



Nelson Bahati

**Echoes from the Earth: Climate Change News
Perceptions Among Rukoki Farmers in
Western Uganda**

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Abstract

The media has been instrumental in disseminating knowledge regarding climate change and its ramifications for agriculture and global food systems. It has enhanced awareness and comprehension of climate change, as well as global policy strategies aimed at addressing the difficulties it has caused. However, despite the media's role, there is a need for studies that examine how recipients of media messages on climate change interpret and make sense of the news content they receive. This study investigated rural farmers' perceptions and understandings of climate change news in western Uganda's Rukoki sub-county, Kasese district. The study used qualitative, semi-structured interviews with twelve (12) farmers, and it used a thematic analysis to analyze the data gathered. The findings revealed that farmers perceive climate change news as a source of negative emotions such as fear, worry, intimidation, etc., politically charged due to politicians' voices over their own, complex due to the media's use of language, and devoid of solutions for adapting to the changing weather events that significantly impact their farming activities and livelihoods. I suggest implementing "inclusive and participatory media coverage of climate change," which necessitates involving voices of the marginalized stakeholders like farmers in climate change reporting. This approach broadens the scope of climate change reporting beyond traditional sources such as politicians, experts, and policymakers by incorporating the perspectives of those directly affected by climate change. This approach will not only bridge the knowledge gap in global climate change discourse but also pave the way for inclusive perspectives to shape rich climate change policy discourses.

Key words: *Climate change, News, Perceptions, Farmers, Uganda, Ecoding-decoding Model*

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1.0 Chapter One: Introduction

1.1 Context of the research

In the complex mix of crises currently confronting the global community, the climate crisis assumes a pivotal role (Cottle, 2023), serving as a defining era that extends beyond environmental concerns to encompass the entirety of humanity. The far-reaching consequences of climate change, which are primarily anthropogenic (Huang et al., 2020), have attracted unprecedented global attention, along with several existing catastrophes (Cottle, 2023) as seen in the news media and global discourses on climate change, including the Conference of Parties (COP), Intergovernmental Panel on Climate Change (IPCC), Climate Adaptation Summit (CAS), Global Climate Action Summit (GCAS), and several others.

Global news reports and scientific findings have revealed that climate change has unsurmountable effects on agriculture and livelihoods (Barik et al., 2022). The latest United Nations State of the Climate Report shows that extreme weather events are increasingly affecting agriculture, food security, and livelihoods (World Meteorological Organization, 2024). Adverse weather events such as severe floods, soaring heatwaves, droughts, and erratic rains have impacted farming communities, challenging their farming endeavors as a means of livelihood (van Tilburg & Hudson, 2022), making farmers vulnerable to climate change.

Farmers gain knowledge about climate change through multiple venues, such as the media, scientific papers, and publications (Asplund, 2013; Asplund, 2018). These channels disseminate and convey such events to local populations, going beyond the knowledge people gain from their personal experiences and interactions with the environment while actively facing the challenges of climate change (Soubry et al., 2020). The role of news organizations, journalists, and institutions is crucial in disseminating knowledge, empowering individuals, and motivating citizens to address climate concerns (Hackett et al., 2017; Cottle, 2009).

The voices of farmers, primarily in the global south as opposed to the global north, have been found to be engrossed with negative perceptions, as revealed by scholarly revelations (Soubry et al., 2020) on farmers perceptions and adaptation and mitigation strategies of climate

change impacts on their livelihoods (Hitayezu et al., 2017). Moreover, some scholars have concluded that the climate change crisis has confronted African farmers with devastating challenges (Roncoli et al., 2011, p.124).

Uganda is the focus of this study, as exemplified by its mostly agrarian setting (Bamwesigye et al., 2020). The farmers in Uganda offer a representative illustration of the broader African context, where the agricultural sector retains importance not only as an economic foundation but also as a vital element of cultural identity. It is noteworthy to acknowledge that 68% of Uganda's working population strongly depends on agricultural activities as a means of sustenance (see Uganda Bureau of Statistics 2019 annual agriculture survey), and from the perspective of gender, 56 percent of the farmers are women (Semujju, 2015), rendering them susceptible to the ramifications of climate change (Zizinga et al., 2022), as seen both in media and scientific reports. Reports from the Ugandan media highlight alterations in patterns of rainfall, rising temperatures, severe floods, and droughts that have disrupted farming activities and seasons. Farmers' regular contacts with the natural environment afford them a distinct perspective on climate change (Altieri, 2004). Moreover, according to Twaweza East Africa's Sauti Za Wananchi data, Ugandans are aware of climate change, and most citizens define it as changes in weather patterns (Twaweza, 2022).

The news media's role in disseminating information, knowledge, and understanding about climate change highlights the importance of examining different viewpoints, including those of farmers, on climate change news. The firsthand interactions of farmers with nature in Uganda may align with or diverge from the prevailing narratives on climate change portrayed in the country's news media, thus warranting further investigation.

However, there is a dearth of research on the "perceptions of news" regarding climate change, which specifically focuses on rural farmers in Uganda. Prior studies conducted in Uganda have predominantly focused on analyzing the portrayal of climate change by Ugandan media and its effectiveness in educating at-risk agricultural communities about this perceived threat among farmers (Nassanga, 2019; Semujju, 2015; Nassanga, 2013; Semujju, 2013; Nassanga, 2020; Nassanga, 2015). Researchers have also examined the positioning and visibility of climate change news in the media landscape of Uganda (Nassanga, 2020). Additionally, Ugandan farmers have shown interest in the data related to changes in temperatures and

rainfall patterns (Orlove et al., 2010). Furthermore, a significant number of farmers in different areas of Uganda have reported firsthand encounters with alterations in climatic conditions (Okonya et al., 2013), in addition to receiving information about climate change in the media. The manner in which farmers respond to news on climate change is contingent upon the efficacy of the news delivery and their level of comprehension (Bostrom et al., 1994), and thus fit for investigation.

1.2 Rationale of the Study

As previously illustrated, there is a growing recognition of climate change's impact on farmers' livelihoods and agriculture in Uganda. However, a significant gap exists in research regarding farmers' perceptions and understanding of the news they receive on climate change. Previous studies in Uganda have acknowledged farmers' awareness of climate change and its risks through the news media, particularly in relation to their farming activities (Nassanga, 2015). These studies have not paid much attention to how farmers interpret the climate change news they encounter in the media, primarily through radio, which is the most common medium through which a wide population of Ugandans, including farmers, access information (IPSOS, 2020). For example, radio is an important source of information for farmers in Uganda, covering various issues, including climate change (Twinomuhangi et al., 2022). It caters to a broad demographic, including both urban and rural populations, resulting in widespread listenership among the majority of Ugandans. The findings of IPSOS (2020) demonstrate that a significant majority of individuals in Uganda, specifically 85%, participate in daily radio consumption.

Despite the extensive use of radio by farmers in Uganda and its recognized function in conveying information about climate change to farmers, there is a lack of research examining farmers' perceptions and understanding of the climate change news delivered through this medium. My research aims to bridge this gap by exploring farmers' subjective perceptions of climate change news and identifying the factors that shape their perceptions of such news. This research aims to contribute to the public's understanding of how rural farmers perceive and make sense of climate change news by delving into farmers' deep perspectives on the news regarding climate change.

1.3 Significancy of the study

Ugandan farmers are at the frontlines of the impacts of climate change, given the nature of the farming activities they are engaged in, which are impacted by changing weather patterns, extreme events, and shifting growing seasons. Despite the direct impact of climate change on their livelihoods, the media in Uganda, particularly radio, continues to raise awareness by disseminating information about climate change to a wider majority of Ugandans, including farmers. Moreover, studies have discovered that farmers get information about climate change from the media. According to existing research, farmers' perceptions of climate change are already well established. However, what my study aims to explore is their interpretation of the news regarding climate change. Additionally, this study shall also unveil what factors influence their perceptions and understanding of the news as a way of gaining a deeper perspective on their subjective reality of such news.

Furthermore, understanding farmers' perceptions of climate change news can inform efforts to improve the effectiveness of climate communication strategies. Policymakers, media practitioners, and development organizations can tailor their communication efforts to better meet farmers' needs and preferences by identifying the factors that shape their understanding of climate change news. This study contributes to the broader academic discourse on climate change communication and media effects. By discovering how farmers interpret climate change news, this research sheds light on the role of media in shaping public perceptions and responses to climate change in rural communities. It also highlights the importance of considering the local contexts and perspectives of local people, such as farmers, in climate change discourses and communication initiatives.

1.4 Research Questions.

The goal of this study is to address one specific research question. I set up a sub-research question to enhance understanding of the knowledge and insights derived from the main research question, facilitating a more in-depth exploration of specific aspects that arise from the main research question.

Main research question:

(1) How do farmers perceive and understand climate change news?

Sub-question:

(a) What factors influence their perceptions?

1.5 Overview of Methodology

A qualitative research (QR) approach was utilized for both data collection and analysis in this study. Semi-structured interviews were specifically used for data collection, and a thematic analysis was used for data analysis. Qualitative research is an investigative approach aimed at comprehending social occurrences by considering the viewpoints and encounters of the participants within their specific contexts (Merriam, 2002). This specific approach involves collecting and analyzing non-numerical data for the purpose of understanding experiences, human actions, and interactions (Kelly, 2017).

The rationale for choosing this type of approach was rooted in the aim of gaining a detailed description of farmers' experiences, attitudes, and feelings about the news on climate change and how these informed their perceptions. This approach allowed for conducting interviews with 12 participants who were farmers in Rukoki sub-county, Kasese district, Western Uganda. Because of its specific, targeted, and concentrated nature (Kelly, 2017), the primary objective was to discover how the farmers in Rukoki sub-county perceive and understand the news about climate change. Furthermore, the flexibility inherent in this approach, such as the ability to adjust questions and angles to improve responses from the participants, was considered advantageous. This flexibility allowed me to maintain a focus on understanding the significance that farmers attributed to the issue of climate change news (Cresswell, 2009).

1.6 Theory

This study was guided by Stuart Hall's encoding and decoding model (Hall, 1973), which serves as its theoretical basis as expounded upon in the subsequent chapter. Hall's model offered a good framework for exploring the manner in which farmers perceive and understand news pertaining to climate change. The use of the encoding and decoding model in this study is grounded in the fundamental assumptions of the model, which posit that the interpretation

of a media message is not static or exclusively established by the producer but rather is actively negotiated by the audience (Hall, 1973).

The encoding and decoding model developed by Hall emphasizes the process of creating media messages that have certain intended meanings. Within the realm of climate change news, media outlets may endeavor to enhance public consciousness, champion policy reforms, or disseminate scientific information regarding climate change. The meanings may be encoded through the careful selection of words, visuals, and framing strategies. Nevertheless, the act of decoding does not entail a passive or fixed acceptance of these intended meanings. Farmers, who serve as the audience, interpret climate change news based on their viewpoints, experiences, and cultural backgrounds. Furthermore, this model suggests that the way audiences perceive media messages can be shaped by multiple factors, such as social and cultural settings, individual beliefs, and past experiences.

Applying Hall's model to this study seeks to understand how farmers decode climate change news in their everyday lives and make sense of such news using their own contexts. Also, I explore the various reading positions that farmers may adopt, including the dominant or preferred reading, negotiated reading, and oppositional reading as constructed by Hall. The model will assist in interpretations of the findings gained from farmers' interpretations, attitudes, and perceptions of the news on climate change through in-depth qualitative interviews.

1.7 Area of the Study

The study took place in the Kasese district, which is in the western part of Uganda. Data collection specifically took place in the sub-county of Rukoki, an active farming area within the district. It is worth mentioning that Rukoki is one of the thirty sub-counties that make up Kasese district.

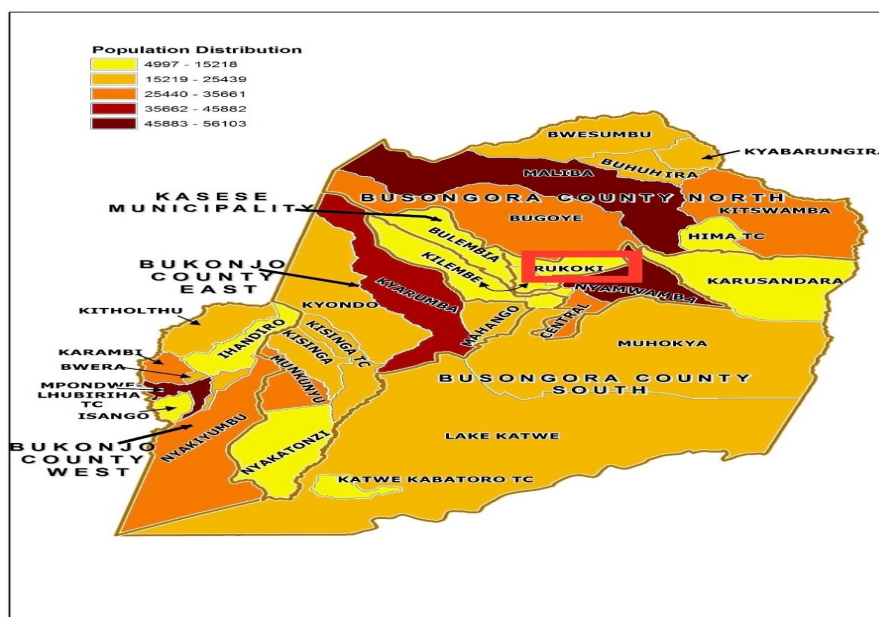
Rukoki has a lot of different cultures, and farming is the main source of income there. Subsistence agriculture is very important to farmers. They grow crops for both household and business use. The agricultural landscape of the area reflects the diverse ethnic groups residing there. In fact, Kasese district is one of the most multi-ethnic places in Uganda, with people from a wide range of ethnic groups living there. The Batooro and Bakiga are two of the most

common ethnic groups. People from the Democratic Republic of the Congo also move to the area to find work and enjoy the rich culture.

Language-wise, the area shows its mixed cultural makeup, with Rukonjo and Rutooro becoming the main languages spoken by the locals. However, the district's cosmopolitan nature also contributes to the widespread use of English and Swahili, facilitating communication among diverse groups.

Kasese district is right on the equator and has a lot of different types of landscapes, including lakes, rivers, national parks, mountains, and rift valleys. There are beautiful natural features in the area, like Mount Rwenzori, Queen Elizabeth National Park, Lake Edward, and Lake George. The district covers an area of 2,724 square kilometers and is surrounded by Kabarole District to the north and the Democratic Republic of the Congo to the west. About 1,187 square kilometers of this area are inhabited by people who farm and do other economic activities. This shows how important the district is as a center of both nature and human activity.

Figure 1. A map of Kasese district showing different sub-counties and the location of Rukoki.



Source: Uganda Bureau of Statistics 2017

1.8 Structure of the Thesis

This thesis strictly follows a classical structure and ensures a systematic and logical progression of ideas for the reader. Each section of the six central chapters expands upon the previous one, creating an array of insight and scholarly exploration. I open up with the introductory chapter, which functions as the opening door to understanding this study, establishing the tone, and providing context. In the same chapter, I explain the context in which this study was conducted. In addition, I introduce the primary research goals, the central research questions (both primary and secondary), and the significance of this study within the field of climate journalism.

I set two objectives within the research questions: first, to find out farmers' perceptions of climate change news, and second, to investigate the factors that shape these perceptions. I do this to provide readers with a clear understanding of the study's context. I also sketched a brief portrait of the study area, Rukoki, in western Uganda.

Following the introduction, I will proceed to the literature review chapter (theoretical perspectives), where I will extensively explore the vast body of existing research, thoroughly examining the various aspects and complexities of the available knowledge. This chapter offers a link between the current study and prior research, introducing the theoretical framework as a tool for interpreting the collected data and explaining the theoretical foundations that connect the study's viewpoints to existing knowledge.

After establishing a solid foundation in the existing body of research, I will move on to the methodology chapter, which clarifies the approaches or techniques applied by this research. In this chapter, I delve into the process of data collection, primarily using semi-structured interviews and emphasizing its qualitative aspect. The chapter further exemplifies the level of detail and deliberation ingrained into each stage, from ensuring data validity and reliability to navigating the ethical conditions of this research project. The chapter outlines both strategies and methodologies for data collection and subsequent analysis, promoting transparency and replication.

Once I have laid out the methodology chapter, the next chapter will present my findings by simply describing what I found. I present these findings in a format that includes presenting a

finding, providing a brief description, attaching one or two quotations related to this finding, and providing an example if necessary.

The analysis and discussion chapter, which stands at the intersection of data and interpretation, is the keystone of this thesis. It is not simply a presentation but also a dance of revelation and comprehension. In this chapter, I analyze, interpret, evaluate, and discuss my findings with the aid of the theoretical framework and other theoretical perspectives, both laid out in Chapter 2, as well as knowledge from the empirical literature.

The concluding chapter finalizes the thesis. In this chapter, I re-echo my study's scope by revisiting fundamental ideas and emphasizing the main findings and their implications for media coverage of climate change, audience perspectives, and climate communication. I also analyze the extent to which this study fills the knowledge gap previously highlighted. Recognizing that no research is an island, I will openly address my study's limitations. Additionally, by drawing definitive conclusions, I will identify potential avenues for future research, laying the groundwork for further research. The bibliography section, along with attachments of relevant materials used in my research, will follow.

2.0 Chapter Two: Theoretical Perspectives

2.1 Introduction

The main theoretical framework for this study is Stuart Hall's encoding-decoding communication model (Hall, 1973). The empirical framework will be based on the current body of literature on farmers' perceptions and understanding of climate change news. Within the field of media studies, I will use additional theoretical perspectives, such as media visibility, media portrayal, and perception, to review literature relevant to this study and enhance the study's knowledge of theory. The goal is to use empirical literature and theoretical perspectives (Lederman and Lederman, 2015) to analyze the current knowledge of how farmers perceive news about climate change. Furthermore, I will use both theoretical and empirical evidence to analyze, interpret, and explain the findings of this study (Lim et al., 2022). In order to maintain a logical and concise flow, this chapter starts with a review of the theoretical perspectives pertaining to visibility, portrayal, and perception. Using these theoretical perspectives, I will present and discuss the existing literature relevant to the study, leveraging my knowledge of this study's research questions. Following this, I will delve into the central theoretical framework that underpins this study, providing a comprehensive discussion of its theoretical foundations. In the subsequent chapter, I will present the findings of this study.

