



PLANT A TREE!

Climate change communication and perception in rural
Uganda

MASTER THESIS

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Abstract

The impacts of climate change are one of the most pressing issues in our times. Thus, climate change mitigation and adaptation strategies are of key importance in development. For individuals to employ adaptation strategies, a perception of risk towards climate change is necessary which is mostly received through communicative activities. Not only is risk perception dependent on communication, also climate change is a topic that is mainly spread through communicative activities. Little has been done about the perception of climate change in Africa in general and Uganda in particular. Therefore, the objective of this Master thesis was to find out how the framing of climate change in communication affects the risk perception of men and women in rural Uganda. The principals of feminist research were applied in this thesis.

For the research design, a case study was selected. First, it was looked into the case of media reporting of climate change. Therefore, a qualitative content analysis was utilized to get a better understanding about how climate change is framed in media in Uganda. Following, a community in Eastern Uganda in Jinja District was studied to find out how climate change is perceived by people directly affected by it. This was done through qualitative interviews, focus group discussions and participant observation.

The conducted research showed that the concept of climate change is not a familiar subject for most people in the community. As knowledge is a considerable contributor to risk perception, this unfortunately ceased to apply. However, people do experience a change in climate, mostly in the form of more occurring droughts. Those perceptions of a changing climate did not differ much in relation to gender. A more contributing factor of that was age and experience in farming. The community members have an explanatory model for more occurring droughts that stresses the importance of trees. This could also be observed in the framing of newspaper reporting where the focus was set on individual action and planting trees. Climate change is often outlined more in the sense of environmental degradation and the issue of emissions is rarely discussed. Clearly, emissions are not a big topic in Uganda as the country is responsible for only a marginal degree of global emissions. However, omitting this point in the explanation of global climate change can lead to single-sided explanatory models and false conclusions about causal relationships.

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List of Abbreviations

AFP	Agence France-Press
BBC	British Broadcasting Corporation
CO ₂	carbon dioxide
COP	Conference of the Parties
FAO	Food and Agriculture Organization of the United Nations
FM	Frequency modulation
GDP	Gross domestic product
GHG	Greenhouse Gas
IPCC	International Panel on Climate Change
LC	Local Council
LDC	Least Developed Country
n.d.	no date
Naads	National Agricultural Advisory Services
NAPA	National Adaptation Programme of Action
NCCP	National Climate Change Policy
NDC	Nationally Determined Contribution
NFA	National Forestry Authority
NSD	Norwegian Centre for Research Data
Ppm	parts per million
REC	Research Ethics Committee
UBOS	Uganda Bureau of Statistics
UNCCCS	Uganda National Climate Change Communication Strategy
UNCST	Uganda National Council for Science and Technology
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UPDF	Uganda People's Defence Force
WMO	World Meteorological Organization
MWE	Ministry of Water and Environment
WWF	World Wide Fund for Nature

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1. Introduction

Hundreds of thousands of pupils and students in over 100 countries worldwide went to the streets on March 15th, 2019. Their goal: to demand action against climate change from their political representatives. Climate change no longer is solely a topic of discussion for scientists. It conquers headlines worldwide and those protests show that it arrived at the centre of society. This is not without reason. Since 1990, the International Panel on Climate Change (IPCC) publishes its reports about the prospect of climate change. Its newest report in 2018, a special report on global warming of 1.5°C has a condemning message: We cannot allow to let the temperatures rise about 2°C until 2100 and the tipping-point for that is already close. According to the report, “Global net human-caused emissions of carbon dioxide (CO₂) would need to fall by about 45 percent from 2010 levels by 2030, reaching 'net zero' around 2050” to avoid the scenarios that are connected to such a rise in temperatures (IPCC, 2018a, p. 2).

Having a warmer average climate has severe consequences for many parts of the world and its impacts as well as solutions have to be seen on a global scale. Climate change or “global warming” are often depicted with melting glaciers and polar bears losing their habitat. This, in its consequence includes rising sea levels. However, this is just one side of the picture. Global climate change also means more heat waves, forest fires and water shortages as well as unpredictable rainfall and floods. The complexity lies in the injustice of it all. While wealthy industrial countries are the main culprits of greenhouse gas emissions (GHGs) like CO₂, people in countries that are already economically weak are the ones that are impacted the most and hence, suffer even more from its effects. Although with the Paris Agreement, an international response to climate change was made, it is not a binding treaty (UN, n.d.). This means that no legal action can be taken if countries are not conforming with their promises. Thus, this leaves especially poor countries in the Global South in the hands of countries of the Global North and their political decisions and will to finally cut emissions. Looking at the issue of climate from a micro perspective, particularly people who are directly dependent on small-scale farming for food security are highly susceptible to unreliable weather conditions.

1.1. Problem Statement

The impacts of climate change are one of the most pressing issues in our times. As especially countries in the Global South are and will be impacted by its consequences, climate change

mitigation and adaptation strategies are of key importance in development. However, for most countries of the Global South, mitigation strategies carried out there will not have a crucial impact on the global scale of emissions. That makes adaptation ever more important. For individuals to employ adaptation strategies, a perception of risk towards climate change is necessary which is mostly received through communicative activities. That could be mass media, governmental actions or through mediators like civil society actors. Not only is risk perception dependent on communication, also climate change is a topic that is mainly spread through communicative activities (Schmidt et al., 2013, p. 1233). Little has been done about the perception of climate change in Africa in general and Uganda in particular, as many studies about the communication of climate change focus on countries of the Global North. There exists some research about weather forecasts in Uganda (Orlove et al., 2010; Roncolli et al., 2011) which can guide this thesis a bit. The Ugandan Department of Meteorology disseminates seasonal forecasts for different regions of the country through the government media advisories and agricultural extension services. Also, local FM radio stations spread these forecasts (Orlove et al., 2010, p. 247). However, weather is not climate and hence, there is almost no literature about the perception of climate change in Africa. One exemption of that is a study of the BBC conducted in 2010 (Godfrey et al., 2010).

On the one hand, adaptation is an issue that should be on the agenda of the government. The Ugandan government created the Uganda National Climate Change Communication Strategy (UNCCCS) 2017-2021 with the primary goal to “establish a comprehensive hands-on plan for how to communicate climate change adaptation and mitigation issues to a heterogeneous national audience in a clear, concise and effective manner” (MWE, 2018, p. 3). This strategy is based on the Uganda National Climate Change Policy (NCCP) and an ambitious framework was set out with the consultation of important stakeholders like media, civil society organisations and local governments. Interestingly, a SWOT analysis accompanied the paper whereby the weaknesses of climate change communication in Uganda were presented, like climate change action as an unfunded priority, climate change issues as not mainstreamed in the government’s plans and budgets or lack of technical personnel for climate change communication (MWE, 2018, p. 49).

