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Management**

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Abstract

The study sought to explore information dissemination frameworks that assist pastoralists in the ASAL in drought management. To characterize how knowledge about drought management is disseminated among pastoralists in ASAL, the study used a survey design. The researcher collected information through questionnaires, interviews, and FGDs regarding pastoralists' practices, circumstances, and opinions at a particular point in time. The researcher used qualitative feedback from pastoralists to propose a hybrid framework. The survey results showed that participants generally agreed on the urgent need for policies that enable prompt, efficient responses to drought information. Given that pastoralists have difficulty understanding complex content, few respondents emphasized the need to make communication clearer and simpler for them. The consensus among participants regarding the "urgent need for policies that could enable prompt and efficient responses" indicates that current drought management is perceived as too slow, reactive, or ineffective. There is a clear, widely held demand for institutional frameworks to shift from emergency aid, which often arrives too late, to proactive strategies, such as strengthening early warning systems and improving infrastructure to ensure timely intervention. To effectively address the urgent need for improved drought information-dissemination response policies, it is necessary to establish a comprehensive framework that prioritizes pastoralist involvement and transparent information dissemination for drought management. It is imperative to simplify complex information due to a high level of illiteracy. As indicated by participants, modifying material to pastoralists' practical and cultural needs, including the language used, may further increase involvement.

Keywords: *Information dissemination frameworks, pastoralists, drought management*

1.0 Introduction

Information dissemination serves as a critical link in drought management, transforming early warning data into actionable, timely, and accessible knowledge that reduces vulnerability and enhances community resilience (Otieno, Abade, & Oludhe, 2024). The availability of information is therefore a key pillar of the Government's response to the challenge of drought. This is especially

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true regarding integrated information, which relies on indigenous and modern sources (Mwangi, 2016), because a preference for a particular news source on drought may skew the information. Rai *et al.* (2020) pointed out severe problems in how many County Governments disseminated information about drought to affected communities. The study by Rai *et al.* (2020), therefore, noted that there is a need for the Government to improve their channels of communication as part of the early warning systems that enhance victim preparedness. Manei (2013) highlighted that knowledge and information flows do not occur in one direction but occur in both directions. This involves creating systems that combine formal, research-based data with information generated by the community to produce open news sources for affected communities. Importantly, Manei (2013) also underscored the role of effective communication channels in mitigating the impacts of extreme weather conditions, such as hunger and drought, thereby demonstrating the practical implications of the research.

There have been concerted efforts worldwide to generate substantial information on drought and its impact on affected communities (Zysk *et al.*, 2022). However, little is known about whether high-ranking communities and policymakers are informed and apply the early-warning information generated to avoid drought emergencies. The use of media and food guides for information dissemination is important during drought because it can be used to create nutritional awareness programmes and promote healthier diets (Hussein *et al.*, 2023). It is a crucial process for evaluating whether local communities are receiving the vast yet underutilized knowledge about drought in the ASAL regions. The difficulty in its application, however, highlights the need to thoroughly understand effective channels for sharing knowledge about drought management, as well as the efficacy of the information being disseminated. Effective dissemination is essential since the government frequently uses the media and research findings to inform policy (Laibuni, 2020). Information that is disseminated effectively can close gaps and give affected populations the chance to take preventive action to reduce vulnerabilities and damage.

1.1 Problem Statement

Drought has become a significant threat to human survival. Effective dissemination of drought information among pastoralists is crucial for livelihoods and survival. Despite the importance of timely and accurate drought information, a significant gap exists in effective communication channels between relevant authorities and pastoralists. This communication breakdown hampers pastoralists' ability to adequately prepare and respond to drought events, leading to heightened vulnerability, loss of livelihoods, and food insecurity.