2.2 Media Visibility

Different perspectives can enhance our comprehension of visibility in media, such as organizational visibility (the frequency with which an organization appears in a particular media), group or team visibility (the frequency with which certain groups appear in a specific media), and topic or event visibility (the coverage of specific topics or events in the media) (Gammelsæter, 2017, p. 290). According to Hasan and Wang (2020, p. 25), an increase in media exposure boosts an organization's visibility by making the brand and services more noticeable, which in turn attracts clients and investors. Similarly, when it comes to media coverage of certain topics or events, for instance, climate change—visibility refers to the frequency and popularity with which newspapers, radio, and television cover stories related to climate change (Petersen et al., 2019, p. 4), and in return, this coverage might or might not

boost the way audiences interact frequently with the news covered on climate change and what perceptions and meaning they construct overtime from such media. This is similar to other topics and events such as fashion, culture, and innovations.

Visibility is a critical concept in media and communication studies. Mubi Brighenti (2010) asserts that the foundational knowledge and origins of classical works in media and communication form its foundation. As cited in Mubi Brighenti (2010), the studies conducted by Morley (1992), Katz and Liebes (1993), and Livingstone and Lunt (1994) have offered valuable insights into the ways in which visibility of media messages can impact perceptions, influence interpretations, and contribute to the formation of social realities in mediated environments. These studies have shown that audiences are able to create meaning through mediated communication (Morley, 2006; Brunsdon & Morley, 2005) and this meaning is constructed based on the way they access and perceive media messages (Hall, 1973; Labcom.IFP et al., 2017).

The social theory of communication (Thompson, 1995) links visibility to the news media's construction of the audience's perceptions by making topics and events distinctive and controversial, or visible and perceptible (Labcom.IFP et al., 2017). In fact, in their article on visibility, Labcom.IFP et al. (2017) likened the concept of visibility to a "double-sided sword," and they explained this as meaning that what is more visible in the media or what the news media makes too visible can be both "empowering" and "disempowering" given the fact that media's intentions are to make particular things showable and perceptible (Mubi Brighenti, 2010), more visible and less visible. However, it is also worth noting that the visibility of events in the media has since increased with the progression of electronic media, which has enabled the transmission of media content to wider audiences in a short period of time (Thompson, 2005). In this sense, real-time content on various events has reached a wider population, generating what I would call "global news." Exposure to such "global news" from the media ingrain the reality of specific issues into audiences' discourses and understandings, even though this phenomenon's visibility develops gradually (Labcom.IFP et al., 2017). According to Thompson (2005), this a gradual development of meaning comes from 'sensory immediacy' of issues depending on the way the media chooses to communicate such issues. Audience interactions with mediated phenomena intertwine visibility with "symbolic" and "sensory

experiences," and these two aspects aid in interpreting and making sense of what audiences see in the media, not just as images or texts, but as things we interpret using our social influence (Thompson, 2005; Labcom.IFP et al., 2017).

This study uses the concept "visibility" as a media studies perspective to analyze the empirical literature concerning the visibility of climate change in Ugandan media and its relevance to farmers' perceptions and comprehension of climate change news. Moreover, some key figures in the field of climate journalism have argued that people's knowledge of climate change sometimes comes from the media (Schäfer & Painter, 2021), and the media has thus played a role in disseminating, informing, and creating awareness of climate change and its effects on the global ecosystem.

Scholarly investigations have confirmed the visibility of climate change in Ugandan media, showing that it puts emphasis on demonstrating the impact of climate change on various communities and livelihoods. For instance, a study centered on how Africans discuss climate change in mainstream media and Twitter (Pointer & Matsiko, 2023) revealed that Uganda ranked among the top ten countries discussing climate change, with various news narratives surfacing in Ugandan media. Researchers' Orlove and colleagues (2010) support this, highlighting the growing academic scholarship on the frequency of environmental, climate change, and weather changes issues in Ugandan news media. Moreover, Berglez & Nassanga (2015) noted that climate change in Uganda is understood broadly as "changes in the weather or seasons or as environmental changes," a factor that seems not only to be facilitated by the frames used in the media while covering news and information on climate change but also by the people's direct interactions with nature through economic activities such as agriculture.

Other studies have indicated that while climate change is covered in the Ugandan media, its visibility is limited (Semujju, 2013). Furthermore, the caliber of coverage pertaining to climate change fails to keep pace with the escalating number of climate change-related incidents that affect various communities and livelihoods, including farming communities in Uganda (Berglez & Nassanga, 2015). In fact, in their comparative study on Swedish-Uganda climate change communication, Berglez and Nassanga (2015) discovered that climate change information was not as visible in Ugandan media as it was in the media in developed countries such as Sweden. Though it appears in the Ugandan media not as visible as it does in other countries, the existing

low interest in reporting climate change information is found to be influenced by the economic dynamics of media organizations, as discovered by Semujju's (2013) research. Likewise, debates on the global media coverage of climate change (Barkemeyer et al., 2017; A. Schmidt et al., 2013) show that the visibility of climate change in global north media is more than the global south (Hase et al., 2021), especially in carbon-dependent countries (A. Schmidt et al., 2013), which leads to increased visibility of climate change in the global north than in the global south. Researchers contend that despite the low visibility of climate change news in Uganda, people are aware of it and that environmental factors, weather, and shifting seasons dominate their perceptions and knowledge of it (Orlove et al., 2010; Semujju, 2013; Nassanga, 2017; Nassanga, 2013; Nassanga, 2015).

What deserves attention is that the media's economic dynamics tend to influence the low visibility of climate change news in Ugandan media, despite the fact that climate change poses a challenge to various communities' livelihoods. Semujju (2013) discovered that editors at the major print media companies in Uganda, New Vision, and Daily Monitor, believed that stories about climate change did not appeal to their audiences. They believed that covering such news resulted in low sales, which compelled them to reduce their coverage. In this comparative study of two major Ugandan print media dailies, Semujju (2013) discovered a division among journalists regarding the target audience for climate change news. One journalist believed that the elite class, who can read and understand English, is the target audience for climate change news, while another journalist believed that farmers are the intended audience. This kind of rift regarding who the particular audience for the news on climate change is among editors is critical as it illustrates the nature of the intricacies surrounding the understanding of such news and the need for exploring different perspectives of the news business model as a way of broadening knowledge on salience and objectivity and balance in news visibility.

The empirical literature also reveals that the majority of Uganda's population primarily relies on radio as the primary channel for information access (IPSOS, 2022), which contributes to the accessibility of a variety of news categories, including climate change. Therefore, radio primarily reflects climate change visibility. For instance, a study in eastern Uganda on the accessibility and usage of climate change information revealed that farmers primarily sourced their information from the radio (Mubangizi et al., 2018). Likewise, in a similar study on

drought-warming systems in Northern Uganda, the majority of the respondents' stressed that radio was the foremost media channel they used to access information (Akwango et al., 2017). Radio, which is the most accessed media in Uganda, contributes to the wider accessibility of news for various communities and thus it plays a role in climate change visibility.

In summary, climate change visibility in Ugandan media exists, and primarily, radio is the medium of accessibility of climate change news and information by the majority of Uganda's population. Economic dynamics also influence climate change visibility, as editors and journalists opt for content they believe attracts or appeals to their audiences and generates substantial revenue. This editorial and journalistic perception of audience interest is among the factors that have contributed to the low visibility of climate change in Ugandan media, hence affecting its scope and depth.

2.3 Media Portrayal and Perception

The term "media portrayal" is used to refer to the way in which media presents or depicts events or issues to its audience. Classical media and communication theorists, such as George Gerbner (1969), Marshall McLuhan (2003), Maxwell McCombs, and Donald Shaw (1972), made foundational contributions that illustrate the concept of "media portrayal" in their theoretical works on media effects and audience's perceptions. As media criticism and analysis evolved, these theorists laid the groundwork for analyzing how media content influences audience interpretations and constructions of reality.

Gerbner's cultivation hypothesis asserts that the media's prevalent portrayal of events as "recurring patterns of messages" shapes audiences' perceptions of their world (Gerbner, 1969). Gerbner also argued that audiences' underlying cultural themes, sometimes portrayed in the media, influence their interpretation of media messages, making the perceptions and meanings they construct from media portrayal not final.

Marshall McLuhan's 2003s and 1960s communication and cultural seminars, which focused on perceptions and media effects, also reflected media portrayals. Marshall McLuhan posited that various media content characteristics, such as forms, speed, and sensory elements, influence audiences' perceptions of media messages by amplifying their minds and senses, thereby shaping how they think and interact with media messages; he referred to this concept

as "the medium is the message" (McLuhan, 2003; Fen, 1969). The way the media presents its messages through various mediums, such as newspapers, television, and radio, also influences how audiences perceive and relate to such content, as different media have different affordances and accessibility. His criticism of print media, which he viewed as having a total influence on people's perceptions and thought processes, also reflects this.

Likewise, McCombs and Shaw provide meaningful contemplations in their media and communication theory, "Agenda Setting Theory," on how media portrayal influences audience perceptions of issues salience. The theory suggests that the media's selection and focus on specific topics influence the audience's perception of their importance (McCombs & Shaw, 1972). These theorists also posit that the media chooses to establish or focus on what it considers salient in society, or what it thinks audiences should think about, and how to think about it. For instance, a study comparing climate change coverage in US and UK media revealed differences in the portrayal of the issue, suggesting variations in agenda setting between the two countries (Wang et al., 2023, p. 260). The study revealed that the UK media actively portrayed climate change as a salient issue, while the US media portrayed it as less salient.

The media's choice to portray events or cover topics in distinct ways impacts and influences audiences' perceptions of media messages. The example of how the UK media portrays climate change as salient while the US media portrays it less salient aligns with the various ways Ugandan media portray climate change, as evidenced by empirical research. Researchers have not examined the salience of climate change in Ugandan media coverage, instead, they have focused on the characteristics of the coverage, the frequency and portrayal of the issue, and the audience's response to climate change.

Ugandan media portray climate change news as adverse weather events like severe floods, droughts, unpredictable rains, and extreme heatwaves (Semujju, 2013; Nassanga et al., 2017). This portrayal has led farmers to perceive such news negatively. As they rely primarily on climate and weather conditions for their farming operations (Orlove et al., 2010), the news on extreme weather events resonates with their ways of livings. The news widely covers floods and mudslides in areas like Mbale and Sironko districts in eastern Uganda and Kasese districts in western Uganda, portraying them as devastating events that impact farming activities,

settlements, and livelihoods (Nabuzale, 2017). The news portrays these events as having a significant impact, as local communities such as farmers affected by adverse weather events like floods and droughts struggle to re-establish their projects.

For example, Jinja farmers in Eastern Uganda planted trees when they perceived drought as dangerous to their farming activities (J. Schmidt, 2019) and encountered information in the news media about sustaining production in long-term droughts (Nassanga, 2017). This is similar to a study by Okonya and colleagues (2013), which involved interviews with 192 sweet potato producers who reported having planted trees in response to their perceptions of climate change as highly affecting their farming activities and livelihood. Indeed, according to Roncoli et al. (2011), "climate change is confronting farmers with growing uncertainties," which makes the exploration of farmers' perspectives critical.

Consumers of climate change news often feel fear and worry due to the consistent coverage of adverse weather events that affect people's livelihood. This is reflected in Gerbner's cultivation hypothesis which posits that "recurring patterns of media messages" especially on television impacts audiences' perceptions of such media messages (Gerbner, 1969). Berglez and Nassanga (2015), in their comparative study of Sweden and Uganda, discovered that the news on climate change in Uganda portrays some kind of worry, mostly when it emphasizes the catastrophic weather events such as droughts and floods, which often disrupt activities such as farming. Similar studies on farmers' perceptions of climate change in Uganda have concluded that farmers perceive climate change news and information as causing apprehension.

The aforementioned revelation clearly demonstrates that media coverage of the news on climate change invokes emotions. The nature of the activities that those who perceive the effects of climate change engage in differentiates these emotions. In Uganda, for instance, the perceptions of fear and worry stem from the fact that Uganda is dependent on agriculture, and climate change makes the country's population, especially those involved in farming activities, vulnerable to climate-related changes that affect their livelihoods. Furthermore, scholars argue that the lack of solutions in climate change news contributes to heightened apprehension. This is in line with Feldman and Hart's (2018) argument that news that focuses on climate-oriented solutions can increase hope given the fact that media coverage of climate

change evokes emotions and anger from audiences by making climate news so scarier and appealing to people's emotions (Moser, 2007).

Pasquaré & Oppizzi's (2012) study also echoes this, revealing that Italian print media frequently covers climate stories that emphasize disasters over solutions. For example, Espen Stoknes, a Norwegian psychologist, and researcher, contends that people's diminished perceptions and concern about climate change are attributable to the media's portrayal of climate change as a natural disaster. This portrayal leads to the perception that climate change is beyond human influence, which in turn affects public engagement and concern (Stoknes, 2015).

Despite portraying climate change news as negative and evoking negative emotions, literature reveals an interesting theme: audiences still express a desire for this information. Nassanga's (2019) study in Uganda reveals that farmers perceive climate change information as a risk. In the same study, the farmers demonstrated their persistence in engaging with such news, and when the media continued to broadcast the news on climate change, growers continued to access it and consume the news. This suggests that despite the perceived risks associated with climate change, the farmers recognized the importance of staying informed and sought out media sources to enhance their understanding of the issue.

Another significant perspective from the literature is the overwhelming and sometimes conflicting viewpoints in the news and information on climate change, which often seem to contribute to confusion and the exacerbation of worries and fear among the news consumers. In fact, Asplund's (2018) study on the perceptions of Swedish farmers towards climate change information provides valuable insights into the complexities and contradictions of climate change information perceptions among farmers. According to the study, farmers encounter a diverse range of information from multiple sources, including media outlets, which they interpret as conflicting and contrasting viewpoints. The multitude of viewpoints in such news creates a challenging environment for farmers, who struggle to discern which information is credible and which is not. This makes the media's portrayal of climate information critical. Climate change directly impacts them, necessitating clear, reliable, and actionable information to make informed decisions about their farming practices. However, the diversity

of opinions and data presented in the media and other sources can lead to confusion and skepticism.

However, Waqas et al. (2022) present a somewhat unique perspective that the continuous exposure of news on climate change among individuals breaks the perceptions of such news as having conflicting opinions and contradictory views. In their study on the use and attitudes of climate change news in eight countries, they found that individuals who regularly consumed such news were less likely to perceive it as contradictory and conflicting perspectives, thereby reducing their confusion. This partially explains Nassanga's (2019) findings, which showed that farmers, despite their perception of climate change news as worrying and intimidating, continued to desire and consume climate change news.

The notions of “consistency” and “contradictory” regarding perceptions of climate change news and information appear in several studies on perceptions of climate change news. The unifying factor among the scholars is that their perceptions of news on climate change as containing contradictory and conflicting viewpoints have different origins. Some people get their ideas about what information is consistent and what information is contradictory from sources that talk a lot about climate change (Le Dang et al., 2014). Others judge the accuracy of climate change information based on how well the claims match group opinions and how much knowledge comes from analytical or practical methods (Asplund, 2018).

Furthermore, the media in Uganda tends to prioritize local and national news by relying on localized sources, such as government officials, which makes news carry a distinctly nationalized flavor (Nassanga, 2013). In this study, Nassanga also highlights that “reporting climate change news in Uganda often includes revealing the involvement of politicians and investors,” which happens as events unfold; hence, this news is also localized, which leads to people's perceptions of this news as directed towards them. In addition, Nassanga's study discovered that government officials in Uganda dominated the news on climate change. Similarly, Anderson (2017) demonstrates that news routines tend to systematically prioritize the perspectives of elite groups while marginalizing voices from less dominant social segments. This pattern reflects a bias in media representation towards those in positions of power, which echoes Nassanga's (2013) views on the perspectives of politicians and elites in government positions.

The language used in Ugandan media to report climate change has caused audiences to perceive the news as complex (Nassanga et al., 2017). Language used by the news media in climate change information communication has been discussed broadly as a factor that has affected the understanding of climate change information covered in the media (Boykoff, 2008). For example, using a foreign language in reporting climate change complicates understanding the news. Although the media in Uganda often broadcast their news programs in local and international languages, some terminologies, including 'climate change', are not interpreted locally by some citizens (Berglez & Nassanga, 2015), yet language plays a crucial role in climate communication (Fløttum, 2016).

In a nutshell, the way Ugandan media portrays climate change shapes unique audience perspectives as also depicted by media and communication theoretical perspectives discussed above. The most salient portrayal of climate change is the media's focus on reporting adverse weather events such as severe floods, droughts, and heatwaves, which not only impact farmers and their livelihoods but also creates perceived fear and worry. The media's concentration on reporting these events often elicits negative emotions among audiences.

2.4 Encoding-Decoding Communication Model

This model is attributed to Stuart Hall, a communication theorist, and it is believed to have been developed in 1973. The model's main focus is on the process of communication, where it identifies the sender of the message as an *encoder* and the receiver of the message as a *decoder*. More important to note is that this model emphasizes the role of the receiver or audience of the message in understanding and making sense of the media messages, which makes it pertinent to explaining how audiences interpret media messages (see Philo, 2008; Morley, 2006). Essentially, the receiver plays an active role in interpreting media messages, rather than being a passive interpreter. During the interpretation process, the receiver scrutinizes the meaning the sender encoded in the message. This implies that the interpretation of news messages is not static upon encoding but rather subject to potential shifts during the decoding process as underscored by Christian (2019, p. 103):

To be sure, the moment of encoding determines what meanings are put into a message by the sender/producer, but the moment of decoding is semi-autonomous because the message sent (encoded) by the sender/producer is not necessarily the message received (decoded) by the receiver/consumer who makes his or her own meaning.

(Christian, 2019, p. 103).

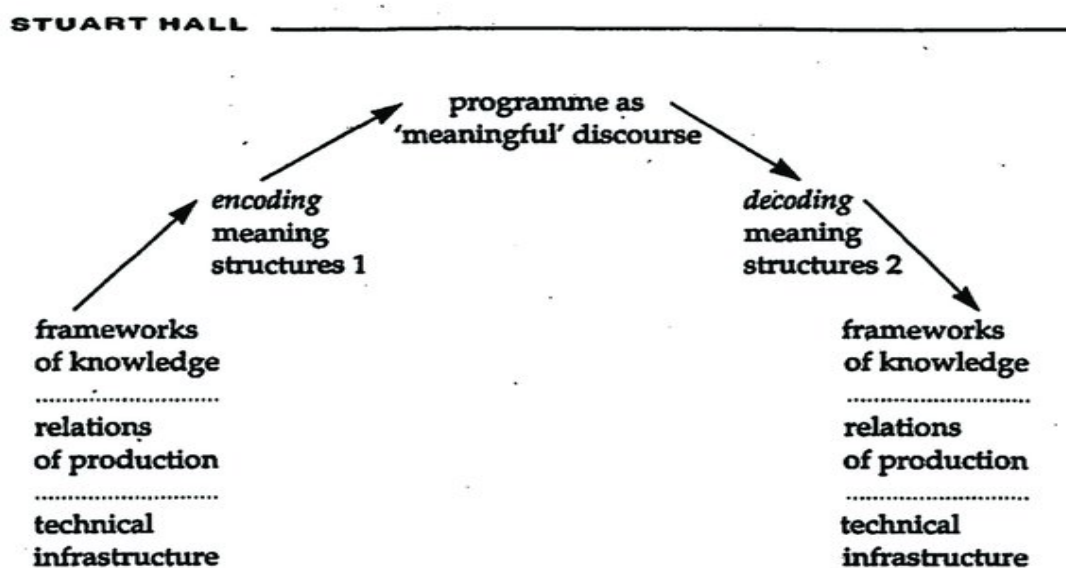
This model also posits that various factors, including audiences' knowledge, beliefs, values, and social contexts, influence the audience's interpretation of the media messages, and thus, the interpretation of a media message is an active process undertaken by the audiences or receivers of media messages (Hall, 1973).