Nonetheless, as the Ugandan government is being criticised for failing to implement the NCCP which was developed and approved in April 2015 (Ampaire et al., 2017, p. 81), individual adaptation measures become ever more important. But as adaptation will quite

likely not take place unless there is a sense of urgency, communication and knowledge dissemination is a crucial factor. Awareness has direct implications on how people act and react in response to climate change (Corner, 2011, p. 10) and individual adaptation will only get realized if climate change is seen as a risk factor that allows resources being allocated into the direction of adaptation. The perception of climate change as risk on the other hand is to a certain amount influenced by media representation as risk is a mental construct and cannot be “sensed”. Also, the knowledge about climate change is highly disseminated through media. This leads us to the objective of this thesis.

1.2. Main objective

As it could be seen in the problem statement, climate change and hence, the perception of it are issues that are mainly communicated through media. However, studies about this in an African context are more than rare. Therefore, the objective of this Master thesis is to find out how the framing of climate change in communication affects the risk perception of men and women in rural Uganda. This opens up a set of questions that this study tries to answer:

1. How does media frame climate change in its reporting?
2. What is known about the concept of climate change in a community directly affected by it and how is it perceived?
3. What kind of adaptation measures are taken (if any)?
4. How do the people of the community receive new information about farming and/or climate and how does this information get distributed?
5. In what way does gender play a part in the perception of climate change?

As one indicator of risk perception, it will also be looked into adaptation measures the community members take as the relative risk perception is a main motivator to adaptation (Grothmann and Patt, 2005, p. 202). Furthermore, one objective of this thesis is to shed some light on the factor of gender in the perception of climate change. In Uganda, the majority of small-scale subsistence farmers are female and hence, are extremely susceptible to unfavourable weather conditions. However, through the gendered division of work and social status, they might receive different and/or less information than men. With this in mind, a feminist lens will be applied in this thesis.

1.3. Brief outline of methodology

This research is based on an epistemological orientation towards interpretivism and ontological considerations that are drawn from constructionism. An iterative-inductive logic of inquiry was applied, and qualitative research strategies were chosen as the tools to conduct this study. For the research design, a case study was selected. First, it was looked into the case of media reporting of climate change. Therefore, a qualitative content analysis was utilized to get a better understanding about how climate change is framed in media in Uganda. This content analysis was comprised of articles about climate change of two nationwide newspapers, The Daily Monitor, an independent newspaper, and New Vision which was established by the Ugandan government. Following, a community in Eastern Uganda in Jinja District was studied to find out how climate change is perceived by people directly affected by it. This was done through qualitative interviews, focus group discussions and participant observation. Several key informant interviews were carried out in the beginning. These key informants, ten in number, consisted of people in positions to distribute information into the community, like chairpersons, religious leaders, teachers, and radio presenters. Six focus group discussions where the participants shared one important characteristic like gender or age were performed to see how difficulties in farming and the act of obtaining information are discussed in a group. Conclusively, twenty in-depth interviews with community members were realized with a focus on a gendered balance. Hence, ten men and ten women were interviewed. A field diary was kept during the phase of data collection.

1.4. Climate change and development

In the history of planet Earth, its climate underwent many changes – from extreme periods of cold to extreme periods of warmth (Wong and Pape, 2015, p. 5). This had naturally occurring causes like the cycle of sunspots or other events. The increase of global average temperature we experience now however, cannot be fully explained with natural occurrences. On the contrary, global climate change is highly influenced by increasing greenhouse gases in the atmosphere that are of anthropogenic origin. Beyond them is carbon dioxide (CO₂) that has seen an extreme surge since the beginning of the Industrial Revolution. While the amount of CO₂ in the atmosphere at that time was around 280 parts per million (ppm), levels reached 413 ppm in March of 2019 (Scripps, 2019). In the past decade alone, the level of CO₂ rose about more than 30 ppm. This led to an increase of 1.0°C in global temperature in relation to pre-industrial levels and is “likely to reach 1.5°C between 2030 and 2052 if it continues to

increase at the current rate” (IPCC, 2018b, p. 6). The burning of fossil fuels can be seen as the major contributor to this situation.

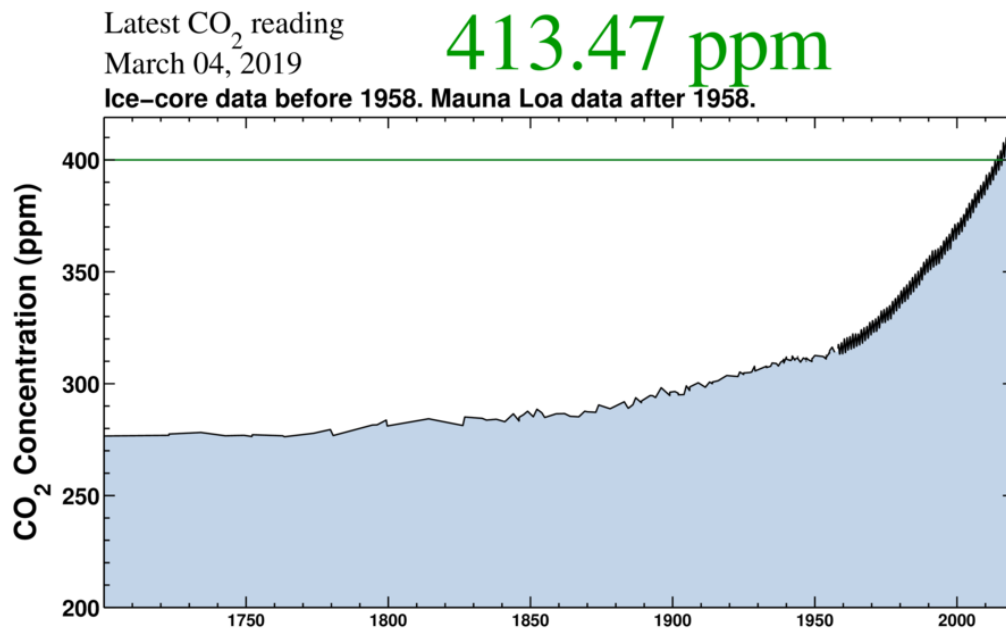


Figure 1: CO₂ Concentration (ppm) on March 04, 2019. Scripps. (https://scripps.ucsd.edu/programs/keelingcurve/wp-content/plugins/sio-blumoon/graphs/mlo_full_record.png). CC BY-NC-ND 2.0.