In Garissa County, pastoralism remains the primary source of livelihood; however, the increasing frequency and severity of climate-induced droughts have pushed these communities into a cycle of chronic vulnerability (Aduma, Ngigi, & Shisanya, 2023). Despite the existence of advanced Early Warning Systems (EWS) and drought mitigation frameworks at the national and county levels, there is a significant disconnect in the flow of actionable information to the end-users in Arid and Semi-Arid Lands (ASALs). Pastoralists often rely on traditional forecasting methods, which, while culturally significant, are increasingly inconsistent due to rapid climatic shifts (Aduma *et al.*, 2023). This information gap results in delayed decision-making on livestock destocking, migration patterns, and resource management, ultimately leading to massive livestock losses, food insecurity, and increased communal conflicts over dwindling water and pasture resources.

1.2 Objectives of the Study

To explore information dissemination frameworks that assist pastoralists in the ASAL in drought management.

2.0 Literature Review

2.1 Theoretical Framework

This study was anchored on the Information Interchange Theory (IIT), which was developed from research on citizens' information behaviour and government service delivery across regional, national, and European contexts (Kuhlthau, 1991; Dervin, 1996; Ford, 1973; Wilson, 1981). The theory emphasizes the interaction between information suppliers and information users, focusing on how information is shared, withheld, accessed, and utilized. It highlights the contrasting perspectives of information providers, such as governments and organizations, and information users, who possess diverse contextual needs and varying capacities to process information. IIT emerged in response to limitations in traditional communication theories, which often overlooked the complexities of information exchange in public service and policy environments. The theory is particularly relevant in understanding how information dissemination supports public decision-making and access to essential services.

According to IIT, information users assume different contextual roles and possess varying levels of competence in interpreting and utilizing information. Depending on the urgency and importance of the information sought, users may demonstrate different levels of motivation to become informed. The theory further explains the nature of the interaction between information providers and users through a two-way relationship in which both parties influence the effectiveness of the information exchange process.

IIT recognizes several key functions of information, including holding, delivering, withholding, accessing, and utilizing information. These functions occur within a complex environment in which both providers and users are influenced by their respective contexts, interests, and objectives (Drabek, 2012; Karen et al., 2006). The theory posits that governments serve as primary custodians of public information and are responsible for disseminating information generated through laws, policies, and public programs. Consequently, citizens are expected to access and use such information to make informed decisions. The theory also suggests a positive relationship between access to information and citizens' ability to form opinions and participate effectively in public affairs.

The concept of information holding assumes that governments maintain and manage public information on behalf of citizens. As custodians of this information, governments are expected to ensure equitable access to all individuals who require it. Information withholding, on the other hand, refers to the controlled management of sensitive information to safeguard public interests such as national security. Information delivery involves making information available through appropriate channels, while access refers to how easily citizens can obtain the information they need. Information utilization occurs when available information is applied to achieve specific objectives or solve practical problems.

Ndangani and Katsayal (2015) examined information behaviour in relation to government information services and highlighted the importance of citizen engagement in the information exchange process. Their work demonstrated that citizens are not merely passive recipients of

information but active participants who interpret and use information within their specific social and economic contexts. This perspective is particularly relevant in understanding how pastoralist communities access and utilize government-provided information.

Despite its usefulness, IIT has been criticized for assuming that governments and formal institutions are the primary sources of information while citizens are largely passive consumers (Drabek, 2012; Karen et al., 2006). This assumption overlooks the significant role of informal communication networks, indigenous knowledge systems, and community-based information-sharing mechanisms. Furthermore, the theory assumes that information exchange occurs in a structured and systematic manner. In practice, however, information dissemination in ASAL regions is often affected by logistical constraints, infrastructural challenges, delays, and unequal access to communication channels. The theory also pays limited attention to external factors such as political influences, misinformation, and cultural dynamics that may affect the effectiveness of information dissemination.