In addition, this model proposes three positions of reading a media message, namely, the dominant or preferred reading, the negotiated reading, and the oppositional reading (Hall, 1973). Hall referred to the dominant reading as an interpretation of a media message that aligns with the intended meaning of the encoder. On the other hand, negotiated reading happens when the decoder partly accepts some intended meaning of the message but also resists parts of the message and creates their own meaning based on their experiences, interests, and positions. The oppositional reading happens when the receiver decodes the message in a way that conflicts the dominant or preferred reading.

In regard to this study, Hall's model acts as a framework by offering a lens through which specific explanations regarding the ways farmers interpret and make sense of the news on climate change can be established. Moreover, a theoretical framework holds immense significance within research, being one of the pivotal components (Ennis, 1999, p. 132). Also, the incorporation of theories in research, as articulated by Lederman & Lederman (2015, p. 593), though not always mandatory, serves to provide context and demarcate boundaries within academic research. Therefore, theories, or in some cases, a singular theory, are typically comprised of a network of interconnected ideas designed to explain or propose explanations for various phenomena, as highlighted in the works of Ennis (1999, p. 132) and Abend (2008, p. 178).

This study chose this specific model as a framework and guiding philosophy for its focus on explaining the audience's interpretations of media messages, its broader acknowledgement of the divergence of audience responses to media messages, and its presentation of the various ways people engage with, accept, and resist the intended meanings of media messages. It offers a framework for understanding how farmers, influenced by their local experiences, social contexts, beliefs, values, and cultural contexts, could perceive, and make sense of news about climate change in various ways. Their interpretation of news on climate change can be explained using Hall's three reading positions as aligning with the dominant or preferred reading, negotiated reading and oppositional reading. This theoretical framework has been applied to audience studies research to show how particular audiences resonate with news media messages (Philo, 2008; Morley, 2006), while also playing an interpretative role in defining the meanings of news content (Livingstone, 2003). Furthermore, media and communication research frequently employ a variety of theories and unique methodologies to examine how audiences comprehend mass media and its impact on them (Mendelsohn and Stephenson, 1967, p. 1; Severin & Tankard, 2001; Jeffres et al., 2023).

Figure 2. Visual Depiction of the Encoding/Decoding Model by Stuart Hall (1973).



Source: University of Birmingham Monograph (September 1973)

Whereas this model holds relevancy in the field of media and communication studies, it has faced criticism for various reasons, including its perceived failure to adequately account for the diversity of audiences and their interpretative practices (Wren-Lewis, 1983). Efforts have been made to either modify or replace the model in response to these critiques (Schrøder, 2000). The model's three constructs - the dominant, negotiated, and oppositional readings - have been a particular focus of critique. For instance, Pillai (1992, p. 231) pointed out the limited application of "negotiated readings," arguing that this concept suggests a singular decoding position and overlooks the inherent negotiation present in all readings. Aligwe et al. (2018) offered a critique of Hall's model, pointing out its overreliance on subjective audience interpretations and its limited effectiveness due to varying social and cultural backgrounds that influence decoding processes. They noted that the model's qualitative approach constrains causal explanations and its focus on micro-level analysis limits broader, macroscopic perspectives. This critique echoes the broader scholarly discourse calling for a more nuanced understanding of audience interpretations and media effects (Ross, 2011; Brunson & Morley, 2005; Pillai, 1992).

Brunson and Morley (2005) highlighted the model's failure to mirror the diversity of societal discourses, whereas Pillai (1992) recognized its continued relevance in theorizing specific practices. Aligwe et al. (2018, p. 1023) also appreciated the model for acknowledging the active role of audiences, challenging earlier notions of passive audience reception, such as the hypodermic needle theory proposed in the 1920s and 30s (see Cuofano, 2023). Some scholars contend that variations in audience motivation significantly influence how they interpret media messages. For example, as cited in Katz et al., (1973), McQuail, Blumler, and Brown (1972) concluded that, "audiences are active and exhibit varying levels of attention because media usage can be intentional, goal-oriented, and motivated." This implies that individuals may derive meaning from information based on their unique motivations and cognitive frameworks (Levy, 1983), rather than adhering strictly to the specific positions outlined in Hall's model. This perspective suggests a more dynamic interaction between audiences and media content, beyond the confines of predetermined interpretative positions.

As previously mentioned, this model will contribute to this research by elucidating the process by which farmers form perceptions as well as understanding of climate change news.

Moreover, the model's incorporation of social contexts (e.g., personal experiences, beliefs, cultural norms, and values) as effective instruments utilized by recipients or audiences of media messages to interpret such messages is critical to this thesis. These components will aid this study in answering the sub-research question regarding the "factors that influence farmers' perceptions of such news."

2.5 General Perceptions of Climate Change Among Farmers.

Perceptions of climate change happen over time through this kind of human dependency on the media for information and news, such as that on climate change. Moreover, Olausson (2011) observed that, despite the complexity of climate change information, the media continues to exert a substantial impact on the public's comprehension of this phenomenon.

Numerous studies examining farmers' perceptions of climate change have revealed that they acquire news and other climate-related information mostly through media platforms, with radio being a prominent medium. Churi et al. (2012) conducted a study on farmers in semi-arid regions of Tanzania, revealing radio as their primary medium for accessing climate change information.

The accessibility of media, their ability to provide coverage of climate change news and information, and a diverse array of views and beliefs influence these perceptions of climate change news (Wonneberger et al., 2020). For example, farmers may exhibit subjective perceptions of climate change news and exercise agency in determining their own understanding and response to the information, irrespective of the logical content that they receive from the news media (William, 2003).

According to the Henriksson et al. (2021) study, radio is the primary information medium farmers utilize to obtain updates regarding climate change. Similarly, several studies pertaining to farmers' perceptions of climate change have underscored radio as the main source of climate change information, with the majority of these investigations taking place in the global south. Soubry et al. (2020) conducted a comprehensive review of literature on farmers' perceptions of climate change and found that the Global South has conducted more studies on these perceptions than the Global North.

According to the literature, studies on climate change perceptions in Uganda reveal that Ugandan farmers often link climate change to weather and seasonal variations (Berglez & Nassanga, 2015; Orlove et al., 2010; Twinomuhangi et al., 2021). Additionally, there is a tendency for individuals to view news on climate change as environmental information, as highlighted by Davidson et al. (2019). The literature emphasizes the unique position of farmers, recognizing their close interaction with the land and the inherent need to closely monitor weather conditions. Consequently, farmers possess a heightened awareness of weather patterns and have both the necessity and opportunity to observe shifts in these patterns. This intimate connection with the environment positions farmers at the forefront of detecting and responding to climatic changes in diverse ways.

In Mwaniki's 2016 study, which investigated the impact of radio broadcasts on the perceptions and utilization of climate change information among Kenyan coastal farmers, participants reported experiencing adverse emotional responses. The content of climate change news elicited feelings of irritation, confusion, and anger among the participants. Apart from these emotional reactions, the farmers in the study also attributed climate change to divine powers, specifically as an 'act of God' (Mwaniki, 2016). Other studies, like Twinomuhangi and colleagues' (2021) study in Uganda and Habtemariam et al.'s (2016) study in Ethiopia, also support this observation by examining the factors influencing farmers' perceptions of climate change. In these studies, farmers frequently expressed the belief that "with the will of God, anything can happen in the future" regarding climate change.

Zongo et al. (2015) conducted a notable study in the Sudano-Agroclimate Zones of Burkina Faso, which revealed a significant discovery. Farmers in these zones demonstrated a willingness to pay for and acquire news on climate change, perceiving such information as beneficial to their daily activities. While Waqas et al. (2022) also found a willingness among people to pay for climate change news, it's important to note that their study did not primarily focus on farmers, though it echoed a similar discovery of individuals valuing such news.

Moreover, Zongo and colleagues' (2015) findings revealed that the educational levels of farmers significantly influence their demand for climate information, aligning with a recurring theme observed by various scholars studying farmers' perceptions. The study reveals that

educated farmers actively seek climate change information, a common theme across most studies investigating farmers' perceptions of climate change.

In the literature, there is limited research on farmers perceptions of news on climate change, as several scholars both in the global north and south have instead investigated the perceptions of climate change among farmers, not necessarily looking at the news. The global south conducted more studies on perceptions of climate change than the global north did (Soubry et al., 2020). What was more significant is that the perception of climate change news and climate change in general in the global south was more likely to be seen to involve negative emotional emotions compared to the global north's perceptions of the news.

This reasoning seemed to result from the nature of vulnerability that farmers in the global south perceived from adverse weather events such as severe floods, erratic rains, droughts, and increasing heatwaves, which highly impacted their farming activities and livelihoods. Methodologically, scholars employed surveys and focus group discussions, and only a few studies used interviews while investigating the perceptions of climate change news among farmers.

The more prevalent themes in the literature were means of addressing the challenges of climate change, such as adaptation and mitigation, and factors influencing farmers perceptions of climate change. Scholars, based on the literature, have concluded that farmers perceive climate change as a reality that significantly impacts their livelihoods and agricultural activities, and that their traditional knowledge and farming wisdom significantly shape their perceptions of climate change information.

Therefore, this research will fill the gap on subjective perceptions of farmers on news regarding climate change, which has not been extensively studied, as several studies have instead focused on studying general perceptions of the news on climate change. This study also fills the methodological gap in the literature on perceptions of climate change through the use of qualitative interview methodology to gain the in-depth perspectives of farmers regarding the news on climate change.

2.6 What Factors Influence Farmers Perceptions of Climate Change News

The preceding section provided an analysis of farmers' perceptions and understandings of climate change news. I concluded by underscoring the scarcity of research specifically targeting farmers' perceptions of climate change news. While there is substantial research on farmers' perceptions of climate change itself, there is a notable gap concerning their perceptions of the news on climate change, which this research seeks to fill.

In this section, I explore various factors that are likely to influence farmers' perceptions of climate change news. These factors span a broad spectrum, encompassing social, cultural, economic, political, and educational aspects, as well as personal experiences, beliefs, and religious considerations. This comprehensive approach seeks to illuminate the multifaceted nature of farmers' perceptions and their shaping by a diverse range of influences.

Gbetibouo's (2009) study, which evaluated South African farmers, established a connection between their perceptions of changes in temperature and rainfall and several key factors. These included the level of education, farming experience, soil fertility, availability of irrigation water, access to climate information and extension services, and geographic location. This study highlights the multifaceted nature of factors influencing farmers' awareness of climate change, which Habtemariam et al. (2016) consider crucial in enhancing understanding of climate change issues among agriculture communities. Various studies (Roco et al., 2015; Kibue et al., 2016; Gbetibouo, 2009) have also highlighted factors such as levels of education that influence farmers' perceptions of climate change.

Farmers' prior knowledge and experiences of climate change affect their perceptions through motivated reasoning (Habtemariam et al., 2016). Motivated reasoning is a cognitive process where people's existing beliefs and experiences shape their processing of information (Bayes & Druckman, 2021). Farmers' prior knowledge and personal experiences with climate change, whether from their farming activities, media coverage, or extension services, shape their perception and interpretation of climate change news. Moreover, scholars (Fierros-González & López-Feldman, 2021, p. 2) stated that "individuals who have been directly affected by extreme climate events tend to report that the probability of such events happening again is

relatively high,” which is also cited in other studies (see de Matos Carlos et al., 2020; Patt & Schröter, 2008).

Kibue et al.'s (2016) survey of farmers in two regions of China found that various factors, including the farmers' educational levels and their proactive attitudes towards seeking information, significantly influenced their perceptions of climate variability. The study also revealed that the presence of accessible sources for climate change news, such as local news media and agricultural extension services, supplemented by a certain degree of information literacy, can substantially shape how farmers perceive and comprehend climate change information. This suggests that enhancing educational opportunities and improving access to reliable information sources could play a pivotal role in fostering a deeper and more accurate understanding of climate change among farmers.

A similar study by Mamba et al., (2016), which surveyed 270 maize farming households in Swaziland, found that the education levels of farmers significantly affect their understanding of weather patterns, particularly changes in rainfall. Notably, the study observed that farmers with tertiary education had a more accurate comprehension of rainfall patterns. This observation is similar to Habtemariam et al.'s (2016) recommendation for enhancing basic education in regions with illiterate farmers and distributing timely, relevant information on climate change.

The availability and accessibility of climate change news in different media influence farmers' perceptions of climate change. According to Grothmann & Patt (2005, p. 205), people's knowledge and engagement with climate change are influenced by what people are told about climate change in the news media. Similarly, Weber (2010) found that the media's information can influence or tailor individual perceptions of climate change. When farmers have easy access to information about climate change, including its causes, local impacts, scientific consensus, and the personal experiences of other farmers, it enhances their awareness and understanding of the issue.

Nevertheless, it is worth noting that perception is, to some extent, a subjective experience. Hence, farmers in the same neighborhood may develop diverse perceptions of climate change information despite experiencing or being exposed to identical weather conditions (see

Simelton et al., 2013), as cited in Fierros-González & López-Feldman (2021, p. 2). This could also be influenced by the sources of climate change news farmers are exposed to. For example, a study conducted in the Mekong Delta in Vietnam discovered that varied information on climate change from the media, friends, relatives, and local authorities influenced how farmers perceived climate change as a risk (Le Dang et al., 2014).

Additionally, farmers' perceptions of risks linked to climate change events like floods, earthquakes, droughts, heatwaves, and wildfires play a pivotal role in shaping their interpretations of climate change news. The direct experience of, or proximity to, these climatic events often result in heightened awareness among farmers. Often, this awareness is being spread by existing institutions, such as the news media (see Grothmann & Patt, 2005, p. 200). However, this increased sensitivity, such as that sparked by the news media, is not merely passive. Though there are fewer perceptions of risk among the farmers (Le Dang et al., 2014, p. 342), their reaction actively informs and shapes their understanding of climate change, as reported in the news.

Peer networks and social influences play a significant role in shaping farmers' perceptions of climate change news. Farmers often rely on their interactions with peers, such as fellow farmers (Balasha et al., 2023), agricultural associations, and community networks, to gather information that later shapes their perceptions. These social connections can influence their beliefs, attitudes, and understanding of climate change news. Peer discussions, shared experiences, and social norms within these networks can either reinforce or challenge existing perceptions, ultimately shaping farmers' understanding and perceptions of climate change news.

In conclusion, this section reveals that farmers' perceptions of climate change news are influenced by several factors, including personal experiences, educational background, and social networks. Direct experiences with climate events, access to varied information sources, and peer networks contribute to diverse interpretations of news on climate change. While direct experiences with climate events intensify awareness, educational levels and peer interactions also significantly shape how farmers perceive this news.

3.0 Chapter Three: Methodology

3.1 Introduction

Research methodology guides the data collection and data analysis techniques in the planning and execution of a given research project (Silverman, 2013). (Rassel et al., 2020, p. 28) defined research methodology as “a structured set of procedures for executing a research project.”

In this chapter, I present the method (qualitative semi-structured interviews) and procedures for data collection and analysis undertaken to qualitatively explore the perceptions and understanding of the news about climate change among the farmers of Rukoki sub-county, Kasese district, in Western Uganda.

The subsequent section will consist of a qualitative case study design, which covers the overall plan that guided this research from the point of data collection to the analysis. The data collection section details the complete data collection procedure, which includes participant selection, study area, and time frame. Also, issues of validity, reliability, and ethical consideration that emerged throughout this research process will be highlighted. The final section of this chapter outlines the strengths and weaknesses of this study, with a focus on methodological choices, the data collection process, and the analysis conducted.

In a nutshell, as seen above, this chapter provides a comprehensive understanding of this study’s research’s design, the methodology, and how pragmatically the methods were applied to assist in producing or arriving at the findings of the study.

3.2 Research design.

A researcher adopts a research design as a procedural plan or blueprint to aid in data collection and analysis (Kumar, 2011). The overall goal of this study's design is to guide decisions about what, when, how, and where to collect data, from whom the data is collected, and how and what methods are used for analyzing this data (see Rassel et al., 2020, p. 28).

In order to comprehensively explore Rukoki farmers' perceptions and understandings of climate change news, I opted for a qualitative case study design as the primary methodological framework. Case studies involve a thorough qualitative approach where the researcher delves

deeply into a programme, event, activity, process, or one or more individuals to gain their understanding of a social phenomenon (Priya, 2021).

The combination of this approach and the theoretical framework, Hall's encoding-decoding communication model employed in this study, facilitated a deep exploration of the farmers' perceptions and understanding of climate change news. Additionally, I found qualitative methods to be particularly suitable for exploring individual perceptions and understandings of social phenomena, as also stressed by Merriam (2014), such as farmers' interpretations of climate change news and the factors that influence their perceptions.

Within the qualitative case study design, I chose to conduct semi-structured interviews with the twelve (12) participants as the primary data collection method. I made this decision based on the conviction that using interviews would enable me to build a relationship with participants, creating a setting that would encourage candid and in-depth conversations about their perspectives on climate change news.

Also, interviews would allow me to explore farmers' understandings and perceptions of the phenomenon of climate change news based on their beliefs and experiences with such news and other aspects of their farming practices and ways of life (see Edwards and Holland, 2023, p. 11). Hall's encoding-decoding model, therefore, would later be used to interpret and explain the unveiled understandings and interpretations of the news emerging from the exploration of farmers' beliefs and experiences with both the news and farming ways of life.

Moreover, the 'face-to-face' or physical interviewing technique allowed me to capture valuable insights into farmers' views, emotions, beliefs, and experiences that informed their understanding and perceptions of such news. In essence, this design made it more flexible for this research to come up with data suitable and sufficient to answer its research question and sub-research question (see Kumar's 2011 explanation of this particular design).

By actively listening and asking open-ended questions, such as how often farmers came across news on climate change, where did they get the news, how they felt when they heard such news, what particular aspects of such news catch their attention, and more, the farmers shared their thoughts and observations about the news on climate change, which were relevant to this study as their insights assisted in answering the main and sub-research

questions of this research: How do farmers perceive and understand the news about climate change? And what factors influence their perceptions?