This rise in GHG has major implications for ecosystems as well as humanity. Warmer temperatures lead to melting glaciers, rising sea levels, and changing weather patterns beyond others which will result in more extreme weather and climate events like heat waves, droughts, floods and erratic rainfall. This in turn will affect water resources, food production and hence, livelihoods, health and economy (IPCC, 2018b, p. 11). It is a complex issue that requires a global response. Mitigation and adaptation are in the centre of the Paris Agreement. The agreement which was reached at the Conference of Parties (COP) 21 in Paris sets the goal to limit the temperature increase below 2°C and was ratified by 185 of 197 parties to the convention until to date (UNFCCC, 2019a). One way to achieve this goal are the “Nationally Determined Contributions” (NDCs). Every party is required “to prepare, communicate and maintain successive nationally determined contributions (NDCs) that it intends to achieve” (UNFCCC, 2019b) in terms of the reduction of national emissions and the adaptation to climate change.

However, climate change is not an issue of the future and the impacts of it are already felt in many regions of the world. Especially countries of the Global South are vulnerable to its impacts. This has several reasons. Poverty is hampering adaptation efforts, many societies are dependent on agriculture that is highly susceptible on climate and climate induced disasters are hitting areas with a low resilience due to unsustainable practices. Hence, the impacts of climate change will stand in direct opposition to development efforts. Countries and regions which are already coping with issues like poverty and inequality will be the worst affected because of their low adaptive capacity. On the other hand, if carried out in a sustainable manner, climate change mitigation and adaption can foster development efforts (e.g. Olsson et al., 2014).

1.5. Climate change prospects in Uganda

As the country of this field research, the situation of Uganda should be put into perspective. Uganda is a landlocked country in East Africa, bordering Kenya, South Sudan, Democratic Republic of Congo, Tanzania and Rwanda. It has a tropical climate but due to its altitude its moderated. Uganda experiences two wet seasons per year – “the ‘short’ rains in October to December and the ‘long’ rains in March to May” (McSweeney et al., 2006, p. 1). In recent climate trends, it can be observed that there is a significant increase in the frequency of hot days and an even larger increase in the frequency of hot nights between 1960 and 2003 (McSweeney et al., 2006, p. 2). Although the economy in Uganda has seen growth in the past years, its dependence on rain-fed agriculture counts as a risk to this growth because it is highly reliant on favourable weather conditions (World Bank, 2019a).

According to the National Census, Uganda’s population increased between 2002 and 2014 from 24.2 million to 34.6 million. This results in an average growth rate of 3.0 percent per year. The average household size is 4.7 people (UBOS, 2017, p. 2). For future development, the World Bank states that the population “is expected to reach 100 million by 2050” (World Bank, 2019a). As of 2016, approximately 20 percent of the population live in urban areas – which means that 80 percent is rural. The population of Uganda is quite young, almost 50 percent are 15 years and younger. Unemployment is considerably high, standing at 22 percent in 2014. The majority of the people who are working are subsistence farmers and more than two thirds of households name subsistence farming as the main source of income (UBOS, 2017, p. 6). In relation to gender, an Oxfam report states that women constitute the majority of “smallholder subsistence farmers and contribute 70-75% of agricultural production; an

average 55% of labour for land preparation; 65% for planting; 85-90% for weeding” (Oxfam, 2008, p. 8).

In 2014, Uganda emitted 59.92 MtCO_{2e} (including land-use change and forestry). The emissions of CO₂ worldwide were at 48,892.37 MtCO_{2e} at that time (World Resources Institute, n.d.). This means, Uganda is responsible for 0.1 percent of the global CO₂ emissions. In other measurements, the CO₂ emission per capita in Uganda were at 0.13t in 2014. To compare: the per capita emissions in Norway in the same year were at 9.27t (World Bank, 2019b). Like many other countries of the Global South, mitigation strategies carried out there will quite likely not be the facilitator to prevent climate to change drastically. If the big players like the USA and China are not significantly reducing their emissions, little difference will be seen on a global scale. Adaptation strategies, though, are becoming ever more important in Uganda.

As Corner (2011, p. 3) states, temperatures in East Africa have increased by about 0.5°C in the past 100 years. Even more drastically, he claims that there is evidence that in Uganda there is an increase of average temperatures of about 1.4°C since the 1960s and an increase of about 4.3°C until 2080 is possible. The IPCC predicts 1.4°C warmer temperatures in equatorial countries in Africa (Cameroon, Uganda, and Kenya) until 2050 as well as an increase in more erratic rainfall episodes (IPCC, n.d.). Not only warmer temperatures but also changes in rainfall patterns and more intense rainfall as well as changes of the severity in extreme climatic events like heat waves, droughts, floods and storms are expected in Uganda. The impacts of that could be devastating for food security and the spread of diseases like malaria. Soil erosion and land degradation are also possible local results of global climate change (Hepworth and Goulden, 2008). This will have adverse effects on the population. Many livelihoods are dependent on natural resource activities, particularly agriculture. According to Twinomugisha (2005, p. 9), agriculture is responsible for about 42 percent of GDP and over 90 percent of export. Additionally, like stated above from the UBOS census (2017, p. 6), two thirds of households are dependent on subsistence farming as the main source of income. Changing rainfall patterns and climate variability in general will make adaption to these changes imperative. More than that, Uganda is already experiencing the impacts of climate change. Uganda’s National Climate Change Policy (NCCP) states that there is an “average temperature increase of 0.28°C per decade in the country between 1960 and 2010, with the months of January and February most affected by this warming trend,

averaging an increase of 0.37°C per decade” (MWE, 2015, p. 6). This, beyond others, results in the spread of the malaria parasite into areas of the country where it has not been before.

Yet, Uganda and many more countries in the Global South have a low adaptive capacity. Poverty plays an important role in it because many adaptation strategies have an economic aspect (Hepworth and Goulden, 2008, p. 17). However, Chaplin et al. (2017, p. 17) stress that the cost of not taking action is estimated between US\$3.1bn and 5.9bn per year by 2025 which will be about 20 times greater than the cost of adaptation. Additionally, climate change adaptation cannot be seen as an isolated act. If the right strategies are applied, it can also help in terms of sustainable development and poverty reduction as people will be more resilient against (climate) shocks.

In 2007, Uganda released its National Adaptation Programmes of Action (NAPAs) which the UNFCCC urged Least Developed Countries (LDCs) to prepare. The NAPA identified different sectors that are or will be impacted by climate change: the health sector; water resources; agriculture; wildlife, mountains and rivers; and forests. To combat the problems in those sectors, the NAPA sets out several projects, for instance a community tree growing project, a land degradation management project or the strengthening of meteorological services (Government of Uganda, 2007, p. 51). In April 2015, the National Climate Change Policy (NCCP) followed the NAPA where a policy “within the context of the country’s vision and national development priorities” (MWE, 2015, p. V) was developed. Additionally, in accordance with the Paris Agreement, Uganda was the first country in Africa to release its NDCs in 2018. Uganda’s NDCs push for adaption actions and a reduction of emissions by 22 percent by 2030 (NDC Partnership, 2018). Hence, governmental action is taken – although mostly only on paper. The implementation of the NCCP is something the Ugandan government is being criticised for failing to do (Ampaire et al., 2017, p. 81). So, if climate change mitigation and adaptation efforts from the government do not reach the population, other means of raising awareness are crucial. This includes the communication via mass media and highlights the importance of looking into how this relevant topic gets communicated to the public.