Although IIT has been widely applied in studies examining government information dissemination and citizen engagement (Ndangani & Katsayal, 2015), limited research has applied the theory to drought management in ASAL regions. Existing studies have largely focused on government information services in general, without addressing the unique challenges of drought-related communication among pastoralist communities. Moreover, most applications of IIT have been conducted in developed countries characterized by greater access to digital technologies and higher levels of government transparency. In contrast, pastoralists in Kenya's ASAL regions often face significant barriers in accessing government-held drought information and frequently rely on both formal and informal information sources. This study sought to address this gap by applying IIT to examine how drought information is disseminated, the barriers affecting its accessibility, and the strategies pastoralists employ to obtain and utilize such information.

IIT provided an appropriate framework for this study by offering a structured approach to examining the roles of both information providers and information users in drought management. The theory's emphasis on the responsibilities and objectives of each party facilitated an understanding of why critical drought information may fail to reach pastoralist communities effectively. It also underscored the importance of considering both the intentions of information providers and the contextual realities of information users when assessing the effectiveness of information dissemination processes.

The theory further informed the study methodology by guiding the selection of data collection methods that captured the perspectives of both information providers and users. Consistent with the theory's emphasis on interaction between these groups, the study adopted a mixed-methods approach. Qualitative methods, including in-depth interviews and focus group discussions, were used to gather insights from government officials, meteorologists, and representatives of non-governmental organizations regarding drought information dissemination. Interviews and participatory observations with pastoralists provided insight into how drought information was accessed, interpreted, and utilized. Surveys were also employed to assess the effectiveness of different communication channels and the extent to which pastoralists relied on government-provided drought information.

Overall, Information Interchange Theory provided a valuable framework for examining the effectiveness of drought information dissemination among pastoralists in Garissa County. Its focus on the interaction between information providers and information users aligned closely with the

study's objective of assessing access to and utilization of drought-related information. However, the theory's emphasis on government-controlled information systems limits its ability to fully explain the influence of informal communication networks and indigenous knowledge systems. By applying IIT to drought management, this study addresses existing gaps in the literature and offers practical recommendations to improve the accessibility, relevance, and utilization of drought information among vulnerable pastoralist communities in ASAL regions.

2.2 Empirical Review

Nurlambang et al. (2024) focused on state-of-the-art drought handling in Indonesia. The study employs an integrated methodological perspective divided into three stages: construction, deconstruction, and reconstruction. Relevant government agencies involved in disaster response and water resource management. Current drought management suffers from inadequate laws and regulations, resulting in overlapping responsibilities and cumbersome agency procedures. Drought management has historically focused on meteorological/climatological and hydrological factors, often overlooking significant socioeconomic consequences.

Shin, Lee, and Lee (2024) focused on enhancing drought management in Thailand: Strategies and Policy Implications. As the most drought-prone nation in Southeast Asia and the world's second-largest rice exporter, Thailand faces significant economic risks from drought, which can contribute to global inflation. Therefore, it is crucial to examine Thailand's drought management system and its shortcomings. The analysis reveals that the Thai government's drought response policies are predominantly reactive, focusing on drought-affected areas and agriculture, and lacking a systematic approach to managing drought-related information. This reactive stance contributes to declining economic growth and deteriorating living standards in Thailand.

Frameworks for drought information transmission were put forth by Weitkamp et al. (2020) and Calvel et al. (2020), with an emphasis on Malawi and the United Kingdom, respectively. While Calvel et al.'s paradigm emphasized the need for timely, customized, and people-centered communication, especially in agricultural decision-making, Weitkamp et al.'s framework stressed the significance of heuristics in risk perception and the necessity of tailoring communication to diverse publics. Masinde (2012) provided technology frameworks for communication and drought forecasting, in which the author's approach combined wireless sensor networks with mobile phones. Together, these frameworks highlighted the necessity of customized, human-centered, and cutting-edge technical methods for communicating information about droughts.