The rationale for applying this case study design and in-depth interviews stemmed from a review of relevant literature on farmers perceptions of climate change and climate change news. Methodologically, the majority of the research conducted on farmers perceptions and understandings of climate change utilized surveys and focus group discussions (Hyland et al., 2016; Roco et al., 2015; Hitayezu et al., 2017; Asplund, 2018; Mertz et al., 2009). Only a few studies used semi-structured interviews (see Habtemariam et al.'s 2016 study), which focused on exploring Ethiopia's smallholder farmers perceptions of climate change.

3.3 Sampling

The choice of the sampling technique adopted for this research hinged on the nature of the research questions, the research design, theoretical knowledge, and the type of data that needed to be collected.

Purposive sampling was the main sampling technique employed in selecting the informants who participated in this research. This technique falls under non-probability sampling criteria (Galloway, 2005). It does not rely on random selection and does not provide each member of the population with an equal chance to be included in the sample (Wolf et al., 2016, p. 330). Instead, researchers deliberately select participants based on specific criteria or characteristics relevant to the research objectives.

Participants in this study were chosen based on specific criteria: demographic diversity, significant farming experience (at least five years), and exposure to climate change news. Initially, field visits were conducted in collaboration with a research assistant who was familiar with the study area's different zones. These visits took place on weekdays in July 2023, allowing for direct engagement with farmers while in their gardens to identify potential participants for the study.

To ensure a manageable sample size given time and resource constraints, the study was limited to twelve participants who were farmers in Rukoki sub-county and met the specified criteria. These 12 informants were considered representative of the broader population of

the area, providing sufficient diversity to capture various perspectives on climate change news.

The decision to work with 12 participants was based on the methodology of qualitative semi-structured interviews, which allowed for in-depth exploration of participants' perceptions and experiences. Despite initially planning for 15 participants, data collection reached a point of saturation with the 12 participants, indicating that further interviews were unlikely to yield significantly new insights. Therefore, the selected sample size was deemed adequate for achieving the research goal.

Above all, the criteria for measuring the informant's necessary exposure to news on climate change involved a comprehensive approach. In the selection process for participants, every informant was asked about his or her news consumption habits to ensure he or she had regular exposure to news sources. This process availed the participants an opportunity to highlight the specific types of news they had been exposed to. This approach guaranteed that informants who demonstrated awareness of news and mentioned climate change news were considered for participating in this study.

However, to ensure the reliability of farmers self-reported exposure to climate change news, a pilot interview was conducted with a news editor of Ngeya FM, a local radio station and sister station for the Uganda Broadcasting Corporation (UBC), a national broadcaster in the study area. The insights obtained from this pilot interview confirmed that news on climate change was broadcast by this local radio station and accessible to farmers in that area. Moreover, academic literature has shown that radio is the most accessible media in Uganda (Team, 2020; Twinomuhangi et al., 2021, etc.).

Put simply, by implementing this multi-faceted approach that included both self-reporting of exposure to news and validation through the pilot interview, this qualitative research ensured that the selected informants had the necessary exposure to climate change news and farming experience, enhancing the credibility and relevancy of their perspectives within this research.

In a nutshell, only potential participants who met the research criteria and expressed willingness to participate in this research were consulted regarding their availability and mutually agreeable dates and times for interviews. This is because these participants were

believed to possess' unique knowledge, experience, or perspectives that are essential for addressing the research questions.

3.4 Data collection

All scientific investigations construct their foundation upon data (Zozus, 2017). In the domain of “qualitative research” and “qualitative data collection,” scholars such as Uwe Flick provide a clear, concise, and general explanation of what qualitative data collection entails:

“Qualitative data collection is the selection and production of linguistic (or visual) material for analyzing and understanding phenomena, social fields, subjective and collective experiences, and the related meaning-making processes...The collection of data can be based on talking, listening, observing, and analyzing materials such as sounds, images, or digital phenomena.”

(Flick, 2017, p. 7)

This study's data was collected through the use of semi-structured interviews conducted among twelve participants who were farmers in Rukoki sub-county, Kasese district, in western Uganda.

The data collection exercise took place from July 14, 2023, to August 13, 2023. Data collection occurred only on weekdays (Monday to Friday), with weekends (Saturday and Sunday) excluded from the data collection schedule. During the data collection period, I dedicated a total of 23 weekdays to conducting interviews and reviewing written notices, which I always documented during interview sessions with participants.

The data was collected in the form of words through audio recording and field notes (see Eisenhart, 2006). Later, I manually transcribed the audios into text without using any transcription software or automated tools. My intention to familiarize myself with the data at a deeper level drove the decision to transcribe it manually. This provided me with the opportunity to immerse myself in the content and gain a thorough understanding of participants responses and perspectives. For example, the field notice allowed me to identify any insights that were missed during the interviews.

3.5 Qualitative Semi-structured Interviews

Taking into account the specific nature of this study and the need to gather rich and detailed insights from participants, I determined that the qualitative, semi-structured interview method would be the most appropriate. Interviews as research methods can be unstructured, semi-structured, or structured (Brinkmann, 2013, p. 18).

I also found this particular format, a semi-structured interview, to be more open and flexible, as it allows for bringing out new ideas during the interview rather than staying fixed to a set of topics and questions (Brinkman, 2013).

An interview is a conversation between two or more individuals in which one person, known as the interviewer, asks questions to another person or a group of people, known as the interviewee(s), in order to gather information, insights, or opinions on a specific topic. Researchers use interviews as a data collection method to directly collect data from participants (King & Horrocks, 2010; Edwards & Holland, 2023; Brett & Wheeler, 2021).

3.5.1 Interview preparations

Firstly, an interview guide was created based on the knowledge gained from this study's research question and sub-question, the theoretical framework, and existing literature. The interview guide included a set of predetermined open-ended questions and topics, along with prompts, which were valuable to finding answers to the study's research question (see Appendix 2). It outlined the topics and sub-topics to cover, along with what to say at the start and end of the interview (Edwards & Holland, 2023, p. 56). I designed the interview guide to allow for additional flexibility to delve deeper into the questions or follow up on interesting responses, given the nature of the semi-structured interviews used in this study.

After completing the interview guide, I conducted a pilot interview with one farmer in the area of study whom I later recruited as my research assistant, given his knowledge of the area, his farming experience, and his role as a supervisor in the farming sub-county of Rukoki where this study was conducted. This pilot interview was a strategy I thought would allow me to improve the way I formulated the questions in the interview guide, as well as determine whether the flow of questions would allow me to achieve my goals or whether there was a

need to reformulate the questions before the actual interviews (Kallio et al., 2016, p. 2960). In fact, this pilot interview revealed structural gaps in my interview guide. To be specific, I had overmixed ideas into the topics and questions, which could interrupt the flow of the questions. Before conducting the main interviews, I immediately addressed these gaps and developed a properly structured interview guide, which allowed my ideas to flow and ultimately led to successful interviews.

In the new interview guide, I divided the whole interview structure into three phases. Phase one included introductions and warm-up questions; phase two included reflective questions; and the last phase, phase three, included final questions and the closure of the interview.

The sampling section above provides detailed documentation of the process of recruiting participants for this study's interviews.

3.5.2 During the interview

The interview process often started with a formal introduction from myself and the participant following phase one of the interview guide. Introductions stimulated an interaction between the participants and myself, which created a friendly and welcoming environment and made participants feel more at ease (King and Horrocks, 2010).

For instance, I used this interaction session to clarify the research's purpose, the expected interview duration, and the rationale behind recording the interview. Later, the participant signed a consent form that explained the significance of the research, data management, who would manage it, and the potential risks and benefits of participating in the research. By signing the consent form, the participant would have agreed to participate in the research by interviewing him or her (see Appendix 3).

I always started with open, or warm-up questions related to the research topic (see sample questions in the research design section), in which I raised follow-up questions and issues that stimulated the respondent to talk about the issues and respond to the questions I raised. This question led me to more and more reflective questions and deep conversations that piqued interest in the interview until the end. At the end of the interview, I asked each participant if they had any additional insights to add to their previous statements. All participants felt

satisfied with what they had said, though when I stopped recording, they started giving other ideas relevant to the research, and I always captured these ideas in my notebook.

All interviews with the participants took place in Rukoki subcounty, the area where this research took place. Whereas interviews happened in the area of data collection, participants were often interviewed in different specific places, often those they found convenient and were also convenient for me. Five participants agreed to be interviewed from their gardens; four were interviewed from a farmer's community food store premises, while three were interviewed in their homes. Interviews often took place after 12 p.m. in the afternoon. What was special about this particular time was that farmers had often completed their first session of farming activities and were taking a break. They chose their break time because it was convenient for the interviews.

Lastly, every interview recording was played for a few seconds on the recorder in order to be sure it was recorded, and it was also transferred to the external hard drive and my personal computer after each participant interview.

3.6 Data Analysis

This study's data analysis underwent both manual or human and machine or software-based analysis approaches using NVivo. Analysis started right away, from the point of manual transcriptions of audio files to text and organizing pre-defined codes and developing new codes while reviewing the data in a process known as hybrid coding (Fereday & Muir-Cochrane, 2006). I manually assigned codes to data from interview excerpts as the codes evolved, using Microsoft Word tables and post-it notes to display the data and divide it into inductive and deductive codes (Azungah, 2018). The tables contained columns for participants' pseudonyms, preset codes obtained from the research questions and literature review, and an additional column for inductive codes that arose from the data itself. The tables allowed for a systematic comparison between the pre-established codes and the newly generated codes derived from the data.

Inductive coding involves generating categories or themes directly from the data (Fereday & Muir-Cochrane, 2006, p. 83). This coding approach involved analyzing each participant's transcribed data, assigning relevant codes to the participants statements, and making

observations about emerging themes or patterns. I identified recurring ideas and patterns through a close reading and analysis of the transcribed data, along with the unique perspectives of the participants.

Deductive coding involved deriving predetermined codes from the research questions and reviewing existing literature. I assigned these codes to the appropriate sections in the coding tables. Within the collected data, the coding process systematically examined the key codes and themes identified in the literature, using coding tables to facilitate easy comparison and identification of commonalities and differences between the predetermined codes and inductive codes.

The rationale for the manual analysis was intended to familiarize myself with the data for the purposes of creating an in-depth analysis.

On the other hand, NVivo coding, which involved using a computer-based programme (NVivo), was employed to re-read and analyze the data as a way of comparing and figuring out whether there were other relevant data sections that could have been missed in the manual analysis and as a quality check for biases that may have been raised during the manual analysis process.

It turned out that NVivo coding enriched the analytical process and contributed to a deeper understanding of the data. For example, using the NVivo visual representation tool, I was able to discover relationships between different codes and themes in a more interactive way with the data, which allowed me to gain an understanding of the data patterns and form new interpretations based on the hierarchical relationships inherent in the data coding structure. In addition, the code book in NVivo, which contained all codes, themes, and definitions in a more organized structure, allowed me to stay consistent and clear in the coding process. Furthermore, one of NVivo's strengths is that it allows for transparency and audibility of the research process for purposes of assessing the reliability and validity of the coding process, analysis, and study findings (Richards, 1999).

Other key steps I undertook for data analysis include data transcription and data categorization.

3.7 Data Transcription

Transcribing data involved converting all audio recordings into written text. After conducting all of the interviews and storing all of the audio files on my computer, I manually transcribed all of the audio recordings into text. I listened to each audio recording word-for-word, capturing the spoken words into written text, including verbal fillers such as ah, uh, um, etc., which often occurred whenever the respondent was perhaps searching for the right word or organizing their thoughts (Flick, 2013). This was intended to capture the respondent's level of engagement on specific topics and questions during the conversation for the purposes of gaining a detailed analysis and understanding individual respondents' perspectives. The transcription format allowed for an engagement with the data and a deeper understanding of it.

3.8 Data Categorization

While categorizing data, I organized and classified different groups or categories of data into themes based on their characteristics. For example, I grouped all the data that encompassed participants' emotions and beliefs associated with the news on climate change into three thematic clusters: negative and emotional perceptions of news, complex and political nature perceptions of news, and lastly, perceptions of news as a source of empowerment. This data category was highly related to the study's main research question. Additionally, I grouped the data that was relevant to the study's sub-question into two thematic areas: social and cultural, and traditional and modern wisdom. This process assisted in making sense of the data during interpretations and laying out the findings that emerged from the analysis.

3.9 Validity and Reliability

Validity and reliability are indicators of quality in research (Baumgarten, 2012, p. 3). In fact, the phenomenon of research is about generating valid and reliable information in an ethically sound manner (Merriam, 2014, p. 209). Validity focuses on the extent to which a research study accurately measures or assesses what it is intended to measure. In general, it tends to focus on accuracy, truthfulness, and interpretations drawn from the data. Reliability, on the

other hand, is concerned with the consistency, stability, and producibility of the measurements or instruments used in the study.

3.9.1 Validity

This research employed several strategies to enhance validity and ensure the accuracy and appropriateness of the interpretations and conclusions drawn from the collected data (Morse et al., 2002, p. 15).

Firstly, internal validity refers to the degree to which a study effectively investigates and measures what it intends to investigate (Clark & Middleton, 2010). I developed a well-structured interview guide with open-ended questions, tested it with a pilot interview before actual interviews, and ensured that the questions asked of participants were clear and relevant to the research question, thereby promoting the internal validity of this study.

Moreover, the interview guide provided for consistency in the interview questions and flow, which was crucial to promoting validity by guiding the collection of relevant data. Furthermore, the use of semi-structured interview methodology, which allowed for gaining in-depth knowledge and insights into the participants perspectives on the news on climate change, made this study's data rich and sufficient for answering the research questions.

Additionally, I conducted respondent validation to further enhance validity. This process involved sharing the transcribed data and initial interpretations with the participants, with the goal of providing them with the opportunity to review the data and verify that it accurately represented their views and experiences. I also invited participants to provide feedback and suggest any necessary modifications or additions. During this process, most participants concurred that the data accurately reflected their perspectives and facilitated the research, while a minority attempted to supplement their arguments with additional information, subsequently incorporated into the transcripts.

On the other hand, external validity addresses the extent to which the findings of the study can be generalizable or applied to other populations (Findley et al., 2021, p. 368). To cater for external validity, given the small sample size of twelve participants, I made sure that these twelve participants were farmers and a representative sample of the area of study. One could argue that this serves as a measure of validity, given that the data collected for this study came

from the intended participants. In fact, these participants were suitable for the purposes of this study because they met the recruitment criteria. Throughout the course of this research, I diligently maintained reflexivity, engaging in critical self-reflection to identify and address any potential biases, assumptions, and misconceptions that could have influenced the research process. By actively acknowledging and scrutinizing my own perspectives, I aimed to minimize any distortion or misrepresentation of the participants' views. For instance, I made sure that the participants' voices were accurately and transparently represented without compromise, and thus, all the findings of the study reflect their authentic views on perceptions and understandings of news on climate change.

3.9.2 Reliability

Reliability in qualitative research speaks to the consistency and dependability of the research process and its findings (Thyer, 2009).

The use of purposive sampling techniques to recruit the participants assisted in identifying participants who were able to provide the rich and varied insights required to answer this study's research question. All the participants in this study received clear instructions before engaging in interviews. I aimed to ensure participants had a common understanding of the research focus, aiming for more consistent responses.

Furthermore, I systematically and clearly documented the steps taken in this study's research process and data analysis, including data collection, data transcriptions, coding procedures, and data categorization, as a way of increasing transparency, which allows for potential replication of the analysis, increasing the reliability of the study. This process also allows for an assessment of the study's findings' consistency and dependability.

3.10 Ethical considerations

This study followed a set of ethical guidelines to protect the rights and well-being of participants, maintain privacy and confidentiality, and uphold the credibility and reliability of the research methodology and outcomes. I performed a series of four steps to guarantee compliance with ethical principles:

Prior to data collection, the very first step entailed the submission of an application to the Norwegian Agency for Shared Services in Education and Research (Sikt/NSD). The currently available application requested authorization to handle personal data, as outlined by Sikt/NSD (2022), which includes information such as individuals' names, audio recordings, and contact information. After the evaluation, Sikt approved the study application (Ref. 956219), affirming that the intended data processing adhered to Norway's data protection rules (see Appendix 1).

Step two involved submitting a research permit application to the Uganda National Council for Science and Technology (UNCST) through the Research and Ethics Committee (REC) at Makerere University School of Social Sciences, the host institution, in light of the data collection taking place there. This step ensured adherence to local regulations, as delegated institutional research and ethics committees in Uganda evaluate all research projects involving human participants. The protocol reference number for this study was MUSSS-2023-272.

Step three involved creating consent forms, adhering to Sikt's (2022) procedures, and requesting informed consent from all interviewees before they could participate in the research activities. These forms included a clear explanation of the research objectives, participants' rights, and voluntary nature of participation. The forms informed participants about their rights to accept or refuse participation, access, correct, or change information, as well as the privacy and confidentiality measures in place (Sikt, 2022). The forms informed the participants that OsloMet, an international university in Norway, would receive their information.

The last step emphasized to all potential participants that their involvement in the research study was entirely voluntary, and thus, their decision to participate or withdraw from the research process would not result in any negative consequences or penalties. I assured the participants that I would keep their identities and personal information strictly confidential, and I would give them the data for verification and feedback before further processing. Except for the key informant interview and pilot interview participants, the rest expressed a preference to remain anonymous.

3.11 Strength and Weaknesses

The strength of this research has been the use of qualitative, semi-structured interviews together with the encoding and decoding theoretical framework, which allowed for a rich exploration of farmers' perceptions and understandings of news on climate change. This approach enabled a deep understanding of the participants' experiences, beliefs, and perspectives, providing valuable insights into their knowledge on climate change news. Additionally, the research achieved data saturation, signifying the collection of sufficient interview data to encompass a wide range of perspectives and themes. This ensured that the findings were grounded in a comprehensive data set, which promoted this research's credibility and trustworthiness.

Nevertheless, while the focus of this study was on how farmers subjectively perceived climate change news, it would have been more fruitful to compare and contrast the news coverage with farmers' perceptions of the news to obtain an accurate representation.

Additionally, this study concentrated on a specific sample of twelve participants, and despite achieving data saturation, the findings might not be as broadly applicable to the larger farmer population. The small sample size limited the ability to draw broader conclusions beyond the research context.

4.0 Chapter Four: Presentation of Findings

4.1 Introduction

This chapter presents this study's findings. The study aimed at exploring farmers perceptions and understandings of news on climate change. The findings are systematically organized into three thematic clusters, each containing sub-themes that provide an overview of the nuances of the farmers perspectives on the news about climate change. This study was guided by two research questions: (1) How do farmers perceive and understand the news about climate change? (2) What factors influence their perceptions? The primary research methodology for this study was qualitative, semi-structured interviews. I interviewed a total of twelve (12) participants and one (1) key informant.