1.6. Study area – Brief profile of Jinja District

In Uganda, the administrative units consist of districts that are subdivided into counties that are further divided into sub-counties and lastly in parishes. This case study took place in a

community in the District of Jinja. Jinja District lies in the South-East of the country on the shores of Lake Victoria and east of the River Nile. Jinja Town was founded by the British colonial powers in 1907 (Jinja District Local Government, 2019).

In Jinja District the population size consists of around 500,000 people whereby more than half of the population is below the age of 18. 77 percent of the households are headed by males, 23 percent by females. (UBOS, 2017, p. 21). The district is subdivided into three counties (Butembe, Kagoma and Jinja Municipality) and further subdivided into six sub-counties; 46 Parishes and 381 villages (Jinja District Local Government, 2019). The following case study was conducted in one of the villages of Kagoma County, in the sub-county of Butagaya. The dominant language in this region is Lusoga.

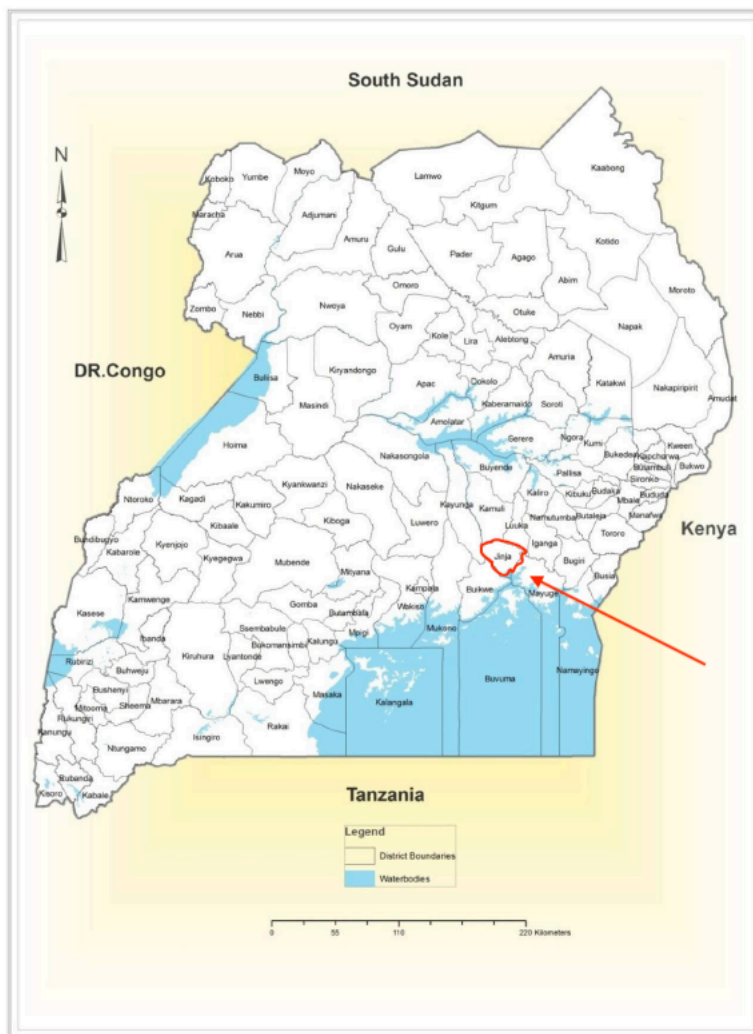


Figure 2: "Map of Uganda". From: *The National Population and Housing Census 2014 – Area Specific Profile Series*, by Uganda Bureau of Statistics (UBOS), 2017. Kampala: UBOS. (With alterations in red).

Economically, Jinja District places fourth in terms of GDP per capita in comparison to other districts of Uganda. In 2017, GDP per capita was at US\$1,180 (Rafa et al., 2017, p. 15). The city of Jinja is characterized by agricultural industries like “Agro Processing industries, Fish processing, wheat and oil industry, sugar factories, as well as other industries such as wood industry, soap factory, mining and quarrying, leather industry, construction industries” (Jinja District Local Government, 2019). The biggest local employer is the sugar factory Kakira Sugar Works. However, a large portion of the population (69 percent) is dependent on subsistence farming and has no wage employment (UBOS, 2017, p. 6). The village of this case study is situated in Butagaya sub-county and lies directly on the river Nile.

Map 3: Distribution of Population by Sub-county, Jinja District, 2014

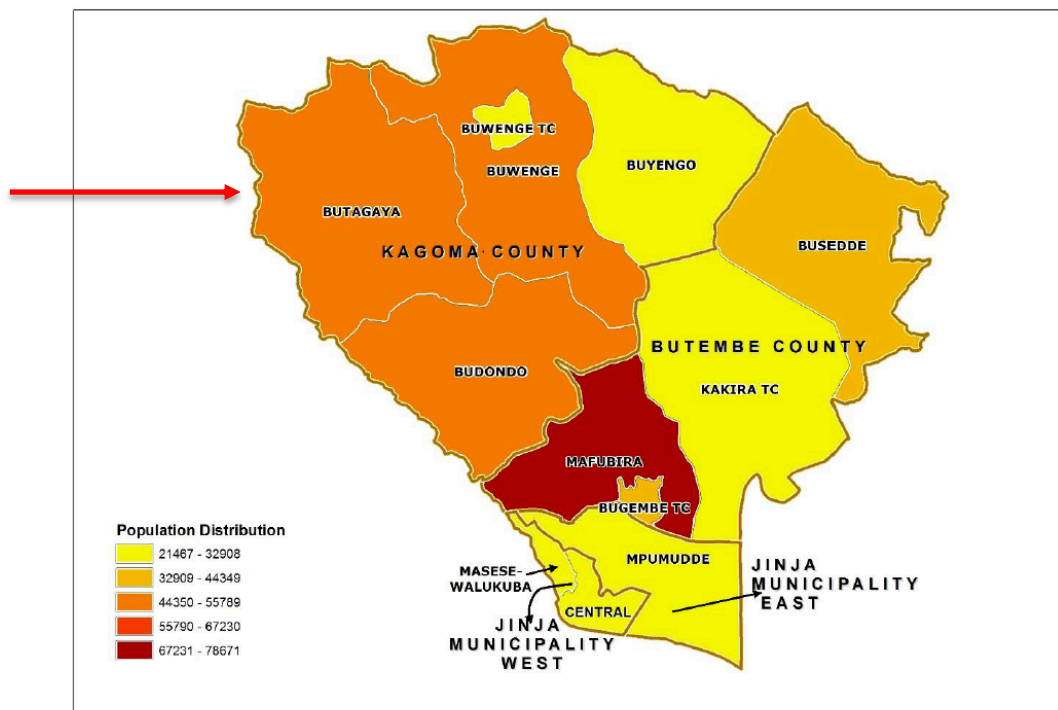


Figure 3: "Distribution of Population by Sub-county, Jinja District, 2014". From: The National Population and Housing Census 2014 – Area Specific Profile Series, by Uganda Bureau of Statistics (UBOS), 2017. Kampala: UBOS. (With alterations in red).

