
UPDF officers have provided rescue and evacuation assistance during emergencies.	21	5	43	118	66	253	Agree 118/253*100= 46.64% (Agree)
The UPDF distributes relief items such as food, shelter, and medical supplies to affected persons.	28	7	35	86	97	253	97/253*100= 38.34% (Strongly Agree)
UPDF engineers assist in rebuilding roads, bridges, and public infrastructure after disasters.	4	4	75	53	117	253	117/253*100= 46.25% (Strongly Agree)
The UPDF works well with the Office of the Prime Minister (OPM) and humanitarian agencies during disaster response.	7	25	51	86	84	253	86/253*100= 33.99% (Agree)
The presence of the UPDF during disasters enhances community security and coordination.	12	15	56	86	84	253	86/253*100= 33.99% (Agree)

Appendix III: Strengthening Disaster Response Institutions

Respondents were requested to indicate their level of agreement with the following statements.

Scale: 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

Table 10. Strategies to Strengthen Disasters Response Institutions.

Statement	1	2	3	4	5	N	Mode%
Disaster response in Uganda can be improved through better coordination among institutions.	14	6	58	93	82	253	93/253*100= 36.76% (Agree)
UPDF officers should receive specialized training in disaster management.	39	25	53	107	29	253	107/253*100= 42.29% (Agree)
Community-based disaster preparedness programs are essential for resilience.	28	0	47	93	85	253	93/253*100= 36.76% (Agree)
The government should establish early warning systems in all high-risk districts.	28	21	6	89	109	253	109/253*100= 43.08% (Strongly Agree)
Partnerships between UPDF, NGOs, and local authorities can enhance effective response.	21	26	49	56	101	253	101/253*100= 39.92% (Strongly Agree)

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Biography



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