I employed a thematic analysis based on my knowledge of this study's methodological and theoretical framework to organize, analyze, present, interpret, and identify underlying meanings and patterns in the data (Braun & Clarke, 2006). The previous chapter articulated this process, which involved data transcriptions, interpretations, categorization, and the development of themes using both manual and machine-based coding strategies.

Methodologically, this study's data collected through semi-structured interviews naturally lent itself to thematic organization, as it allowed for a simple and systematic exploration of the participants' perspectives (Braun & Clarke, 2006). Theoretically, the data revealed some themes that directly aligned with the concepts and principles outlined in the study's theoretical framework, while other themes emerged organically from the data without explicit reference to the theoretical concepts. As a result, I present the findings in a thematic manner, based on the reasons explained above and the format's simplistic nature.

The three main themes under which I present the findings under each sub-theme of the main theme are: perceptions of climate change news, understanding of the news, and factors that influence perceptions of news on climate change. I present the findings according to the previously illustrated themes.

4.2 Farmers Perceptions of Climate Change News

Table 1. A brief on themes and examples of farmers insights on climate change news.

Themes	Illustrative Insights from Farmers' Excerpts
<p>Negative Emotional Impacts:</p> <ul style="list-style-type: none"> The news on climate change evokes feelings of stress, concern, fear, discomfort, exhaustion, burden, worry, and alarm. 	<p><i>"For instance, all I need to feel good enough is good weather. (...) not much rain, and not much sunshine...."</i> – Alex.</p> <p><i>"Honestly, this kind of news burdens my heart greatly... I'm uncertain if we will ever regain the stability of the seasons we once had."</i> – Peter.</p> <p><i>"What greatly concerns me is the lack of affordable solutions provided by the news for floods and extreme sunshine."</i> – Moses.</p> <p><i>"What lies ahead appears to be a looming catastrophe."</i> – Bonny.</p> <p><i>"Such news unsettles livelihoods, gardens included."</i> – Nicholas.</p> <p><i>"I feel helpless, unsure of how to handle the situation in the coming seasons"</i> – Innocent.</p>
<p>Complexity and Political Nature of News:</p> <ul style="list-style-type: none"> The news often presents complex jargon that is difficult to understand, dominated by politicians' voices, featuring unbalanced opinions, contradictory information, and a lack of representation of farmers' views. It seems tailored for the elite, the "big people" in society. 	<p><i>"I do not rely on my personal interpretations of this news. I seek explanations from extension officers"</i> – Peter.</p> <p><i>"Politicians voices dominate the news, farmers are unheard."</i> – Paul.</p> <p><i>"Divergent opinions in the news confuse me."</i> – Iren.</p> <p><i>"News tailored for the elites, the 'big people,' not us."</i> – Morgan.</p> <p><i>"Complex terms like 'global warming' confuse me."</i> – Alex.</p> <p><i>"It is about government policies and programs"</i> – Moses.</p>
<p>News as a Driver for Climate Change Awareness:</p>	

<ul style="list-style-type: none"> • The news provides relevance to climate change by acting as an enlightening source of information. Despite its scaring nature, it is capable of educating, motivating, and initiating meaningful conversations among farmers about climate change. 	<p><i>“It informs and makes climate change relevant.” – Julie.</i></p> <p><i>“Sometimes the news triggers me to start conversations on weather and climate.” – Daphne.</i></p> <p><i>“Somehow useful because I learn what I did not know.” – Sydney.</i></p> <p><i>“Scary news, but I learn from it.” – peter.</i></p>
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4.2.1 Theme 1: Negative Emotional Impact of News

In this theme, farmers perceive climate change news as frightening, alarming, stressful, and warning. The theme spans a variety of farmer perceptions, revealing a prevailing sensation of uneasiness caused by farmers' exposure to news about climate change.

The findings revealed that news on climate change was perceived as an indicator or a forecaster of a curse or a foreboding sense of doom. Farmers believed the news was, first of all, alerting them of the future challenges to their livelihoods and farming activities. On the other hand, because they reported having witnessed and experienced adverse weather events such as floods, increasing heatwaves, droughts, and erratic rainfalls, they considered such news to be capturing their worst experiences with the weather and forecasting doom or a curse likely to come in the future.

Take, for example, one farmer, Alex, who appeared to have been influenced by the news to worry about whether there will be rain in the future, how much it will be, and what impact its magnitude will have on farming activities.

“For sure, I do not feel myself settled. All I need to feel good enough is good weather. Let's say, not much rain and not much sunshine. I mean, good weather which favors crop to grow well so that I can have good harvests.”

Alex also seemed to have a sense of disappointment upon receiving the news on climate change, especially the news that focused on overly soaring temperatures, severe droughts, and delayed rainfall seasons.

"... Of course, it is very disappointing. You know, I heard on the radio that rains will delay. Or we might not even receive rain. I cannot tell why all this is happening these days, yet it never used to be so. Even temperatures are rising every day."

The above sentiments spoken by Alex during the interview are in line with what the majority of the farmers perceived on the news about climate change under this theme. Yet, another commonality among other participants' views on news forecasting a sense of doom, as quoted by Alex above, was the perception that such news triggers negative emotions.

Farmers commonly reported experiencing negative emotions like fear, worry, and sadness whenever they were exposed to the news about climate change. They often used words like "worrying," "burdensome," "concerning," "sad," and "distressing" during the interview sessions. For example, one participant, Daphne, thought such news was alarming and left farmers anxious.

"News about climate makes it worse. I used to think all the changes in weather conditions were natural-related changes. But the news shows that farming activities contribute to changes in seasons and weather patterns... Something wrong might happen soon."

According to Daphne, on top of the worries originating from farmers witnessing challenges caused by the changes in weather conditions on farming activities, as highlighted by Alex, the news on climate change seemed to steer the anxiety and apprehension as it often reported adverse weather events as inevitable and highlighted farming activities as rather contributing to the changes in weather.

The data showed that the majority of the participants perceived the news on climate change as burdening and overwhelming because, among other reasons, it reported climatic changes as a threat to farming activities, on which farmers depended for their livelihoods. In addition, the analysis revealed that the climate news highlighted the farmers' deteriorating long-term reliance on weather due to changes in weather patterns, which appeared to menace farming activities.

Simultaneously, the findings unveiled heightened levels of concern among farmers, which emerged from the perception that the news on climate change lacked solutions to the

changing weather events such as floods, droughts, erratic rains, and increasing heatwaves, as both witnessed firsthand by farmers and also heard in the news. In fact, a substantial majority of the participants appeared to believe such news exaggerated their fear, as it appeared to be devoid of solutions to the challenges caused by the adverse climatic changes on their farming activities and livelihoods.

For example, in a post-interview reflection, which part of it I recorded, one participant, Moses, seemed to be bothered not by the changing climatic changes and the news the media broadcasted about climate change, but rather by the persistent reporting of news that, as he said, “weighs heavily on his heart” without solutions to the climatic events reported in such news.

“Yes, I already know our climate is not what it used to be sometime back, but what is the one thing I can do as a farmer to stop the heatwaves and droughts like we are facing now? That is what I do not hear journalists address in climate news. All I hear is to plant trees, which I cannot afford to buy. That’s why such news weighs heavily on my heart, because I do not have anything to help with despite listening to such news always.”

The expressions of participants such as Alex and Daphne during the interviews about news on extreme weather changes such as droughts and rising temperatures are in tandem with Moses’ expressions in the previous quote. Upon closer examination of the analysis, there turned out a common pattern: the farmers’ excessive expression of frustration. The participants’ perspectives during the interviews revealed that when the news lacked solutions, their level of frustration increased.

An interesting finding, however, was the signs of climate change news avoidance among the farmers, which appeared to emerge from their frustration, rooted mainly in the earlier revelations of climate change news perceived as lacking solutions and its excessive emphasis on the impacts of climatic changes on farming activities.

In the interviews, participants responded that they desired to stop engaging with news regarding climatic shifts and unfavorable weather events since they saw it as negative news that left them frustrated. The analysis revealed that eight out of the twelve interviewed

participants expressed fear and concern about the sustainability of their way of life upon hearing about climate change and its impacts in the news.

For instance, Bonny, one of the participants, said that it is better to stay away from the news that stresses and worries you than attempt to keep accessing and paying attention to it.

"... I would not bother it if it was business or sports news, but the fact that it is related to my ways of survival... And you know, a good climate makes farming better, and a bad climate makes it worse. I am already affected by the worst climate; why would I engage with the climate news, which would depress me more?"

The data illustrated yet another noteworthy pattern, which showed that the participants perceived the news on climate change as being more prevalent during the times when calamities affect them. This perception in particular appeared to have a strong impact on their perceptions of climate change news as frustrating.

For example, participants reported that whenever floods occurred in their areas, when they faced a terrible drought, or when they received strong rains and hailstorms, the news on climate change was seen to be more common than when these events occurred. This seemed to be a contributing factor to their perception of the news reporting on climate change as significantly more negative than positive.

However, it is worth noting that, in spite of the fact that a sizable portion of participants expressed a wish to avoid engaging with climate change news because they believed it to be negative, some felt that the news had value because it was believable, as evidenced by the reporting of the challenges that farmers face as a result of the shifting climate. Farmers who valued the news often assumed that the stories it covered were based on their personal experiences with weather events, such as floods, scorching heat waves, and droughts.

For instance, Julie, a participant, expressed trust and value for news on climate change because such news reflected what she had witnessed firsthand:

"Where we are sitting right now used to be a dense forest. I remember walking through it with my friends on our way to school. Now, it's all dry, and there's no plant cover around, as you can see. Therefore, what I hear in the news about climate change is a solid truth. Indeed, the climate has changed, and all I see ahead is trouble."

Likewise, another participant, Sydney, expressed a personal observation about the news on climate change as meaningful and believable:

"I do not disagree at all with the news about the changes in the climate because I have lived to witness many changes happen in this community... I do not challenge the news since I can see with my own eyes that the temperatures, we have today are not the same as we had back then, just as the rains we used to have totally changed, as seasons have also changed. I agree the climate news has meaning..."

Sydney also stressed that one does not need to know everything about how nature works in order to understand and make sense of the news on climate change. Instead, one needs to pay attention to what is happening around them.

"Honestly, you do not have to be aware and smart to really understand how nature can be both good and bad at times. Lately, I am hearing in the news and the weather updates on the radio that we should expect severe sunshine, and indeed, you can see and feel how hot it is right now by just looking around."

His revelations appeared to reflect his recognition of some kind of correlation between the news reports about climate change and farmers own sensory experiences with their surroundings as a means to authenticate his beliefs and validate the news on climate change.

Furthermore, the findings showed that farmers perceived that the news on climate change presented their traditional farming methods as vulnerable and susceptible to the adverse impacts of climate change. Such news, according to farmers, often emphasized changes in farming methods, and sometimes farmers thought they were pressured to relocate their gardens.

For example, during an interview in his wetland garden, Moses, a tomato grower, revealed that officials from the National Environment Management Authority (NEMA) of Uganda frequently appeared in the news, warning of potential arrests and evictions for wetland farmers due to wetlands' gazetted status. Moses stated:

"All the climate change news I have heard does not favor me as a farmer; instead, it brings unfortunate news... Look at this small tomato garden I have here, but I often

hear in the news that NEMA officials will be coming to chase away all farmers in wetlands. As a farmer, I feel targeted, and such news is disheartening."

During the interview conversation with Moses, he "often" thought or believed that when news was directed towards farming methods, for instance, especially tending to focus on the vulnerabilities of farming practices, it therefore became a concern. This is why, at some point, he stated that such news "weighed heavily on his heart."

The findings indicated that farmers perceived climate change news as focusing mainly on their work, unlike other sectors. This led them to question whether they were the ones responsible for climate change and its impacts, and whether it was intentional for such news to be tailored towards farming practices.

Take, for example, two participants, Ireen and Paul, who stressed that climate change news would rather focus on other sectors, and its overly focusing on farming and policies on wetlands left them wondering:

"Eh, this climate news keeps saying we farmers are ruining the weather whenever we set up our farms..." It's just too much. Are we the only ones trying to make a living on land? Of course not, right?"

"Every time I listen to the news, it's all about us farmers messing up the wetlands and swamps. But what about those setting up houses and businesses in wetland areas? Why are they not being talked about in the news?"

During the interviews, the majority of participants appeared to argue like Paul and Ireen, except one participant, Innocent, who held a contrasting viewpoint that the news did not aim to target farmers but rather had a universal significance. Innocent stated:

"See, even fishermen are crying. If you could go to Katunguru... one fishing point further ahead of us, and hear from them, you will come back and tell me... This news is creating awareness among all the people in the world, not just the farmers, so that they can understand that the climate is changing. Right now, what is here is somewhere else; let it be drought, floods, or the absence of rain. It is actually the whole world, and so I do not think it is only farming.

Innocent has just illustrated that, in his view, the news about climate change was not only aimed at farming communities but also at a wider society engaged in various human activities, such as fishing, like he cited, informing them of the changing climate. For Innocent, the sense is not just in the news but in the subject being reported—climate change and its impact.

4.2.2 Theme 2: Complexity and Political Nature of News

This theme explores how farmers view news about climate change, revealing their perception of it as politically motivated and complex. It provides insights into their challenges in understanding the complex and often contradictory narratives surrounding climate change, as well as their pursuit of clarity, relevance, and practicality in the reported news.

The findings revealed that some participants perceived the content in the news on climate change as complex to comprehend, despite the fact that such news was reported in their local dialects. In addition, some participants had witnessed some terminologies within the news, and they reported that such terminologies were not familiar. Some reported having engaged in discussions about the content in the news with their fellow farmers, and sometimes they consulted their extension officers about what they heard in the news.

For example, Peter stressed that the news seemed to have different meanings that were difficult to understand. Because of the difficult meanings perceived in the news, he illustrated the following:

“I will be honest; I do not solely rely on my individual knowledge to interpret the news about nature and its changes. You know, it is better to get a friend's thoughts as well... maybe they could be aware of what exactly a specific news report means because news can have different meanings to different people. Even the extension officers sometimes help me to know more than I do from the news.”

Despite the fact that the news was perceived to be difficult even when it was broadcast in farmers local dialects, farmers reported engaging in discussions among themselves and consultations with local extension services in a pursuit to make sense of such news.

During the interviews, participants seemed to emphasize the value of collective knowledge among themselves, which emerged from a collaborative sense-making process, which perhaps

assisted them in gaining a diverse understanding of the climate change narratives within the news.

Furthermore, the study revealed that the use of unfamiliar terminologies in the local news, for instance, caused farmers to lose focus on the news's content, as some terms in the local news dialects were actually English terms without translation.

For example, during an interview with Alex, who consistently challenged the news modelling, which involved incorporating English phrases into local news dialects, he noted some of the terms he heard in the news that were difficult for him to interpret, including "global warming."

Similarly, in a post-interview reflection with Nicholas, a participant who served as a research assistant for this project, Nicholas also mentioned that local news anchors working for radio in his area frequently used English-language terms like "global warming" that are only understandable to people who understand English. Nicholas himself also found such terms difficult to make sense of when encountered in the news.

An interesting pattern in the findings under this theme indicated that participants perceived the news on climate change as having conflicting ideas and viewpoints, and that these multiple opinions confused them. For instance, Irene thought that the news presented several ideas and opinions that were confusing. Paul, on the other hand, believed that the conflicting ideas presented in the news about climate change felt overwhelming.

For example, Paul stated:

"In the news, many voices, mostly our leaders, have different opinions and views on what needs to be done about increasing droughts and changing rainfall patterns. People are even accused of causing the climate to change. Today, the LC 5 (sic) will say this... the councilor for youth will have another opinion, and likewise, the NEMA group will stress us with theirs. I do not seem to understand who is correct."

According to Paul's perspectives, there seemed to be a lack of consensus among the voices that appeared in the news, which might have created uncertainty and hindered farmers ability to understand various narratives in the news.

In fact, the data revealed that both Iren and Paul appeared to be confused, not only by the conflicting viewpoints presented in the news, but also by the reported lack of a clear and unified consensus among diverse opinions in climate change news. During the discussion, these participants demonstrated a keen interest in understanding the specific focus of climate change news.

In line with the above finding, the participants also seemed to think that the news catered to a certain demographic that could understand the contrasting opinions presented, lending credence to the findings mentioned earlier. This perspective does not interfere with the earlier perceptions of news on climate change as overly focusing on farmers and farming activities, but rather reinforces the participants views on the news as containing conflicting viewpoints that make it hard to discern.

For instance, Morgan, another participant who thought that the news had contradicting voices and opinions, opined that the news was aimed at a particular class of people in their locality. Morgan referred to such individuals as “big people” when I asked him to explain who such a class of people were. He further explained:

“...individuals who possess the ability to understand the news. Like our leaders, people who have gone to school, and people like you. I think they understand whatever is said on the radio better than me and other fellow farmers there.”

Morgan’s explanations during the interview seemed to show a dichotomy of understanding not only the news on climate change but also society, where some folks were perhaps perceived to have the capacity to make sense of events on behalf of others.

Still under this theme on the perceived complexity and political nature of the news, I present the findings on the perception of the news as political in nature, such as being manipulated or biased due to political agendas and interests.

A section of participants perceived that climate change news was full of political voices. This perception emerged from the viewpoints of two participants, Moses and Paul, who, during the interviews, voiced skepticism about the credibility and neutrality of the news, suggesting that such news was influenced by the agendas of politicians and the government. These participants' viewpoints appeared to be informed by three perspectives: the dominant voice

in climate change news, the content of such news, and the implications of such news on farming practices and farmers' livelihoods.

The quotes below illustrate the perspectives of the two participants:

"...who supports a farmer? The wetland areas where tomatoes grow better, farmers are evicted and asked to vacate or face arrest, and our gardens get destroyed... you hear an investor has been given a license to set up building in the same place a farmer is being chased. We know these things from the news about climate change and protecting nature... it's all about the interests of the ministers. We talk and talk, but nothing..." stressed Moses.

"All the people I hear giving views on climate change, our land, and other problems we, the farmers, face are politicians and people from the government... I do not hear farmers voices in the news. Some of these people have their own interests, and they want policies where they gain, and we lose. Of course, I cannot trust such news if I am not represented as a farmer," stated Paul.

The perspectives of Paul and Moses might be providing insights into farmers everyday encounters within their immediate vicinity and the ways in which these encounters perhaps intersect with the news.

4.2.3 Theme 3: News as a Driver for Climate Change Awareness

This theme unveils the farmers' perceptions of news as a tool or resource that facilitated the expansion of their knowledge and comprehension regarding climate change and its relationship with their farming activities. In this theme, the news was perceived as a driver of climate change awareness and knowledge about climate change and how it influences farming activities and livelihoods.