Afroz et al. (2023) indicated that several studies conducted in Southern Africa, Australia, South America, and the Southeast projected an uncertain future and that climate change effects were expected to exacerbate drought in many regions of the world, with complex consequences for mankind. Even worse, it is projected that by 2080, the number of days experiencing drought may rise by over 20 per cent across most parts of the world, and the proportion of people at risk of droughts may rise by 9–17% in 2030 and 50–90% in 2080 (Hallegatte, 2016). Drought Monitoring and Prediction Systems (DMAPS) have been established in response to drought occurrences to monitor and provide early warning information on drought conditions at regional and global scales (Hao et al., 2014; Nijssen et al., 2014). However, as noted in this study, there shouldn't be a time lag between data collection and information release to facilitate a prompt response. For this reason, appropriate dissemination strategies must be developed to ensure that contemporary, indigenous information is distributed to all audiences before drought management.

Numerous studies about the various channels of information dissemination for drought management, such as print media, ICT, and word-of-mouth, have previously been debated in various international forums (Amenya & Fitzpatrick, 2022; Junca-Paredes et al., 2023; Matyobeni, 2019). The Global Information System Centre in New Delhi was developed within the World Meteorological Organisation Information Systems (WIS) framework to improve the efficiency and dissemination of climate and meteorological data. An online WIS portal was built to enable regional and global connections to gather and share data and information, while providing rich data for research and analytical objectives (Teodoro & Duarte, 2022). These strategies may help mitigate the effects of drought by raising awareness among vulnerable communities across different countries. The media also informs affected communities about the best crops to grow and generally supports tourism activities by marketing to national and international tourists (Dube et al., 2022), ensuring that regions affected by drought remain productive for the national economy.

Sensitisation of the impact of drought has also been done through the media. For example, there have been efforts to increase awareness of the impacts of drought in developed countries, such as early media coverage of severe drought and heat waves during the 2003 European summer, which resulted in around 40,000 deaths (Guido et al., 2016). Drought and heat anomalies in the central United States have caused at least USD 30 billion in damage (Rippey, 2015). Early Warning Information Systems (EWIS), through major news media channels, assist affected communities in adequately preparing for such weather-related disasters.

According to Ageyo and Muchunku's (2020) study, having a strong legal framework in place is one thing, but having practical, life-altering activities stemming from the law's provisions is quite another. It is recommended that, when disseminating scientific knowledge, such as drought change information, to laypeople, communications be written, engaging, and visually appealing. Merely providing information does not ensure its acceptance or utilisation.

Though it has not been implemented, a bill to establish a national disaster management authority and streamline disaster coordination was introduced into the Kenyan Legislature in 2019 (GOK, 2018). The aforementioned laws mostly concentrated on the Government but did not address the actions that communities can take. Nonetheless, while enhancing the capacity of ASAL communities is emphasized in the final drought emergencies policy statement and the ASAL plan, it remains unclear how community tactics and local knowledge may be utilized (Mogaito et al., 2023). The existing framework for communicating drought management among pastoralists in Kenya has several gaps. Cuni-Sanchez et al. (2019) added to this debate by discussing the need for more research on the adaptation strategies used by pastoralists, particularly in the face of climate change. These studies collectively emphasised the need for a more comprehensive and inclusive framework incorporating indigenous coping strategies, effective communication channels, and socioeconomic factors.

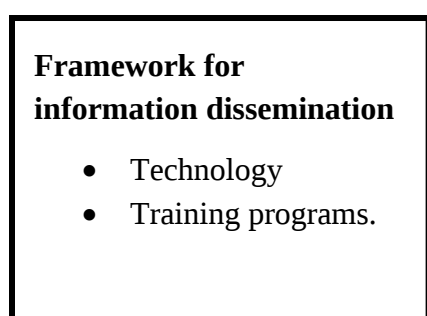
Both Mwangi (2016) and King-Okumu et al. (2019) stressed the importance of incorporating participatory scientific methodologies and climate forecast data into Kenya's drought management systems. This implies that these techniques should be prioritised in a suggested framework for information transmission in drought management. Adolwa et al. (2012) emphasised the importance of mass and community media outlets in sharing knowledge, where the frameworks can be utilised. Masinde (2012) offered a framework that integrated traditional and scientific knowledge and used wireless sensor networks and mobile phones. These elements could be incorporated into the creation of the suggested framework. Demisse et al. (2019) further highlighted the need to link