1.7. Thesis outline

This thesis consists of several chapters. *Chapter One* serves as an introduction into the topic and reasoning for the research. The rationale for the thesis work gets presented as well as its main objectives. This is followed by a brief outline of the methodology. Furthermore, a small introduction into what climate change is and how it is connected to development is set out

which is then deepened with information about the situation of climate change impacts in Uganda and the country's policies. Lastly in this chapter, the context of the case study, a village in Jinja District is described.

Chapter Two is concerned with the literature and theoretical framework related to the research questions. This includes a review of literature about climate change communication with a particular focus on mass media and climate change communication in Uganda. Furthermore, it is looked into mitigation and adaptation to climate change and the perception of climate change as risk. The next paragraph connects individual adaptation with risk perception. In the last section, the literature about climate change and gender get outlined. This comprises considerations about gender and adaptation, risk perception, access to information and climate change communication.

The theoretical framework in *Chapter Three* introduces framing as a concept that is used in this thesis, together with a feminist stance and the concept of vulnerability.

Chapter Four looks into the methodological considerations for this research. Thoughts about ontology and epistemology led to an iterative-inductive logic of inquiry that is based on interpretivism and constructionism. For the research design, a case study design was chosen. Furthermore, the different methods for data collection and their analysis are carried out. Additionally, ethical issues and challenges are discussed in this chapter, together with some thoughts about the limitations of this thesis and reflexivity of the researcher.

Chapter Five contains the analysis of the collected data. This consists of two parts. The first one is concerned with the reporting about climate change in two daily newspapers in Uganda and examines the first research question: How does media frame climate change in its reporting? The second part involves a community in Jinja District and their perception of climate change.

Chapter Six subsumes the findings of the two analyses and serves as a discussion to connect them. The discussion goes through the different frames found within the content analysis and links it to the experiences and remarks made by the members of the community where the field research took place.

Chapter Seven recapitulates the findings of the research question how the framing of climate change in communication affects the risk perception of men and women in rural Uganda. Furthermore, it looks into prospective areas for further research.

2. Literature Review

2.1. Climate change communication

2.1.1. Climate change communication in mass media

Climate change is a phenomenon that is studied since the late 19th century. However, it did not get much attention in media. This changed with a series of heat waves and droughts in the US in 1988 which took place after discussions about climate change and the ozone layer in the Montreal Protocol in 1987. An extensive media coverage about those climatic events in an US-American context and a constant linking to climate change followed. With that, anthropogenic climate change became a topic on the global public agenda. Little was reported on the scientific findings that were out and published the years and decades before. Conclusively, the World Meteorological Organization (WMO) and other United Nations environmental agencies created the IPCC and in 1990 the first IPCC report was issued (Weart, 2008). According to Susanne Moser, “[m]uch of the early communication [about climate change] was relatively narrowly focused on scientific findings and synthesis reports (such as those published periodically by the Intergovernmental Panel on Climate Change, IPCC), sometimes occasioned by particularly severe extreme events, sometimes by high-level conferences or policy meetings” (Moser, 2010, p. 32). One example for those high-level conferences are the yearly COPs of the United Nations Climate Change Conference (see, Eide and Kunelius, 2012).

Generally, climate change communication has to cope with several factors that make it difficult to report on climate change (Boykoff, 2011; Moser, 2010; Moser and Dilling, 2007). The following factors are extracted from Susanne Moser’s (2010) summarizing paper of climate change communication “Communicating climate change: history, challenges, process and future directions”. First of all, it is **invisible** as climate is merely the statistical expectation of average weather conditions over time. Often, it deals with **distant impacts**, being distant in time because it is something happening in the future or distant in place because it is impacting other regions. Also, the “modern human being” is somewhat **insulated from its environment**. For instance, in urban centres and many parts of the Global

North, people are not required to grow their own food but go to the market and buy it. Hence, many people do not have a direct connection to nature anymore and its links to climate. This is complicated by **inadequate signals** which are indicating the need for change and the **complexity and uncertainty** of climate change. Moser (2010, p. 35) brings up “socially constructed ‘signals’” like carbon pricing into the picture and that the “‘free’ emission of carbon” can be seen as a market failure in this regard. Last but not least, **self-interest, justice and humanity's common fate** hamper tangible climate change communication. It has to be taken into account that those assumptions are mostly made in a context of the Global North as studies about climate change communication mainly are conducted there. Some factors might have a universal approach, like complexity and uncertainty of climate change. An “insulation from the environment” on the other hand cannot be claimed for a society where a majority of citizens is engaged in the agricultural sector.

Russill and Nyssa (2009, p. 337) point out two research traditions in climate change communication. The first one is investigating the connection between scientific knowledge, media, and public understanding of climate change and is suggesting a gap between scientific and media representations of anthropogenic climate change (Oreskes, 2004, Boykoff and Boykoff, 2004; Carvalho, 2008). The second one is looking into the relationship of communication to motivation and social change (Moser and Dilling, 2007). In both research traditions, climate change is seen as an abstract construct and not equivalent to secure or unproblematic knowledge. Hence, often mass media interpret, transform and modify it to create a construct of climate change specifically for mass media. Additionally, this representation is replenished with social and cultural constructions by different actors (Neverla and Schäfer, 2012, p. 9; Stehr and von Storch, 1997). In this sense, climate and climate change are socially constructed in two ways: as from scientists generated, hypothetical constructs and as from media reconstructed constructs in their own set of rules (Neverla and Taddicken, 2012, p. 216).

In their book about climate research from the point of view of communication science and media, Neverla and Schäfer (2012) summarize the literature into five main results:

(1) the reporting about the topic “climate change” increased in the past decades worldwide. However, the statement of “worldwide” has to be viewed carefully, as most research was conducted in the Global North. Schmidt et al. (2013) are one of the few who conducted a comparative analysis of newspaper coverage in 27 countries, including countries in the

Global South (e.g. Malaysia, Papua New Guinea or Yemen). Most other comparative studies only include “industrialized countries” (Schmidt et al., 2013, p. 1234).

(2) global climatic changes are often linked to regional extreme events. In this case, the media representation might leave scientifically verifiable ground.