The findings under this theme showed that a minority of farmers perceived climate change news as increasing awareness and understanding of the relationship between climate change and the calamities they faced, such as floods, droughts, rising temperatures, and changes in seasons. In the data, it is revealed that this small segment of participants demonstrated a

positive attitude towards the news, and mostly they tended to highlight that news on climate change captured the reality surrounding their environment, farming, and livelihoods.

For example, Julie, a participant, stated that the news on climate change enabled her to gain more knowledge on the changing happening around her.

"... it also opens my eyes to think and see beyond what I understood before I listened to the news and also how the environment is changing lately."

Moses, a tomato grower, also highlighted that it's better to be updated in the most challenging times.

"It is better than nothing... it comes with the stress of evictions and policies, you know... I do not know this whole thing about the changing climate. But getting updated is good, especially in this area where everything has changed, rains do not come on time, when it rains, it gets worse."

The findings revealed that the news stimulated interaction and discussion among the farmers as a means of disseminating knowledge for personal and communal education. They reported having participated in conversations pertaining to various subjects addressed in the news about climate change, including weather variations, rising temperatures, changes in rainfall patterns, and the phenomenon of climate change. According to the data, a few participants expressed interest in the farmer-to-farmer dialogue or discussion about different narratives about climate change in the media.

For example, among these few participants, Daphne and Sydney seemed more interested in conversation with their fellow farmers about what they found in the news. The two stated that:

"... not everything, but at least a few things in the news. I try to understand them when I meet with my fellow farmers, and we have a chart."

"First of all, this information concerns me as a farmer, and I have to think about it... I find it fulfilling to have a conversation with colleagues about different things I get from the news."

In addition, these participants reported that the news about climate change led them to actively engage in radio talk shows pertaining to environmental issues, climate change, and the various challenges that affect agriculture and environmental changes.

For example, they made reference to their active participation in providing feedback via telephone calls mainly on a specific radio programme focused on the topics of environment, climate, and agriculture. This programme was hosted by Kay Ram on Ngeye FM, a local radio station and a sister station for Uganda Broadcasting Corporation (UBC), a public service broadcaster in Uganda. These participants conveyed the viewpoint that this particular programme provided them with a platform to articulate their viewpoints and reflections on the news they had encountered.

In summary, farmers' perceptions of climate change news emerged from the three main themes presented above. Firstly, they appeared to perceive such news as triggering negative emotions like worry, fear, and intimidation. Secondly, they seemed to believe that politicians' voices dominated the news, serving their political interests. Thirdly, the news seemed complex for them, as they reported it as having terms that were hard to understand. Finally, they seemed to have the impression that the news raised awareness about the connection between climate change and its impact on their livelihoods and farming activities.

On the other hand, considering the focus of this study's main research question on farmers' 'perceptions and understandings' of climate change, I will now delve into the participants' understanding of the underlying meaning of climate change news based on their knowledge and perspectives.

4.3 Farmers Understanding of Climate Change News

Whereas 'perception' of climate change underscored how the participants interpreted and made sense of climate change news based on their experiences, beliefs, and biases, the concept of 'understanding' pertains to the level of comprehension and knowledge individuals possess about the news on climate change. The findings pertaining to farmers' understanding of climate change news are presented below in a thematic procedure as stipulated in the introduction of this chapter.

4.3.1 Theme 1: Scientific Knowledge and Comprehension

A common understanding among the participants was the noticeable changes in weather patterns being reported in the news. Participants observed that the news on climate change confirms their individuals' observations and experiences about the weather and season changes.

One participant, farmer U, remarked:

“The temperatures are rising lately. We experience scorching heatwaves during the day, and sometimes the nights are warmer... For sure, the weather is not the same as it used to be, just as you hear in the news about climate.”

This farmer's awareness of the rising temperatures corresponded to both the individual knowledge and experiences with their local environment and how it relates to the news reports. Hence, this reinforces their understanding of news about climate change as information related to their own experiences with the changes in the weather and seasons.

The findings suggest the participants exhibited a varied comprehension of the news, specifically in relation to the variations in weather patterns and potential strategies to mitigate the consequences of these changes on crop yields. The prevailing sentiment among the participants was that the news they obtained via radio specifically, was deficient in providing information regarding cost-effective measures that farmers may adopt to alleviate the detrimental impacts of droughts and escalating heatwaves on crop production.

Conversely, certain participants expressed the belief that the information they received from the radio was both instructive and empowering, despite the perceived lack of emphasis on providing solutions. This observation is consistent with the participants' contemplations, wherein they viewed the climate change news to predominantly concentrate on addressing the factors contributing to climatic changes rather than offering affordable and feasible remedies for addressing the difficulties encountered by farmers.

4.3.2 Theme 2: Local Effects and Practical Observation

Findings of the study indicated that farmers commonly applied their traditional knowledge and personal knowledge as a framework for comprehending news. For example, most of the

farmers interviewed connected climate news to their personal experiences with severe weather events, seasonal variations, and changes in crop productivity. In its basic form, the participants interpreted climate change news in relation to their personal ways of life, ways of farming, and personal experiences and relations with their surroundings.

Similarly, the participants exhibited a proclivity to comprehend the news in terms of its tangible consequences for their everyday lives and agricultural practices. For instance, instead of concentrating on abstract ideas in the news, they aimed to comprehend the direct impact of its contents, such as the changing climate on their agricultural productivity and means of livelihood, as well as the suggestions provided by the news regarding mitigating climate change.

It became evident that a significant proportion of participants interpreted the news as content that was specifically customized to their individual farming operations, with a particular emphasis on the attributes of the area they operate in, including land, water, vegetation, and agricultural methods. They regarded this form of news as separate from the general news and acknowledged its significance in their everyday existence.

Take, for example, a participant who held the belief that the news regarding climate change was distinct from other kinds of news and solely focused on farming techniques and the livelihoods of farmers.

“... news about climate and weather is not just news like other news. It is concerning us farmers... It relates to our farming practices and the natural resources we depend on, such as land, water, and vegetation.”

According to the above finding, the news seemed to have a direct relevancy to farming practices and farmers livelihoods, as it was perceived to have a focus on the challenges and realities of farmers livelihoods. Additionally, it brings out the participants perceptions and understanding of the interconnectedness between climate change, farming practices, and natural resources essential for farming and sustaining farmers livelihoods.

4.4 Factors that influenced their perceptions

This section presents the findings of the sub-research question of this study: “What factors influence farmers perceptions?” Whereas this study’s primary focus was to explore the ‘perceptions and understandings’ of the news about climate change by the farmers, this sub-research question delves a step further by seeking to uncover the underlying factors that shaped farmers perceptions. This exploration seeks to gain a deeper understanding of the influences that contributed to the unique perspectives of farmers on the news.

The factors highlighted by this study’s findings as key influences on farmers perceptions of the news include social contexts, cultural views, traditional knowledge, levels of education, and individual experiences. I have categorized these factors into one broader theme which covers social, cultural, and traditional wisdom influences on the farmers perceptions of the news on climate change. The theoretical flexibility of the thematic analysis, which enables a clear and concise presentation of the findings under various data groups, guided this arrangement (Braun & Clarke, 2006).

4.4.1 Theme 1: Social, Cultural and Traditional Wisdom

The findings revealed that a minority of participants expressed belief in spiritual ramifications associated with what the news reported on climate change. In relation to religious beliefs, some participants believed that there is a spiritual connection between news concerning climate change and other reported events, such as heatwaves and floods, which they often interpreted as having biblical significance.

For example, Bonny, a potato farmer stated:

“... Yes, often I listen to the news reports on the radio concerning the floods whenever the floods destroy our gardens and houses. I personally witnessed the river Nyamwamba overflow in 2016, and many people died. My potatoes in the garden were washed away. I believe that mankind has transgressed against God, resulting in punishment manifested in the form of these severe climatic events... this news on climate is call for a spiritual awakening.”

Likewise, another participant, Nicholas, re-echoed Bonny's reflections, as he appeared to believe that there is a spiritual connection between the changes in the climate reported in the news and experienced by the farmers firsthand. Bonny tended to believe that such a connection has not yet been identified by the majority of the farmers despite its existence.

"I think the news about climate change carries a message of a profound spiritual dimension that many of us have yet to fully understand. As human beings, we bear the responsibility of preserving and safeguarding our environment... The ongoing issues related to the changing climate, as reported in the news, highlight our collective failure to fulfil our obligations. This contributes to the occurrence of various extreme weather occurrences that we listen to on the radio."

In the above quotes, both Bonny and Nicholas seemed to link the information they got from the news to spiritual connections, as they referred to both the news about climate change and adverse weather events such as floods that they encountered as calls for spiritual awakening and remembering that they had transgressed against God.

Furthermore, the findings revealed that participants relied on their cultural beliefs as a means of interpreting the news pertaining to climate change. In fact, almost half of the participants tended to believe that news on climate change served as a reminder of the need to restore their cultural values and norms, which they perceived as having deteriorated.

For example, one participant, Ireen recalled that some rituals were not performed, which was the reason for not only the increasing popularity of news reports on changing weather conditions but also the occurrence of adverse weather events such as floods, heatwaves, and droughts.

"For me, such news about disasters we are seeing happening today serves as a reminder of the rituals that we as farmers have ignored... We have overlooked some traditional ways of dealing with our problems with the environment, and that's why I am not shocked at all by the news."

Ireen added that:

"...I recall seeing my parents' climbing hills and drumming in hopes of inducing rain, but such things have become rare. This decline in traditional practices is causing all the problems of climate change reported in the news and all the challenges of floods and droughts which are seriously affecting us."

During the interviews, I observed that the participants tended to think the traditional rituals were being ignored, and their actions in ignoring such rituals resulted in the changes in the climate that were reported in the news.

Another worth noting finding was a notable disparity in the participants' perspectives on news based on their educational background. Farmers who showed signs of formal education tended to perceive climate change news as not exclusively tailored to their farming activities, although, a few participants tended to think this way in their perceptions. On the other hand, participants who did not attend school had a tendency to think the news was more about their farming practices as seen in *Theme 1* about "Negative and Emotional Nature" of the news on climate change.

For example, one participant, Julie, who also worked as a supervisor at the agriculture extension office thought that education was important for understanding the news. She stated:

"I am able to understand and connect with climate change news due to my education... Some farmers, especially those under my supervision, have not received any formal education, which makes it challenging for them to grasp such news."

When asked if her level of education, such as having a diploma, as she had disclosed earlier, influenced her perception of the news, she acknowledged:

"... Of course, I feel my educational background enables me to comprehend the meaning of the news I listen to."

Additionally, farmers' personal experiences and interactions with their environment, as well as their daily activities, demonstrated a likelihood of influencing their perceptions of the news on climate change.

The findings showed that participants acknowledged observing significant changes in their immediate environment over time, such as rising temperatures, drought, floods, and changes in rainfall patterns. Through such reported observation, they possibly perceived the news on climate change as a true depiction of the reality they experienced.

Their firsthand experiences with these changes in weather conditions seem to have led them to view the information presented in the news on climate change as a reliable reflection of the environmental transformations they had witnessed.

For example, one participant, Sydney, expressed:

“Seeing how the rain used to fall in a predictable pattern, how the seasons of the sun and rain were once so reliable, and witnessing the changes in our environment over time, it’s clear to me that the news highlighting these shifts is real.”

Julie, another participant who previously, during the interview, recalled a green forest with a narrow pathway that has since transitioned into a dry and dusty place, expressed a similar sentiment to that of Sydney.

“Seeing it right in front of us, that fire blazing on the hill that once flourished with trees, I cannot ignore the truth. I am left wondering what the future holds. All I can say is that the news about climate change simply reflects the reality we’re facing.”

Sydney and Julie appeared to have formed perceptions of climate change news through the lens of their shared experiences from their interactions with the environment. This collective familiarity with shared knowledge on environmental shifts seemed to shape their perceptions and interpretations of the news on climate change.

Likewise, their shared experiences appeared to foster a sense of reinforcement for their belief that such news reflected the reality they collectively observed and experienced in their locality.

In summary, the findings under this section illuminate the understanding of the influences of climate change news perceptions among Rukoki farmers. These findings address the sub-research question of this study, which aimed to explore factors that influence farmers' perceptions of climate change news. According to the findings, the factors that seemed to

have influenced perceptions of the news among farmers included social, cultural, and traditional beliefs, levels of education, and individual experiences with the environment and farming-related activities.

5.0 Chapter Five: Analysis and Discussion of Findings

5.1 Introduction

This thesis focused on exploring farmers perceptions and understandings of news on climate change and factors that influence their perceptions of such news. Qualitative, semi-structured, interviews were employed to address this study's research questions: How do farmers perceive and understand the news on climate change? And what factors influence their perceptions of such news? The theoretical framework "Stuart Hall's encoding and decoding model," (Hall, 1973) and other theoretical perspectives presented in Chapter Two, along with insights from the existing literature, support the analysis and discussion in this chapter. I start by analyzing and discussing perceptions of the news, then I analyze and discuss how farmers understood such news, and finally I discuss the factors that influenced their perceptions of such news. It is crucial to note that the major goal of this research was to conduct an investigation on farmers' perceptions and understandings of news on climate change as one specific news category and to explore the factors that may have contributed to the formation of their perceptions.

5.2 Perceptions of News

The findings suggest that farmers perceive climate change news primarily in three ways: firstly, they experience a rise in negative emotions, which emerged from perceptions of climate change news as causing fear, worries, and intimidation; secondly, climate change news creates awareness, empowers, and educates them about climatic changes and their relationship with farming activities and livelihoods; and thirdly, they perceive climate change news as political and complex to understand.

The first set of findings are consistent with the findings of Nassanga et al. (2017) and Semujju (2013), whose research revealed that "climate news in Ugandan media has elements of intimidation and instilling fear." Both studies indicated that climate change-related news coverage in Uganda predominantly concentrated on extreme weather events such as floods, mudslides, heatwaves, and droughts and how these weather occurrences affected people's

livelihoods. Likewise, Boykoff's (2008) research on climate change rhetoric in UK tabloids revealed numerous news headlines characterized by fear and alarm.

The findings imply that the portrayal of these events by Ugandan news media, such as floods, droughts, increasing heatwaves, etc., which often affect people's means of survival, such as farmers, induces fear among farmers. This is because farmers face adverse weather conditions that impair their farming efforts, and they are cognizant of the dangers these events might bring, even to their livelihoods. Hence, the media's portrayal of climate change news, which frequently elicits emotions of anxiety and concern, exacerbates the preexisting tensions among farmers. In essence, the perceptions of fears and worries voiced by farmers mirror the dominant news narratives on climate change and its impact on Ugandans in the media. This implies the way in which Ugandan media portray climate change information influences how farmers perceive it, causing them to consider it alarming and intimidating.

Additionally, this study's data demonstrate that the media regularly portrayed droughts and floods as having substantial impacts on farmers. This type of rhetoric—the continuous reporting of "recurring patterns of events," as described in Gerbner's cultivation hypothesis, influences the way audiences perceive media messages (Gerbner, 1969), as revealed by this study's findings. This finding of perceived fear and intimidation within climate change news contributes to scholarly discussion in climate journalism and climate communication, as it reflects how the portrayal of news on climate change impacts audiences' perceptions (Hackett et al., 2017; Boykoff & Boykoff, 2007).

The second category of findings indicate that, while the majority of farmers perceived news about climate change as emotionally worrying, a small segment of farmers exhibited positive perceptions, considering such news as empowering and creating awareness. I find this striking divergence in ways of perceiving climate change news seeming to highlight uniqueness of farmers' perceptions of news on climate change, resulting from diverse interpretations of such news. In fact, this finding is unique and adds value to the practice of climate journalism, as it acknowledges the role of journalism in creating awareness of climate change.

Back to the diverse interpretations: what could have led to such interpretations? A small section of farmers contended that the news regarding climate change is essential information

that they deserved to have access to, as it captured among other things, the gradual weather alterations in their environment over a period of time. The analysis found that farmers who expressed increased apprehension due to news exposure appeared to have experienced significant negative weather conditions, such as crop devastation from floods or extreme heat, and frequently expressed concerns about being forced to leave their swamp farming areas. Those who did not appear excessively concerned are, in reality, the ones who interpreted the news as generating awareness. These farmers appeared to be in support of the news. This suggests that the difficulties experienced by individual farmers directly impacted how they interpreted the news they accessed regarding climate change.

This variation in how farmers perceive news about climate change fits with the ideas put forward by Philo (2008) and Morley (2006) in their revised version of Hall's model. They postulated that news consumers actively shape how they uniquely understand and value media content narratives, leading to a range of possible interpretations of news messages they encounter. The perspectives in this study's theoretical framework (see Chapter 2) also align with this assertion. Stuart Hall's encoding-decoding model of communication depicts the audience as an active participant in the construction meaning of news content. Hall's model also posits that individual experiences with a particular phenomenon impact their understanding of it, thereby enabling the emergence of diverse or distinct interpretations among media message audiences (Hall, 1973).

Furthermore, the meaning attributed to news content is contingent upon the reader's engagement with three primary reading positions: the dominant or hegemonic reading, negotiated reading, and oppositional reading (Pillai, 1992; Hall, 1973 [1980]). It is imperative to note that the focus of this research was on exploring the farmers' perceptions of climate change news rather than ascertaining the definitive meaning of the news content itself. This could have been acquired by investigating the news content. Therefore, this study did not explicitly establish the farmers' reading positions. However, the data suggests that the farmers may have used the three Hall's reading positions to interpret news in their own unique ways.

The analysis shows that the majority of farmers, when interpreting the news they accessed regarding climate change, aligned with the dominant or preferred reading position, with only a few adopting a negotiated and oppositional reading positions. This interpretation draws

further support from both this study's findings and other findings in existing research on farmers' perceptions of climate change. Farmers overly relied on the belief that the news on climate change oversells adverse weather events. The findings of this study support this claim. On the other hand, the literature from Uganda supports their claim, demonstrating that the news media in Uganda often dramatizes adverse weather events (Nassanga, 2013; Berglez & Nassanga, 2015). This implies that farmers closely interpreted the media's portrayal of the news, indicating a tendency to adopt Hall's dominant or preferred reading position. I maintain that this study cannot prove this because it solely focuses on the farmers' perspectives, not the news content from which they derive them.

Additionally, a noteworthy observation is that among the farmers who perceived climate change news as informative and empowering, a significant portion had a level of education equivalent to a high school diploma. Zongo and colleagues' (2015) study, which found that farmers' education levels influence their perceptions of climate change information and their inclination to actively seek such information, aligns with this finding. Despite not intentionally examining the participants' education levels during the interviews, farmers frequently declared that their educational background influenced their ability to comprehend the news. This observation is consistent with previous research on climate change perceptions, which contends that education impacts farmers' perceptions, understandings, and interactions with climate-related news (Fahad et al., 2020; Roco et al., 2015; Guo et al., 2021). This study suggests that farmers with higher levels of education engage more critically in discussions about climate change news and perceive it as more informative than their counterparts.