seasonal drought product information to decision-makers and identified barriers such as a lack of skill, understanding, and trust in the products. These studies collectively underscored the need for a comprehensive legal framework that incorporates both traditional and modern knowledge and emphasized the importance of effective communication and trust-building in disseminating drought information.

2.3 Conceptual Framework

The conceptual framework for this study provided an overview of the assessment of information dissemination in drought management among the ASAL counties in Kenya. This is shown in Figure 1.

Independent Variable



Dependent Variable

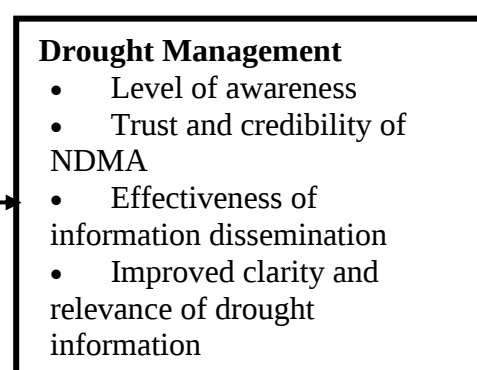


Figure 1: Conceptual Framework

3.0 Methodology

In order to characterise how knowledge on drought management is disseminated among pastoralists in ASAL, the study used a survey design. The researcher collected information through questionnaires, interviews, and FGDs regarding pastoralists' practices, circumstances, and opinions at a particular point in time. The study population comprised pastoralists in Garissa County. At the time of the study, the total population of Garissa County was 835,482, with 141,394 households (Kenya Population and Housing Census, 2019). It was anticipated that the pastoralists would provide primary data that matched the research questions. Primary data from the pastoralists were valuable because they were collected with a specific purpose and tailored to answer specific research questions.

The investigator surveyed respondents in Garissa County using a multi-stage sample approach. This approach was selected because it is easier to administer than most single-design systems. An overview of the number of chosen samples across eight sub-counties.

SurveyMonkey was used to create simple survey tools that could be easily shared via a link or embedded code (Bentley et al., 2017; Sreekanthaswamy, 2025). The researcher used SurveyMonkey software to arrive at a sample for each Sub-County in Garissa County. The pastoralist sample was obtained through a multi-phase procedure, and basic random sampling methods were used to select the final set of respondents. First, pastoralist villages throughout Garissa County were selected using the maximum-variation principle and basic random sampling

procedures. The three clans were prominent pastoral groups drawn from various microclimates in Garissa County.

The pastoralists were randomly selected using simple random sampling from the visible house structures along each community border, as determined by the most recent Geographic Information System (GIS) data during fieldwork. A multi-stage procedure was used to select the responses after identifying the study communities and drawing community boundaries. Initially, unique codes and sequential numbers were assigned to each structure in the three target communities. Human counts of visible habitation structures within each community border were then conducted to determine the total pastoralist population for each community.

The study used SurveyMonkey to calculate the sample size, ensuring statistical accuracy in selecting respondents. SurveyMonkey is an online survey tool that enables researchers to design, distribute, and analyze surveys efficiently. In this study, it was utilized to collect data from pastoralist communities in Garissa County by developing structured questionnaires tailored to assess the effectiveness of information dissemination for drought management. Survey Monkey calculations gave the total number of respondents per Sub County as follows:

Table 1: Summary of the Actual Number of Sampled Sub-Counties (GOK, 2019)