(3) journalistic routines and norms are observable in the reporting, for instance in the form of news factors. The theory of news values goes back to Galtung and Ruge (1965) who established various news factors. The more news factors an event possesses, the more likely it becomes news. These could be universal factors like frequency, relevance, consonance, and surprise and cultural factors like elite persons and nations.

(4) media partly point out potential wrong turns and carry out their control function. Hence, they can provide a necessary discourse in society.

(5) media nationally “domesticizes” the reporting about climate change in their national context and therefore, create a differing picture about climate development.

When it comes down to media use and effects, climate relevant content does not show to be any different than the media effect processes of other contents. In the words of the media scholars McCombs and Shaw (1972) and their theory about agenda setting, media does not tell the recipients **what to think**, but **what to think about**. Media content is not just accepted and acknowledged but goes through a process of integration dependent on the social and individual-biographical situation of the recipient. Particularly the already existing knowledge about climate change forms this integration (Neverla and Taddicken, 2012, p. 222). It was also observed that people with an in-depth knowledge about climate change and a “believe” that it is happening are more susceptible of other news about climate change (Zhao, 2009).

Schmidt et al. (2013, p. 1233) state the importance of mass media in this context as the following: “As global climate change lies beyond the life-world and biographical horizons of most people, knowledge about it is mainly disseminated via public communication. Due to their high circulation and general audience, mass media are pivotal in this latter regard.” In their study, Schmidt et al. compared newspaper coverage of climate change in 27 countries and concluded that it is a global issue which newspapers devote some space to worldwide. However, there was no considerable amount of additional reporting in countries that are more directly affected by climate change. But countries with obligations under the Kyoto protocol and countries with a high carbon dependency showed more media coverage.

Another interesting actor of climate change communication are civil society actors. In many circumstances, civil society takes over functions in society that are actually duties of the state, but the state is not able to fulfil them to complete satisfaction. The tackling and informing about climate change might be one of them on a global scale. Oxhorn (2006) sums up the extensive literature on civil society as the involvement of “people at that point in which they first enter the “public” or “political” realm outside their immediate families (the so-called private sphere)” (Oxhorn, 2006, p. 60). Hence, every individual or group that performs outside the private sphere is an actor of civil society in opposition to the state. In the case of climate change, that could be non-governmental organisations that work in the context of climate change and environmental issues, environmental activists or movements, demanding action like the “Fridays for Future” movement. However, it would go beyond the limits of this thesis work to examine this additional actor. Hence, the focus is set on media reporting of mass media, even though it might include reporting about civil society actors and their actions.

2.1.2. Climate change communication and perception in Uganda

Literature about climate change communication in Uganda is a rare sight and could hardly be found. However, some research about weather forecasts in Uganda can shed some light in this matter. Carla Roncoli and Benjamin Orlove, together with Ugandan colleagues, published several articles in this regard. They state that the Ugandan Department of Meteorology disseminates seasonal forecasts for different regions of the country through the government media advisories and agricultural extension services. Also, local FM radio stations spread these forecasts (Orlove et al., 2010, p. 247). Nonetheless, this is by no means research about climate change communication and shows the lack of knowledge production in this field. One project however was looking into it – a project about the challenges and opportunities of communicating climate change in Uganda (Corner, 2011). Corner highlights the publication of the Ugandan Carbon Bureau called Climate Sense. This publication, a folded A3 news-sheet, explained climate change in a simple way and got distributed in newspapers and to politicians and targeted schools and local governments in rural areas. However, only two editions were issued, the first in 2011 and the second in 2013. The first of those news-sheets treated the topic of climate change and pointed out the impact of greenhouse gases. The second one focussed on clean cooking stoves (Uganda Carbon Bureau, 2011 and 2013). Unfortunately, it is not known how many copies of those publications were distributed.

As the perception of climate change as a risk subject is the core of this thesis, it is crucial to look into the knowledge about and perception of climate change in general first. A study by the BBC in 2010 in several African countries – beyond them Uganda – brings up some interesting findings. It stresses that often Ugandans don't make a distinction between environmental degradation and climate change. Either way, the wording “climate change” bares the problem that there is no equivalent in local languages and the concept overall is not well known. Climatic changes are being connected to local actions like tree felling and the cultivation of riverbanks and wetlands, but “public awareness of the wider, international causes of global warming – carbon emissions from factories and transport, primarily in industrialised countries – seems to be extremely low” (Neville et al., 2010, p. 30).

For the Karamoja region in Uganda, Chaplin et al. (2017, p. 9) conclude that half of their respondents “do not think that the climate will continue to change over their lifetime” and hence, do either not know about climate change or do not think it affects them. On the other hand, a Gallup poll from 2010 indicates that 61 percent of Ugandans interviewed say that they know ‘something’ or ‘a great deal’ about climate change and 45 percent view climate change as a ‘very’ or ‘somewhat’ serious threat to them and their families (Pugliese and Ray, 2011). The poll was held on approximately 1,000 adults in 111 countries. However, it is not clear if for each country 1,000 people were interviewed or if that was the total sum of participants. Hence, it is difficult to assess how representative this poll is.

2.2. Mitigation and adaptation to climate change in Africa and Uganda

In basically all literature about climate change, especially when solutions ought to be found, mitigation and adaptation strategies are highlighted. The IPCC defines climate change mitigation as “activities that aim to reduce GHG emissions directly or indirectly (e.g., by changing behavioural patterns, or by developing and diffusing relevant technologies), by capturing GHGs before they are emitted to the atmosphere or sequestering GHGs already in the atmosphere by enhancing their sinks” (IPCC, 2001, p. 653). Adaptation on the other hand is defined as “adjustments in human and natural systems, in response to actual or expected climate stimuli or their effects, that moderate harm or exploit beneficial opportunities” (IPCC, 2001, p. 653). Besides the different aspects these strategies address, Adger (2001) argues that mitigation must be realized on a global scale whereas adaptation measures can be undertaken on several scales, from local to global. This is an important facet, especially in the

light of climate change coping mechanisms in countries of the Global South. Nhemachena and Hassan set out two main scales of adaptation: First, the farm on the micro-level and a focus on farmer decision-making in regard of seasonal variation in climate, economy and others. Second, the national level on the macro-level where it is looked into agricultural production nationwide as well as international policies (Nhemachena and Hassan, 2007, p. 3).