The data shows that climate change news led to discussions on various topics such as shifting weather patterns, changes in seasons, etc. In fact, Roncoli et al. (2011) postulated that exposure to climate-related news encourages farmers to engage in conversations about weather forecasts and seasonal variations. Farmers also mentioned discussing climate-related news with agriculture extension officers in order to learn about remedies for the changing weather conditions. The findings suggest that their perception of extreme weather conditions as a threat to their livelihoods triggered their participation in conversations about methods to address the effects of weather variations on crop production. For example, heightened media attention on reduced crop production in Kenya and Ethiopia led to greater involvement of

farmers from these countries in efforts to adapt to the negative effects of climatic conditions on crop yields (Waqas et al., 2022).

The findings show a conspicuous absence of direction and viable solutions within climate change news on how to deal with the problems that arise as a result of the effects of climate change on farming. Indeed, farmers regarded such news as lacking practical solutions on how to deal with the problems caused by severe weather, such as rising temperatures, droughts, heavy rains, and floods.

"(...) it feels like every time I listen to the news, there's another report about these events threatening our farming communities. But what frustrates me the most is the apparent lack of affordable solutions offered by these news sources. It's as if they're constantly highlighting the problems without providing us with practical ways to mitigate the risks or adapt to these challenges. As a farmer, I rely on the news to stay informed, but I also need guidance and support in finding feasible solutions," expressed one participant, Innocent.

Does this indicate an appetite for adaptation demands? As illustrated in the above interview extract and in this study's findings (see Chapter 4), it is evident that farmers desire climate change news to focus on practical adaptation strategies that could support them deal with the problems caused by changing weather (Asplund et al., 2013). The data indicate that farmers were primarily cognizant of the abundance of information available in the media. However, they found it uncommon to come across reports specifically addressing the adoption of farming practices in response to climate change, such as resilient farming methods, sustainable soil conservation, and other strategies for adapting agriculture (Tumbo et al., 2018). Tumbo et al. (2018) discovered that the absence of climate adaptation information in the news media, specifically radio and television, has a negative impact on the ability of farmers to withstand the effects of climate change. Tumbo and colleagues' arguments are relevant to this study as farmers have reported using radio to access climate change information, a medium widely acknowledged in the literature on climate change perceptions as a primary source of knowledge.

In regard to this study, I argue that since Ugandan farmers commonly access climate change news and information through one major medium, "radio," reporting on adaptation measures through radio might yield tangible results, and thus there is a need to embrace reporting climate change adaptation strategies through this medium. Tumbo and his colleagues (2018) also argued that Tanzanian farmers need information on adaptation, and they recognize the media as a vital medium for disseminating and facilitating this information. My findings corroborate the above assertion. Based on my findings, farmers are cognizant of the climate change news, but they also feel that something is missing: details about how to adapt to the changing climate. This means that news outlets, like radio, need to pay attention to what farmers feel is lacking in order to be relevant to them, as I have stated explicitly above. Moreover, Olausson (2011) argued that the media should do more for climate change and educate the public on adaptation and mitigation strategies.

Here, my findings align with Olausson's perspective, and based on these findings, I suggest that Ugandan media optimize the effectiveness of climate change news coverage by shifting the focus from solely reporting on the causes and impacts of extreme weather events (Orlove et al., 2010) to prioritizing practical solutions and adaptation strategies. Although there is a consensus on the media's role in creating awareness on climate-related issues (Supadhiloke 2018; Berglez and Nassanga 2015; Midttun et al. 2015), this study suggests that the ideal "news rhetoric" on climate change might necessitate a balanced coverage that not only delves into the causes and impacts of climate change on farming activities and livelihoods but also accentuates reporting on solutions and adaptation strategies. Nassanga's (2013) study on rural farmers in Uganda revealed that the media primarily focused on reporting the risks associated with climate change, rather than providing solution-oriented information. This study contends that there is a pressing need for the news media to adjust their reporting approach regarding climate change news to encompass broader issues, including adaptation and mitigation measures to address the climate change crisis.

Reporting the causes of changing weather patterns also aligns with scholarly findings indicating a shift towards reporting event-centric climate change news narratives (Hackett et al., 2017, p. 12). Journalists often prioritize reporting immediate events like floods, wildfires, mudslides, erratic rains, etc., neglecting to provide broader context on long-term climatic

changes that impact a wider population. Furthermore, the prominence tends to be on the causes and effects of these events (Nassanga, 2015; Semujju, 2013), rather than focusing on the solutions that farmers unswervingly cited as lacking in the news they encountered. This kind of media approach to reporting climate change appeared to show no hope to the farmers. Furthermore, scholars Feldman and Hart (2018) stressed that climate change news that focuses on climate-oriented solutions increases hope because climate change can trigger anger and emotions in various ways, and that such information is often appealing to people's feelings.

The findings indicate additional interesting pattern, suggesting that climate change news and farmers' experiences with changes in their farming environment shaped their perceptions of traditional farming practices' vulnerability. Farmers frequently affirmed that news reports on climate change authenticated their firsthand experiences and challenges due to changes in weather patterns and extreme climatic conditions, which directly impacted their agricultural activities. They appeared to use their own experiences as a yardstick for interpreting and understanding the news, especially when it addressed adverse climatic conditions that had a detrimental effect on their livelihoods.

This finding resonates with the theoretical framework proposed by Hall (1973) in the encoding-decoding communication model, which posits that individuals' personal experiences influence how they construct meaning from media messages. In the course of the interviews, it was palpable that farmers held a belief that their farming experiences, coupled with their knowledge and observations of changing seasons, temperatures, and rainfall patterns, profoundly influenced their perceptions about climate change news. A study conducted in farming communities in Bolivia, aimed at exploring farmers' perceptions of climate change (Boillat & Berkes, 2013), revealed that farmers rely on their indigenous knowledge and lived experiences to comprehend the complexities of climate change. In line with these findings, this study also indicates that farmers often emphasize their firsthand experiences of witnessing diverse environmental changes as a fundamental basis for their understanding and interpretation of climate change news. Furthermore, Moser & Dilling (2007) highlighted that "audiences' mental models—the general beliefs of how things work" should be taken into

account if efforts to effectively communicate climate change and address existing perceptions and beliefs are to be realized.

Building upon the insights of Moser and Dilling (2007), this study suggests that the lived experiences of farmers, coupled with their intimate knowledge of the local environment, represent a formidable foundation for devising alternative approaches to climate change news or communication within farming communities. This highlights the pivotal role of farmers' experiential knowledge in shaping their understanding and perceptions of climate change news (Li et al., 2013). Moreover, the significance of farmers' knowledge becomes particularly apparent when considering their involvement in climate change discourse. Their deep understanding of their local environment not only influences their perception of local conditions, but also lays the groundwork for comprehending broader concepts such as climate change (Moser & Dilling, 2007). Therefore, recognizing and valuing their knowledge might facilitate more inclusive climate change discussions that incorporate the perspectives of farmers, who have an intimate connection to nature.

The findings suggest that farmers perceive politicians' voices as dominant in climate change news, whereas their voices are not common. The data reveals that politicians regularly voiced divergent opinions on land and environmental policies, which the farmers found perplexing. This finding is consistent with Nassanga's (2013) study on rural farmers in Uganda, which discovered the frequent mention of politicians and investors in climate change news. While Nassanga's study did not explicitly address the scarcity of farmers' voices, the resonance between Nassanga's finding and farmers' perceptions in this study suggests a consistent theme of political involvement in climate change news discourse in Uganda.

What about the politicians? Farmers reason that politicians recurrently contribute to the news by giving instructions and suggesting policies related to environmental conservation issues associated with climate change. Their impressions of the politicians' voices in the news appeared unfavorable. For example, farmers dispute that news addressing farming practices in designated areas such as wetlands often carried overwhelming and distressing implications (Berglez & Nassanga, 2015), particularly announcements of their potential eviction of their farms from these areas. This sentiment implies a prevailing sense of disquiet among farmers regarding news involving politicians. Paradoxically, farmers reported to have observed

instances where government authorities granted licenses to investors, businessmen, and politicians to establish factories in these very gazetted areas, leading to the displacement of farms under the pretext of ecological disruption and exacerbation of climate-related challenges. This suggests existing complexities of land use policies and reinforces perceptions of political manipulation within the narrative surrounding climate-related news. Thus, this study suggests that farmers perceived a “political bias” in the news, questioning the credibility and underlying motives behind politicians' narratives in the news. The seemingly existing skepticism towards politician’s voices in news further reinforced the perception of news as a platform for political posturing rather than fostering constructive engagement and representing diverse viewpoints, according to farmers' perspectives.

The findings reveal that farmers' interactions with climate change news often involved struggling with sophisticated terminologies and vocabulary, which caused barriers to their understanding of such news. News on climate change repeatedly employs a language style that hinders the public's comprehension of climate change discourses (Boykoff 2008; Nerlich et al., 2010). These scholars contend that language plays an important role in climate communication, altering people's understanding of these complicated topics.

A notable portion of farmers reported difficulty comprehending the term "global warming," despite its regular mention in the news. When asked about encountering the term in both local language news bulletins and foreign languages such as English, farmers confirmed encountering “global warming” in local news programs. Some terminology in climate change discourse poses a challenge, suggesting the need for clearer and more accessible language in news coverage to enhance public understanding. Indeed, research in Uganda has shown that the news media's use of language in climate change reporting has impeded citizens' interaction with climate-related news (Nassanga et al., 2017). Hackett et al. (2017) also argued that "climate journalism tends to neglect local languages and knowledge of indigenous people." Farmers' accounts about difficulties in making sense of “complex” terminologies in the news highlight the potential language barrier they face when attempting to understand climate change news and information, even when presented in their native languages.

5.3 Understanding of News

This theme pertains to the central question of this thesis: How do farmers perceive and understand climate change news? Perception, as used in this thesis, refers to how farmers interpret news, such as what they observe, hear, etc. (Efron, 1969). Understanding, on the other hand, refers to the extent of comprehension and knowledge that farmers possess regarding news about climate change (Grimm, 2011). In this context, the farmers' understanding of climate change news appeared to emerge from two distinct categories: scientific knowledge and understanding, as well as local or traditional knowledge derived from practical observations of shifting seasons and weather patterns.

In the first category, findings indicate that farmers understand climate change news as being intently linked to unpredictable weather patterns. This perception surfaces because news on climate change tends to be more frequent during periods of extreme weather events as explicitly stressed in this thesis.

The data shows that whenever farmers encounter heavy rains or extended droughts, news coverage of such events is not only more visible and frequent but also appeared to validate their firsthand observations by shedding light on these changing weather conditions and their tangible impacts on agricultural practices. The kind of visibility that the media gives to the weather changes might have driven farmers comprehension of climate change news as having a close link to the weather changes.

In the subsequent category, the findings suggest that tailoring climate change news to farmers' local contexts and knowledge ominously impacts them. Majority of farmers interviewed for this study agree with this understanding and argue for the dissemination of farming and climate-related information through workshops, interactive platforms, and community dialogues in order to foster an environment that is conducive to idea exchange and knowledge application. Likewise, research on farmers' perceptions of climate change has revealed that their local experiences and realities play a pivotal role in shaping their understanding, perceptions, and responses to climate change (Hamilton-Webb et al., 2017). As a result, it is critical to acknowledge and consider farmers' perspectives regarding climate change news by thinking in line with their understanding (Karki et al., 2020).

Furthermore, tailoring climate change news to local contexts acknowledges the specific experiences and obstacles encountered by farmers, thereby enabling them to better relate to and understand the broader concepts of climate change in relation to their own lived realities. This localized approach recognizes the intrinsic bond between farmers and their local environments, practices, and seething's, boosting their engagement with and comprehension of news and information on climate change. Engaging farmers in interactive platforms and dialogues gives them a sense of ownership over the information. This participatory approach empowers farmers to actively contribute their perspectives and knowledge, creating a more balanced narrative that reflects the salient phenomenon of climate change. This would also build trust and credibility between farmers and other stakeholders, such as policymakers, fostering a collaborative relationship in knowledge creation.

5.4 Influential Factors Shaping Farmers' Perceptions

This section discusses the findings of this study's sub-research question: What factors influence farmers' perceptions? In the exploration of factors affecting farmers' perceptions of news on climate change, two distinct categories emerged. These include social and cultural factors, which reflect broader societal and cultural contexts, as well as traditional farming wisdom, which represents knowledge passed down through generations of farmers (Stinner et al., 1989). Here, I analyze and discuss the factors that fall into the aforementioned categories.

5.4.1 Social and Cultural Factors

The findings suggest that cultural beliefs influence farmers' perceptions of climate change news. Farmers attribute the existing news and information concerning climate change and the occurrence of severe weather events they encounter to the shrinkage in traditional cultural rituals. They accuse the cessation of certain rituals for the existing difficulties faced by agriculture and their own livelihoods due to climate change, according to the data. These rituals included no longer offering their initial harvests as sacrifices to harvest gods, discontinuing the practice of drumming in the hills to induce rainfall, and ceasing to take certain harvests to the swamps to enhance the fertility of future seasons. This finding aligns with Teka et al.'s (2013) study on Benin farmers' perceptions of climate change which revealed

that, farmers attribute the changes in the climate to their failure to continuously practice traditional rituals.

In line with this study's theoretical framework, this implies that farmers decode climate change news through the framework of their cultural beliefs, viewing weather changes as intertwined with supernatural, spiritual, or cultural forces. Factors such as audiences' knowledge, social contexts, beliefs, and values have an influence on the way audiences perceive media messages (Hall, 1973). For example, when farmers observed extreme weather events such as floods or droughts, they interpreted these occurrences as reflections of their failure to uphold traditional rituals, such as those mentioned previously, despite their claim that these rituals have diminished in effectiveness.

The farmers' remorse over the diminishing effectiveness of traditional rituals is another salient finding in my study. This finding provides more evidence of the importance of these cultural interpretations. Although some farmers claim to still engage in these rituals, they express regret that these practices no longer produce the desired outcomes. This study demonstrates that the influence of cultural rituals on farmers' perceptions of climate change does not necessarily indicate their effectiveness or ineffectiveness. Definitely, this finding is unique and noteworthy because, although farmers express a desire to uphold their traditional farming practices, they contend that these rituals have lost their efficacy compared to the past. This also exemplifies the dominance of cultural thinking over scientific reasoning in relation to the prominent prevalence of climate change among farmers and cultural practices.

Innocent, a farmer, and participant in this study stated:

"Our elders taught us to drum in the hills to bring rain. But now, even with all our drumming, the rains don't come when they should. It's like our traditions are slipping away, and so is our control over the weather."

As a result, climate change news served to strengthen their observations and reinforce their belief in the link between cultural decline and adverse weather events affecting their farming practices. Therefore, this study posits that engaging with farmers to comprehend their cultural context and the importance they ascribe to specific practices can facilitate bridging the gap between scientific knowledge and local knowledge in addressing climate change within

farming communities. This approach fosters inclusivity by integrating traditional wisdom with scientific evidence, thereby encouraging more farming communities to participate in climate change dialogues on sustainable agriculture. This inclusive approach would nurture a broader scientific understanding of climate change-related information among farmers.

5.4.2 Spiritual Beliefs

My findings indicate yet another fascinating perspective shared by a minority of participants, suggesting that climate change news “serves as” or “is” a reminder of the spiritual powers and wisdom of God in governing nature and individual well-being. This finding suggests that spiritual aspects have an influence on how farmers perceive news about climate change. This inimitable viewpoint reveals a belief among some farmers that climate variability has a religious dimension.

Researchers conducted a study on Ugandan farmers' perceptions of climate change, without focusing on climate change news, and found that farmers attributed the changes in weather conditions to a divine entity, "God" (see Twinomuhangi et al., 2021). Another study on food crop farmers' perceptions of climate change in Nigeria found that 95% of the 350 farmers who participated in this study perceived climate changes as a sign of divine anger (Apata et al., 2009). According to Debela et al. (2015), major studies on farmers' perceptions of climate change in Africa contend that African farmers believe there is a connection between specific divine powers and climate changes.

The data from this study show that farmers who were influenced by spiritual aspects in their perceptions of climate change news believed that adverse weather events were a result of God's divine will. They hold the distinctive position that climate change is beyond human comprehension. They believe in divine intervention while making sense of news concerning climate change and the impacts of the climate change on both their farming activities and livelihoods. However, these farmers suggested straightforward solutions, such as engaging in tree planting and avoiding bush burning, while also actively seeking divine intervention to alleviate the effects of climate change. One striking observation from this finding is that farmers, although they relate climate change news with divine anger towards mankind, also demonstrate a willingness to participate in adaptation practices, as previously noted.

Through the lens of Stuart Hall's encoding-decoding model, farmers who interpret climate change news through a religious lens imply that their decoding involves attributing the phenomenon to their “beliefs”—supernatural forces and seeking divine guidance for solutions. This negotiation of meaning between news reports on climate change, farmers' lived experiences, and religious interpretations highlights the convolution of farmers' perceptions and responses to climate change narratives.

5.4.3 Traditional farming wisdom

Stinner et al. (1989) noted that the phenomenon of 'traditional farming wisdom' refers to knowledge such as different farming practices and methods that have been carried out and transferred through farming generations. Under this theme, such wisdom appears to influence the way farmers perceive news regarding climate change.

The findings indicate that farmers' knowledge and experiences gained over time through their farming practices have an impact on their perceptions of climate change news. They reasoned through the news they encountered regarding climate change with a lens of what their farming was back then and what it is today, which seemed to influence their authentication of such news as a reflection of the changes in their environment, their farming practices, and their livelihoods.

For example, farmers voiced concerns that certain traditional planting techniques, such as mixed cropping, have become less effective due to changes in land fragmentation and the introduction of new seed varieties that are not resistant to the current weather conditions. Moreover, the variability in weather conditions affects crops differently, making it difficult for farmers to allocate separate fields for different crops (Iizumi & Ramankutty, 2015). As a result, the connection between traditional wisdom and their perspectives on the news about climate change appears to be profound and multifaceted. Traditional farming knowledge provided farmers with insights on the news they accessed.

This particular influence on farmers' perceptions of climate change news aligns effectively with Hall's encoding-decoding model. A range of factors, including their individual social, cultural, and ideological origins, influence audiences' interpretations of media messages (Hall, 1973). This suggests that the farmers' interpretation of the news is an engaging process that

requires them to use their understanding, beliefs, and past farming experiences to make sense of the information they come across on climate change. Tume et al.'s (2019) study in Cameron further supports this. The study, concentrating on the knowledge of indigenous farmers and their perceptions of the climate in Cameron, concluded that the inclusion of traditional farming knowledge in climate information discourses is crucial because it plays a role in shaping farmers' perceptions of the climate.