S/No	Sub Counties	Total Population	Total Number of House Holds	Selected Sample (Pastoralists)
1	Balambala	31819	4337	22.8
2	Dadaab	183410	35793	131.7
3	Fafi	133286	23671	95.7
4	Garissa	161951	30518	116.3
5	Hulugho	133746	20254	96.4
6	Ijara	141418	18481	101
7	Lagdera	49852	83403	35.8
Total		835482	141394	600

The results in Table 1 indicate that the study also used census sampling to select respondents from key informants. A census eliminates sampling error and provides data on all the individuals in the population. In addition, some costs, such as questionnaire design and sampling frame development, are fixed, which leads to higher precision. A census of 12 informants was selected for interviews. These informants comprised the County Drought Coordinator (1), Deputy Coordinator, County Drought Response Officer (1), Deputy Coordinator, County Information on

Drought Officer (1), Deputy Coordinator, County Drought Recovery Officer (1), and Sub-County Drought Monitors (8). These informants were selected for their positions and extensive knowledge and experience in cultural and scientific practices related to disseminating information about drought. Table 2 summarizes the key informants sampled.

Table 2: Key Informants

Position	Title	Total	Sampled
County drought director	Garissa County	1	1
County Deputy drought directors	Deputy Director Information on Drought	1	1
	Deputy Director Drought Resilience	1	1
	Deputy Director Drought Contingency Planning and Mobilization	1	1
	Garissa Sub-Counties		
Sub-Counties	Balambala	1	1
Drought Monitors	Dadaab	1	1
	Fafi	1	1
	Garissa	2	2
	Hulugho	1	1
	Ijara	1	1
	Lagdera	1	1
Total		12	12

The objective was to explore information dissemination frameworks that assist pastoralists in ASALs with drought management. In this objective, the researcher used qualitative feedback from pastoralists to propose a hybrid framework. This study adopted Braun and Clarke's (2006) Six-Step Framework. In using thematic analysis, one needs to be clear about what counts as a theme, the type of analysis to be done, whether inductive or deductive, and the level at which the themes were identified; that is, the latent or semantic levels (Braun & Clarke, 2006). To analyze the qualitative data, this study adopted a latent-level approach to themes. As illustrated in the six phases in Figure 2.

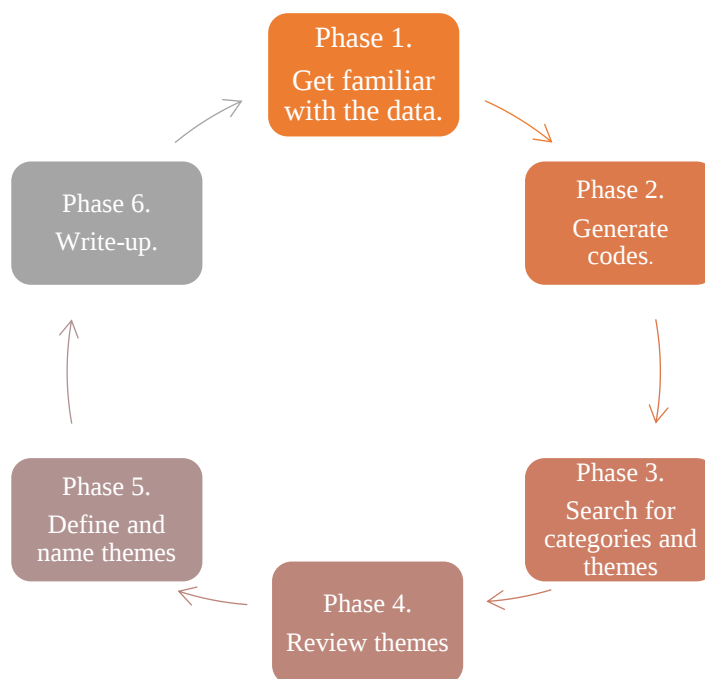


Figure 2: Thematic Analysis Process (Braun & Clarke, 2006)