In the following paragraph, current adaptation strategies in Sub-Saharan Africa and Uganda in particular are carried out. Most literature about climate change adaptation in Africa divides into coping mechanisms and adaptation strategies. Coping mechanisms are mainly risk management approaches that are focused on hazard-coping strategies. Adaptation on the other hand is considering the impacts of climate change. However, one cannot be seen without the other, because it is highly likely that climate change is causing more hazards and more severe hazards too and hence, coping strategies are equally important for short-term consequences of climate change. In their research about climate change adaptation in Uganda Hisali et al. (2011, p. 1248) identify five different categories of adaptation strategies:

- (i) borrowing, both from formal and informal sources;
- (ii) labour supply like wage employment, working as self-employed, increasing agriculture labour supply, migration to work elsewhere and withdrawing children from school and sending them to work;
- (iii) reducing consumption;
- (iv) running down assets and past savings including mortgaging assets, selling assets and utilising savings; and,
- (v) technology based adaptation strategies such as changes in crop choices to avoid bad weather and improving technology.

It becomes clear here that most adaptation strategies imply some sort of capital, mostly financial. Technology-based adaptation strategies require financial investment as well as an investment of time to inform oneself about the possibilities and to get familiarized with the new technology, e.g. Assets and past savings entail already existing financial resources. Borrowing indicates social capital to be deemed a reliable debtor. Also, often unskilled labour work requires social capital to get the job in the first place. Adger (2010) for instance sees social capital as an important driver for adaptation to climate change. As Nielsen and Reenberg point out, “adaptive capacity is influenced by not only economic and technological development, but also by social norms, values and rules” (Nielsen and Reenberg, 2010, p.

143). In this regard, Risbey et al. (1999, p. 139) developed a general framework for adaptation. They define four components or stages of adaptation: (1) definition of what is signal and noise, and signal detection. If there is no signal detection, then there will be no response. (2) Evaluation, where the signal is interpreted and evaluated; (3) decision and response; and (4) feedback. In the feedback stage, the outcomes of the decisions are monitored and assessed. If effective, the adaptation strategy might be added to the repertoire of options. However, as Hisali et al. (2011, p. 1249) stress, many of the common adaptation strategies that are used by small-scale farmers in Uganda are unsustainable and an “implementation of policies that seek to enhance the resilience of households to respond in a more sustainable manner to climate related climate shocks” is required.

The aforementioned strategies of Hisali et al. (2011) are mostly hazard-coping strategies due to droughts. Hence, they are predominantly used in situations where people are already suffering the consequences of climate change. So, what about other adaptation strategies to expected and not yet experienced climate stimuli and their effects? Grothmann and Patt (2005, p. 202) describe the relative risk perception as the main motivator to adaptation. Therefore, it will be looked further into the perception of risk in the following paragraph.

2.3. Perception of climate change as risk

The perception of risk can be seen as a mental construct. Due to that, it cannot be separated from society and culture (van der Linden, 2014; Stehr and von Storch, 1997). As Sjöberg (2000, p. 408) stresses, “risk is about a future event, and future events can be imagined or construed, not sensed”. Focussing on climate change and its perception, extensive literature can be found. Often, it is seen as a distant psychological risk out of similar reasons why it is difficult to report on climate change. It is perceived distant in time and space, “happening in the future to other people and places” (van der Linden, 2014, p. 113; also Pidgeon, 2012; Leiserowitz, 2010). That might also be the reason why generally climate change is perceived as a higher risk in countries of the Global South than in the Global North (Kim and Wolinsky-Nahmias, 2014, p. 80). This could have to do with the fact that the impacts of climate change are more evident in the Global South. However, it is important to note that not only does the perception of risk about climate change vary between countries or regions, but also inside the society of a country. This can have different determinants like individual characteristics, knowledge, value, or political ideology (e.g. Smith and Leiserowitz, 2012, p.

1030; Whitmarsh, 2011). Sander van der Linden (2014) sums up the dimensions of risk perception of climate change into the following four categories: socio-demographic, cognitive, experiential and socio-cultural factors, although he emphasises that it is a complex and multidimensional issue. These dimensions will be used in this thesis as a framework to contextualize the perception of climate change and therefore, set out in more detail.

Socio-demographic factors for instance are gender, education and socio-economic status. Gender is of particular importance in this thesis and therefore, will be looked into in more detail further below. Yet, according to van der Linden, a higher risk perception of women than men for a wide range of hazards, including climate change has been noted. Furthermore, he stresses that the literature about the connection of income, age, education and risk perceptions of climate change finds little or no correlation. Again, it has to be emphasised that the studies van der Linden refers to were conducted in countries of the Global North. Hartter et al. (2012, p. 2) in their study about patterns and perceptions of climate change in Uganda stress that “perceptions of climate change may vary based on the number of years spent as a farmer, amount of formal education, wealth, gender, and age” as more experienced farmers have a higher knowledge of rainfall variability. However, perception does not equal risk and, hence it is not possible to draw a conclusion in this regard.

The cognitive dimensions of risk are mostly comprised of knowledge about climate change. As O’Connor and colleagues (O’Connor et al., 1999, p. 469) note, “knowledge about the causes of the global warming is a powerful predictor of behavioral intentions”. This knowledge can be “the product of the dissemination of climatic information via scientific [...] networks” (Fernández-Llamazares et al., 2015, p. 308). However, for laypersons, this knowledge is to a big part disseminated through media as media often reports about important findings and documents, like the IPCC reports (Moser, 2010, p. 32). General scientific knowledge on the other hand does not contribute largely to a risk perception of climate change. Hence, climate-specific and causal knowledge are crucial for being concerned about climate change as well as being relevant for behaviour change and acceptance of climate policies (Shi et al., 2015).

Van der Linden divides experiential factors into affect and personal experience. He emphasises that human information processing is partly led by emotion and affect. Nevertheless, van der Linden stresses that research about this topic is ambivalent,

predominantly because of inconsistencies in the use of the terms emotions and affect. Also, he states that – backed by the study of Swim et al. (2011) about psychology and climate change – “climate change (as a risk object) cannot be experienced directly, [and] affective evaluations of global warming are often influenced by the popular media” (Van der Linden, 2014, p. 115) which circles us back to the importance of media representation and framing. Affect is also a topic in feminist scholarly discussions. Bertelsen and Murphie (2010) summarize the discourse into three different aspects of affect whereas “global warming” is seen as transitive or “the movement of the impersonal”. However, most people indeed see and experience changes in weather patterns (e.g. Howe et al., 2013; Weber 2010) but yet, weather does not equate climate. Nevertheless, especially hot or cold time periods influence the perception about climate change. Howe et al. (2013, p. 352) for instance state that “individuals who live in places with rising average temperatures are more likely than others to perceive local warming”. Another important aspect about personal experience is the experience with extreme weather events (e.g. Marx et al., 2007). If people for instance were already in the midst of a flooding, they have a heightened perception of the risk of climate change and their own role in it (e.g. Spence et al., 2011; Biernacki et al., 2008). However, in her study about direct experience in risk perception and behavioural response, Lorraine Whitmarsh (2008, p. 368) concluded that “flood victims differ very little from other participants in their understanding of and response to climate change”.