6.0 Chapter Six: Conclusion

6.1 Introduction

This thesis sought to contribute to our understanding of rural farmers climate change news perceptions and the factors that shape these perceptions by examining the perceptions and understandings of climate change news among rural farmers in Rukoki sub-county, Kasese district, in western Uganda. I employed semi-structured interviews as a methodology to gain comprehensive insights into farmers' perspectives on climate change news. This approach involved conducting lengthy face-to-face discussions with farmers to delve into the nuances of their ideas. The main research question guiding my study was: How do farmers perceive and understand climate change news? I also added a sub-question: What factors influence their perceptions? The purpose of this was to enhance understanding of the primary research question. I employed Stuart Hall's encoding-decoding model as the main theoretical framework to facilitate the examination of the study's findings. In order to gain a more comprehensive understanding of this study, I have also incorporated other perspectives from media studies.

This study's investigation draws inspiration from a variety of scholarly acknowledgements broadly discussed in chapter one of this thesis. Below, I offer a concise overview of the key findings, limitations, theoretical implications, implications for practice, recommendations, and potential areas for further research identified in this study.

6.2 Summary of findings.

My findings provide answers to the research questions and, consequently, fulfil the objectives that I set to achieve in the early section of this thesis. They revealed the manner in which farmers in Rukoki sub-county perceive and make sense of climate change news. In addition, my findings revealed a multitude of factors that influence farmers' perceptions of the news.

Three distinct categories of perceptions emerged regarding perceptions of the news. Firstly, the majority of the farmers perceived climate change news as emotionally distressing, evoking feelings of fear, worry, and unease. This negative impact stemmed from the news's consistent focus on extreme weather events, such as floods, droughts, soaring temperatures, and erratic

rainfall, which farmers had experienced firsthand and feared would risk their livelihoods more in the future. In addition, the farmers' perception of the news as deficient in solutions heightened their worries about managing the difficulties arising from climate change, amplifying their negative emotions, including fear and worry. They perceived the news as missing strategies to adapt to the challenges posed by climate change. This particular category of perceptions contended or aligned with the existing studies on farmers' perceptions of climate change.

Secondly, despite the emotional toll, a minority of farmers perceived the news as creating awareness about climate change and offering valuable updates on changes in their environment. They found it educational and motivating, sparking meaningful discussions, and facilitating knowledge sharing. Such farmers actively engaged with radio programs on the environment and agriculture, seeking further insights into shifting weather patterns and their implications for farming practices and livelihoods. This category of perceptions emerges as intriguing, reflecting farmers' nuanced perspectives. On one hand, they grapple with the emotional challenges evoked by the news, yet concurrently, they exhibit a tendency to discern positive aspects within it, adding a layer of complexity to their perceptions.

Thirdly, some farmers perceived the news as complex and politically charged. They noted the dominance of politicians' voices in the news. As a result, they posed questions about the motivations behind specific agricultural policies and decisions, illustrating farmers' skepticism towards politicians' voices in the media. Language barriers, such as the use of untranslated terms like "global warming" in local radio news, further complicate the understanding of climate change news, leading to a perception of its complexity.

Furthermore, a multitude of factors, encompassing social, cultural, spiritual, and traditional farming knowledge, influenced farmers' perceptions. Cultural practices and beliefs had a notable impact, as certain farmers perceived climate change news as indicating a deviation from established farming rituals, norms, and values among farmers. Others viewed the news as a manifestation of divine retribution for societal violations, while others drew upon their deep farming experiences to interpret climate change news as an indication of alterations in their surroundings and farming methods throughout history.

Overall, cultural knowledge and environmental experiences deeply influenced farmers' perceptions. They closely monitored weather changes and used news reports to gauge the broader discourse on climate change news. Thus, given farmers' vulnerability to climate change impacts, their insights from both their farming knowledge and experiences, as well as their exposure to climate change narratives in the news media as seen in this study, are invaluable. Therefore, regarding implications for practice, this study highlights that understanding these perspectives is crucial for tailoring climate communication and climate change news reporting strategies that connect with farming communities and effectively address their concerns. Furthermore, based on my findings, I argue that:

- Understanding local farmers perspectives is crucial for fostering diverse and inclusive discussions on climate change and global policy formulation. It is fundamental to bring to attention local farmers' voices and integrate their perspectives into climate change policy discourses and climate communication as a way of bridging the knowledge gap in global climate change perspectives.
- Bridging the gap between empirical knowledge and local community experiences, such as those of farmers, can enrich global perspectives on climate change and improve the effectiveness of climate communication and policy interventions across various societies.
- Factors that have been found to have influenced farmers perceptions of the news on climate change can aid global policymakers and news media networks in aligning their climate communication strategies and action messages to favorably resonate with local farming communities for purposes of fostering engagement and collaboration in taking action.

6.3 Limitations of the study

The major limitation of this study was its exclusive reliance on farmers' perspectives regarding climate change news without investigating the actual content of such news. Therefore, I assumed that farmers' views and interpretations accurately reflected the content of climate change news from the media they encountered. It is worth noting that, during the process of recruiting study participants through purposive sampling, I asked participants about the types

of news they had encountered as a screening strategy to determine their eligibility for the study. Therefore, their selection was based on “self-reported exposure” to news covering changing weather patterns, environmental impacts, climate policies, extreme weather events, global warming, energy transition, and sustainable practices, which aligned with the study's definition of climate change news. However, this approach posed a limitation, as there was no mechanism to objectively confirm participants' exposure to such news. Though, insights from a key informant interview with Ram, a radio news editor and host of a climate-focused programme on Ngeye FM, somehow validated this self-reporting and provided additional context. Ram confirmed farmers' active participation in the programme, engaging with experts via phone calls and raising queries about extreme weather events and seasonal variations.

Furthermore, as a qualitative study with a limited sample size of 12 participants, the relevance and applicability of the findings to the broader farming population may be limited. While the data achieved saturation, suggesting depth in understanding, it's key to acknowledge that diverse farming communities in the same region might hold distinct perspectives.

The selection of methodologies and theoretical frameworks was another marginal limitation of this study. While interviews proved effective in examining this study, their efficacy would have been enhanced through the integration of additional methodological approaches. For example, by integrating interviews with a content analysis of the news, the credibility of the farmers' opinions regarding the news would have been strengthened. This approach would allow for the inclusion of perspectives from both the news content and the farmers. Hence, examining both perspectives, namely the viewpoints of the farmer and the news, would potentially enhance the efficacy of Hall's encoding-decoding communication model, which served as the framework for this study.

6.4 Recommendations

Climate change news perception is an area that has not been widely studied. Therefore, this study fills the knowledge gap in climate communication research, which has overly focused on media coverage of climate change as opposed to audience perspectives on the news. The media has a crucial role in disseminating information, raising awareness, and educating

diverse communities and individuals about climate change. It is indispensable to research the consumers of media information on universally accepted complicated subjects like climate change in order to examine their understanding and interpretation of such information, despite their contribution. Especially in developing countries, farmers, who are not only extremely vulnerable but also encountering overwhelming obstacles as a result of climate change, need to have their perspectives on climate change taken into consideration. For instance, when farmers encounter news about climate change, they exhibit feelings of fear and worry. Their response mirrors the media's frequent depiction of floods causing fatalities, droughts significantly decreasing agricultural production, and heatwaves impacting farmers.

When reporting on these occurrences, the news media ought to present an alternative viewpoint, such as emphasizing the adaptation measures that governments and other stakeholders are developing to address these challenges. Moreover, inimitably, my findings revealed that farmers viewed climate change news as empowering and enlightening, as it informed and educated them about environmental changes and presented updates on weather events that affect crops and livelihoods. Therefore, by exploring the perspectives of these vulnerable farmers regarding climate change, climate policy frameworks that draw from their insights and practical experiences can be developed.

This study also revealed a media-induced challenge in climate communication. Farmers, for instance, perceive climate change news as deficient in reporting solutions for severe weather conditions. Thus, this type of rhetoric by the news media, which relies on overly reporting occurrences like floods and escalating heatwaves without showing efforts on solutions and adaptation strategies for such challenges, is a communication dilemma. The media should provide balanced coverage of climate change, including news of successful solutions and accounts of communities that have effectively adapted. This approach can serve as inspiration for other farmers to take action, rather than causing excessive worry by excessively highlighting occurrences that negatively affect their livelihoods.

Furthermore, the media has exacerbated the existing bias in climate change reporting by giving greater visibility to the perspectives of politicians and climate change experts and less to the voices of marginalized groups like farmers, who are bearing the brunt of the climate catastrophe. This disparity in news has posed a barrier to farmers' comprehension of its

significance and underlying motives. The absence of input from farmers in climate change news, coupled with the overwhelming presence of political voices, has created a perception that this news is primarily targeted towards elites and politicians, with the aim of serving their own interests. Farmers believe that their opinions are essential, and it is crucial to pay attention to the perspectives of diverse farming communities in the global media. This is because they believe they can contribute valuable insights to discourses regarding the management and adaptation of climate change effects on agricultural practices and their means of living. This necessitates the implementation of a global media strategy for reporting on climate change, which includes global coverage of climate change news with the objective of providing local communities with insights and viewpoints on climate change rather than solely focusing on perspectives from experts and policymakers.

Another salient feature to scrutinize is the language used by the media when reporting climate change. The style of language used by the media in the coverage of climate change is considered complex, and the complexity that comes with such a “style” has the potential to shape individuals' perceptions and understandings of climate change. For instance, the farmers in this study expressed a lack of comprehension of some concepts, such as “global warming,” yet, if presented and explained using straightforward language, they may be able to comprehend such terms.

6.5 Implications for future research

Based on the above insights, I suggest that future research should build upon the insights gained from this study to address the key gaps in climate change information perspectives and enhance the effectiveness of media coverage of climate change and climate communication strategies.

To start, one area of focus for future research should be exploring alternative approaches to climate change news reporting that alleviate farmers' fears and worries while empowering them with actionable information. This could involve investigating how the news media can strike a balance between reporting on the challenges posed by extreme weather events and highlighting successful adaptation strategies implemented by communities. This is because the study revealed that farmers needed news content and information that offered solutions.

They also increasingly advocated for news that focused on success stories from other farmers in terms of mitigation and adaptation to climate change impacts. In fact, this calls for international coverage of climate change and adaptation strategies rather than local coverage.

Furthermore, future research should investigate the media's role in amplifying the voices of vulnerable farming communities in climate change discourse. Researchers can identify ways to include diverse perspectives and empower farmers to contribute to climate policy discussions by examining the representation of farmers and other grassroots actors, such as environment experts, in climate change news coverage.

As highlighted in this study and many other scholarly publications, the language used by the media to report climate change has been overly perceived as complex. Thus, I suggest that there is a need to examine the language used in climate change news reporting and its impact on public perceptions and understanding. Future research on language as an aspect of climate change communication should focus on exploring how the complexity of climate change terminologies affects the understanding of climate change information among different audiences, including farmers. Addressing the language gaps can make climate change information relevant for diverse audiences, including local communities.

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List of figures

Figure 1. A map of Kasese district showing Rukoki subcounty and the distribution of other sub-counties in the district.

Figure 2. Stuart Hall's encoding-decoding communication model. Accessed from University of Birmingham Monograph (September 1973).

List of tables

Table 1. A table showing themes and examples of farmers insights on climate change news.

Appendix

Appendix 1: Sikt Approval

Meldeskjema for behandling av personopplysninger

05/05/2024, 18:54



Assessment of processing of personal data

Reference number	Assessment type	Date
956219	Standard	11.03.2024

Title

Echoes from the Earth: A Qualitative study of Perceptions and Understanding of News about Climate Change Among Rukoki Farmers in Western Uganda.

Institution responsible for the project

OsloMet – storbyuniversitetet / Universitetsbiblioteket

Project leader

Andreas Ytterstad

Student

Nelson

Project period

25.05.2023 - 13.05.2024

Categories of personal data

General

Legal basis

Consent (General Data Protection Regulation art. 6 nr. 1 a)

The processing of personal data is lawful, so long as it is carried out as stated in the notification form. The legal basis is valid until 13.05.2024.

[Notification Form](#)

Comment

Data Protection Services has assessed the change registered in the Notification Form. We find that the change does not affect our previous assessment of the processing of personal data in this project.

We find that the processing of personal data in this project is lawful and complies with data protection legislation, so long as it is carried out as described in the Notification Form with dialogue and attachments.

FOLLOW-UP OF THE PROJECT

We will follow up at the planned end date to determine whether the processing of personal data has been concluded. In long duration projects, we will follow up the progress of the project every other year.

Good luck with the project!

Appendix 2: Interview guide

Interview Guide:

**Project Title: Rukoki Farmers Perceptions and Understanding of Climate Change News
(Kasese district, western Uganda).**

About the project:

Permit me to explain this study to you once more. This research seeks to determine how Rukoki farmers perceive and make sense of climate change-related news. I will conduct interviews with twelve farmers residing in Rukoki sub-county, Kasese district, situated in the western region of Uganda. The purpose of the interviews is to collect your perspectives on climate change-related news.

Among other factors, the substantial impact of climate change on agriculture and farmers' livelihoods motivates this project. Nevertheless, farmers also obtain information regarding climate change from a variety of sources, such as magazines, newspapers, radio, and television. As opposed to your personal opinion regarding the climate change narratives you obtain via the media, it is common knowledge that the media has consistently presented you with climate change stories. Therefore, this project aims to investigate your perceptions of climate change-related news accessed from the media.

Once more, my name is Nelson Bahati. I am a master student at Oslo Metropolitan University in Oslo, Norway. I express my gratitude for your acceptance to participate in this study. I also want to remind you that you have a right to access the data collected through this interview. And as stated in the consent form, feel free to withdraw from participating in this interview at any time if you wish.

The interview:

A. Opening: intro and rapport building.

B. About climate change news:

1. Have you accessed any news related to climate change? If yes, where did you get it from? (Radio, television, etc.) What did it focus on? For example: Changes in weather conditions, shifting rainfall patterns, increasing heatwaves, droughts, floods, impact stories on livelihoods, adaptation policies, etc.

2. Is such news regular, useful, and reliable? How many times have you heard it, if you could recall?
 3. Is there a recent news story regarding climate change that caught your attention, and how did you feel about that story?
 4. Having been exposed to the news on climate change, how do you define climate change? Does it have a connection regarding an impact or effect on your farming activities?
 5. Do you think climate change news portrays what is happening around you? Does it reflect what you observe in your environment and during farming? Anyway, according to you, how does the media portray it?
 6. Have you ever encountered some conflicting or contradicting information in the news regarding climate change? What were these conflicting ideas, and how do you feel about them?
 7. Is there a time you have shared or held a conversation or discussion about the news on climate change with your fellow farmers or friends? How did it go, and what did you conclude?
 8. Is there a specific aspect of climate change that you find concerning and affecting your farming?
 9. Does the news on climate change have an impact on the way you think of climate change in relation to your farming activities? Does it have any positive contribution to your knowledge of the environmental changes you experience?
 10. How do you feel about the future of farming in this area after listening to climate change news?
- C. What are the influences on climate change news?**
11. How many years have you been in farming and what specific crops do you grow?
 12. Do you have some traditional farming practices that have been in existence for a long time or have ceased to exist?
 13. Are there any values, beliefs, or norms (both ancient and modern) related to farming practices that you believe in? Does this news shape your views on climate change and the environment?

Appendix 3: Consent form

Research Participant Consent Form

Are you interested in taking part in this project?

Project title: ***Echoes from the Earth: A Qualitative Study of Perceptions and Understandings of News on Climate Change among Rukoki Farmers in Western Uganda.***

NOTE: Participation in this project is voluntary. (You can withdraw your consent from participating in this project anytime without giving a reason, and all the information about you will be made anonymous. There will be no negative consequences for you if you chose not to participate in this project or later chose to withdraw).

Introduction:

This is a master's research project whose overall purpose is academic. It aims to explore the perceptions the farmers in Rukoki sub-county have about climate change news and what factors influence their perceptions.

Objectives of the research:

To find out how farmers in Rukoki perceive climate change news. To examine factors that influence their perceptions.

Purpose of the project:

This project intends to bring out different perspectives on news and information on climate change among the farmers which will later inform and advance climate change communication strategies among folks involved in human activities such as farming.

Institution responsible for this research:

Oslo Metropolitan University

Why are you being asked to participate, and what is your involvement?

You have been chosen to participate in this project because you are among the farmers in Kasese district, since this project targets farmers. Your participation shall involve interviews, recordings, and participating in focus group discussions.

Consent section:

I have received, read, and understood the information about the project "***Echoes from the Earth: A Qualitative Study of Perceptions and Understandings of News on Climate Change among Rukoki Farmers in Western Uganda***" and I agree to participate in interviews, voice recordings, and the information about me to be published or stored for academic purposes, and my data to be processed until the end of this project.

Participants' name.: _____ Sign.: _____

Appendix 4: Codebook

Codes

Name	Description	Files	References
Climate change news perceptions	This code has all the perceptions farmers have on the news about climate change.	0	0
Negative emotions from the news	This category comprises recurring patterns of codes centered around farmers' negative and emotionally burdensome perceptions of news on climate change. These perceptions encompass elements such as: scaring news, worrying news, very stressing, warning messages, very touching, very sad news, very frustrating, very confusing, alerts, disaster news (etc.)	9	20
News as agent of empowerment	This category encompasses codes related to farmers' perceptions of news on climate change as a catalyst for empowerment. The codes within this category include news is eye opening, useful, informative, real, and relating to lived experiences, news as updates, etc.	4	5
News as political and complex in nature	This category comprises codes that reflect farmers' perceptions of news as politically driven and difficult for them to comprehend. The codes within this category include very complicated, language used, complicated words, government programs news, land, and management news, carries voices of politicians and government leaders, no farmers views, news focuses on elites, many opinions, very confusing news.	6	15
Factors that influence their perceptions	This code category emanates from the sub-research question.	0	0
Cultural and social factors	This theme entails the how different cultural beliefs shape the farmers perceptions.	8	10

Name	Description	Files	References
Religious beliefs	This theme explores how farmers perceive climate change news, influenced by the divine being known as "God."	4	6
Traditional farming wisdom	This theme focuses on the knowledge that farmers have passed down through the generations and how this knowledge has influenced their perceptions of climate change news.	6	15
Understanding of such news	This category emerges from the main research question as "part two" of the main research question.	0	0
Local effects and practical observations	This theme pertains to using local knowledge.	6	16
Scientific knowledge and comprehension	This theme relates to the understanding of climate change news in relation to the practically experienced changes in the weather and seasons.	3	7