Figure 2 illustrates that, according to Braun and Clarke (2006), the thematic analysis process comprises six key phases for identifying, analyzing, and reporting patterns in qualitative data. This structured approach ensured a systematic and rigorous examination of data, enhancing the reliability and validity of findings. Figure 2 further provided a concise summary of the data collection methods and corresponding analysis techniques used to achieve the study's objectives. It detailed how specific data collection tools, such as interviews, FGDs, and surveys, were employed to gather relevant information, while various qualitative and quantitative analysis methods were applied to interpret the findings. By aligning each objective with appropriate data collection and analysis techniques, the study ensured a comprehensive and methodologically sound approach to addressing the research questions.

4.0 Results

4.1 Frameworks for Information Dissemination to Assist Pastoralists

To guide the development and implementation of a framework for the effective dissemination of information for drought management in Garissa County, respondents were asked to rate aspects on a 5-point Likert scale (1-5), and the results are presented in Table 3.

Table 3: Framework for Information Dissemination to Assist Pastoralists

Responses on Drought Information Dissemination Practices	Number of responses						Likert Range	Mean	Interpretation
	SD	D	N	A	S	Total			
	1	2	3	4	5				
Garissa County should develop policies that will provide a timely response to disseminated information	0	2	56	81	246	385	SD=1.00-1.80	4.48	SA
Drought information should be simple and clear for pastoralists to understand	0	0	26	40	319	385	D=1.81-2.60	4.76	SA
Garissa County should put in place a framework for information dissemination for drought management that can trigger a response	0	26	64	81	214	385	N=2.61-3.40	4.25	SA
Pastoralists living in Garissa County should be trained on the information disseminated for drought management to avoid misinterpretation and misrepresentation	0	18	67	94	206	385	A=3.41-4.20	4.27	SA
Blended indigenous and scientific information should be used in the dissemination of information for drought management	26	14	83	104	158	385	SA=4.21-5.00	3.92	A

On Policy Development for Timely Response: The respondents expressed a strong opinion regarding the necessity for Garissa County to establish policies to facilitate the timely dissemination of drought information, as reflected in a mean score of 4.48. This high score underscored the critical need for effective policy frameworks to ensure that relevant information is delivered promptly. Such timely dissemination is vital for enabling pastoralists to make informed decisions during drought conditions, thereby enhancing their resilience and adaptive capacities.

On Simplicity and Clarity of Information: With a high mean score of 4.76, respondents emphasized the importance of presenting drought information in a simple, clear manner that pastoralists can easily understand. This consensus highlighted the necessity of simplifying communication about conditions to avoid confusion. Clear and accessible information is essential for enabling local communities to take actionable steps based on the information provided and ultimately contributing to more effective drought management.

Framework for Information Dissemination: The mean score of 4.25 indicated strong agreement among respondents regarding the need for a structured framework for disseminating drought information. This score indicated recognition of the importance of a well-defined system to trigger appropriate responses during drought events. A reliable framework for information dissemination was seen as crucial for enhancing the overall effectiveness of drought management efforts,

allowing stakeholders to prepare adequately and respond swiftly to the challenges posed by drought conditions.

Training for Pastoralists: Respondents strongly agreed that pastoralists need training in interpreting and understanding drought-related information, as evidenced by a mean score of 4.27. This reflected a widespread acknowledgment of the critical role that training plays in preventing the misinterpretation and misrepresentation of vital information. Empowering pastoralists through training initiatives could enable them to better utilize the data disseminated to them, thereby enhancing their capacity to respond effectively to drought scenarios and mitigate their impacts.

Blending Indigenous and Scientific Information: While respondents agreed on the value of integrating both indigenous and scientific information in drought management practices, as indicated by a mean score of 3.92, this score was lower than that of the previous items. This implied a moderate desire to blend these knowledge systems. As a result, there was a need for increased advocacy or practical demonstrations to illustrate the benefits of combining indigenous knowledge with scientific data. This would enrich the information available to local communities, making it more relevant and effective in addressing drought challenges.

4.2 Ways of Improving the Distribution of Drought Management Information

Members were requested to mark the comments in the questionnaire to suggest ways to improve the material distributed for drought management. Data from respondents indicated the following results, as shown in Table 4.

Table 4: Participants’ Suggestions on a New Framework

Policy statement	Frequency	Percentage
Garissa County should develop policies that will provide a timely response to information disseminated for drought management.	104	27
Information on drought needs to be disseminated in simple, clear language that can be easily interpreted by pastoralists living in Garissa County.	76	20
Civil societies need to partner with drought knowledgeable workers to provide outreach sensitisation on information on drought.	69	18
Blended indigenous and scientific information should be used in disseminating information for drought management.	43	11
Drought News and program content to be accurate, carefully sourced, including messages based on culture and locally acceptable norms of pastoralists, and tailored to pastoralists.	61	16
Drought experts should volunteer on call-in programs and provide expertise to clarify pastoralists' questions.	32	8
Total	385	100

The results in Table 4 show that 104 (27%) of respondents stressed the necessity of developing policies that ensure timely and effective responses to drought information, while 76 (19.7%) emphasized the importance of simplifying and clarifying the information distributed, making it accessible and understandable for pastoralists. Partnering with drought experts for outreach and sensitization was recommended by 69 (17.9%) of participants, underscoring the value of collaborative efforts in education. The integration of both indigenous and scientific knowledge, supported by 43 (11.1%), highlighted the need for a comprehensive approach to information dissemination. Ensuring that drought news and program content are accurate, culturally relevant, and tailored to pastoralists. This was a concern for 15.8% of the respondents. However, 32 (8.3%) recommended that having drought experts available for on-call support could help clarify complex issues and provide valuable insights to the community. Respondents also recommended finding a way to incorporate traditional knowledge into the scientific data on drought channels, as part of the message that pastoralists are informed about potential drought situations. This view is also highlighted by Nyaoro (2023) and that of Nchanji *et al.* (2023).

Qualitative findings from semi-structured interviews showed that currently, there was no framework for disseminating drought information, as illustrated by some of the staff as follows:

“Unfortunately, there is no framework to counter and monitor the dissemination of drought alerts, but we anticipate that information released can reach even remote areas where pastoralists live”. {NDMA staff 7}

“Use other local radio stations that can be cascaded with other partners since NDMA lack funds to sponsor the drought alert programmes”. {NDMA staff 9}

5.0 Conclusion

The consensus among participants regarding the "urgent need for policies that could enable prompt and efficient responses" indicates that current drought management is perceived as too slow, reactive, or ineffective. There is a clear, widely held demand for institutional frameworks to shift from emergency aid, which often arrives too late, to proactive strategies, such as strengthening early warning systems and improving infrastructure to ensure timely intervention. The study also concluded that for early warning systems to be effective, information must be translated into simple, accessible, and locally relevant formats, taking into account the educational levels and traditional knowledge systems of pastoralists.

6.0 Recommendations

To effectively address the urgent need for improved drought information dissemination and response policies, it is necessary to put in place a comprehensive framework that ensures pastoralists' involvement and transparent information dissemination for drought management as the first priority. It is imperative to simplify complex information due to a high level of illiteracy. As indicated by participants, modifying material to pastoralists' practical and cultural needs, including the language used, may further increase involvement.

The study recommends incorporating indigenous and scientific knowledge in the dissemination of drought information among the pastoralists in ASAL. This will ensure solutions are both practically viable and culturally appropriate. It will also address concerns raised by respondents about the significance of local context in the dissemination of drought information.

Creating a specialized network of drought information dissemination champions in various communities, for example, area middlemen and women, can boost community resilience in the face of upcoming drought issues and offer prompt information assistance on drought management.

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