Last but not least, van der Linden sets out socio-cultural factors as an important dimension of risk perception. Like stated above, risk perception is a mental construct and therefore, entangled in society and culture. Values and worldviews play a crucial role in that. According to Weber (2010) values and worldviews are influential for the reception of phenomena and risks or ignoring or denying them. But correspondingly, the social embeddedness of risk needs to be considered. The “greater the extent to which climate change is viewed as a risk by important social referents (e.g., friends, family etc.), the more it amplifies and intensifies an individual's own risk perception” (van der Linden, 2014, p. 116). Also, trust is a major facilitator. If the recipient trusts the source where the information comes from, she or he is more willing to give into it (Weber, 2010; Moser and Dilling, 2007, p. 13).

2.4. Individual adaptation and risk perception

As Grothmann and Patt describe, the relative risk perception is a main motivator to adaptation. According to them, the “relative risk perception expresses the perceived

probability of being exposed to climate change impacts and to the appraisal of how harmful these impacts would be to things an actor values (perceived severity), relative to the appraisal of how harmful and urgent other problems or challenges in life are” (Grothmann and Patt, 2005, p. 202). This stresses the fact that climate change and its implications always have to be seen in relation of every person’s context. If people are struck by poverty and food insecurity, their most severe problem probably will not be expressed as climate change (although those issues might be related to each other). If we look at individual adaptation, it becomes apparent that it is always an individual strategy that also depends on the adaptive capacity of the individual person. Like stated above, this not only means economic and technological assets, but adaptive capacity is additionally influenced by social norms, values, e.g. which can differ between countries, regions, communities and even individuals. Certainly, there are other adaptation strategies that can be applied on an organisational or governmental level that might work within a different frame. However, in this thesis, the focus is set on individual adaptation.

Experience is another major influencing factor if a person perceives climate change as risk and enforces adaptation methods. A study about perception of and adaptation to climate change in Africa has shown that the farmers with more experience were more likely to assert increased temperatures and changing precipitation patterns (Maddison, 2007). Another study observing the perception of climate change in the region of Karamoja in Uganda, though, noted that the majority of respondents of the study “have not perceived any changes in climate or were unsure if climate change had occurred over their lifetime” and do not think that climate change will play a big role in their lifetime (Chaplin et al., 2017, p. 9). This means, first, that no risk towards climate change is perceived and hence, the level of preparedness is low as adaptation strategies quite likely will not get applied.

A crucial aspect of adaptation is the limits to it. The IPCC Assessment Report 5 categorises adaptation limits into three forms: biophysical, sociocultural and economic (Klein et al., 2014, p. 923). Especially sociocultural and economic limits are socially constructed and “emerge from ‘inside’ society” though values, goals, risk and social choice (Adger et al., 2009, p. 338). However, limits are not “hard barriers” but ambiguous and the literature (e.g. Barnett et al. 2015; Nalau and Filho, 2018) makes a distinction between barriers or constraints that can be overcome, and limits to adaptation where “adaptation actions fail to protect things that stakeholders value” (Barnett et al., 2015, n.p.). According to Chanza

(2018, p. 112), a major impediment to adaptation efforts is poverty that minimizes capacity for change. If people are already struggling to maintain their livelihoods, there will be little further capacity to invest in adaptation methods. Hence, vulnerability to climate change, adaptive capacity and adaptation affect each other in a circular fashion (Mertz et al., 2009, p. 746). But not only poverty is a factor that limits adaptation. It is a dynamic process that is influenced by many external components, like “population growth, migration, technological change, economic growth, and structural transformation” and other factors like the geographical scale (Hertel and Rosch, 2010, p. 369). However, Adger et al. (2009, p. 346) also name perceptions of risk, knowledge and experience as crucial factors for adaptation which brings us back to the importance of climate change communication and the dissemination of information. Moreover, class, gender and culture play an essential part in it (Nielsen and Reenberg, 2010, p. 150) and power structures should never be left out in this equation. Therefore, it should be looked further into the factor of gender.

2.5. Climate change and gender

The objective to include gender into development activities and research started to get attention in the late 1970s and 1980s. This also can be seen in research about climate change – although only just more recently. In 2010, Sherilyn MacGregor wrote that, first of all, social research in climate research was minimal up to the date of her article and environmental sociology is a marginalized field. Secondly, “feminist perspectives in the marginalized field of environmental sociology are marginalized further” (MacGregor, 2010, p. 125). To not include a gender dimension in climate change research and policies is an immense hindrance to understanding why we are at the point of a climate crisis and how to tackle this crisis. As it was mentioned above, adaptive capacity depends on socio-cultural and economic relations which are themselves “shaped by power relations determining access to resources, information and the availability of options and choices” (Djoudi et al., 2016, p. 248). With regard to impacts of climate change, research is concentrated on countries of the Global South rather than countries in the North. This is connected to a supposed higher vulnerability and therefore the need of risk management (Röhr and Hemmati, 2008, p. 790). According to Röhr and Hemmati, “gender aspects of climate change in developing countries are strongly linked a) to access to energy, b) to impacts of climate change on daily life, and c) vulnerability to climate change and extreme weather events/disasters” (Röhr and Hemmati, 2008, p. 791).

As Ulrike Röhr emphasises, women and men “are differently affected by the effects of climate change” as well as they “are differently affected by climate protection and adaptation instruments and measures” (Röhr, 2007, p. 2). Reasons for that are manifold, like the gendered distribution of work, knowledge and access to information and education. Furthermore, Röhr stresses that climate protection and adaptation instruments must take the factor gender into account. If not, they will not be able to cover different responsibilities and capacities. Women generally are seen as more vulnerable to disasters due to, for instance, their restricted access to resources, decision-making power and information and their social responsibilities. Cannon (2002) illustrates this in his example of the effects of climate change in Bangladesh and its different impacts on men and women. He indicates that women are more prone to climate change induced disasters than men because first, they are poorer, but also because of the social construct of gender and its attributions like shame, privacy and socially acceptable behaviour. Gender roles are also influencing the possibility of being more exposed to health risks, for instance due to the gendered division of labour. Women are the primary responsible for cooking and collecting fuel. As the burning of traditional fuels often happens indoors, air pollution and hence, respiratory diseases are not uncommon. Also, the task of collecting water makes women more exposed to risks like malaria (Denton, 2002, p. 15).

2.5.1. Adaptation and gender

The FAO underlines the fact that the impacts of extreme weather events will be different for women and men. This could be seen in increasing male migration which leaves women with more responsibilities and chores. Additionally, an adaptation to climate change with the help of changes in agricultural and livestock production will quite likely affect the gendered division of labour and hence, income opportunities. Another factor could be concerned with women’s workload. Often, women and children are responsible for collecting fuelwood and water. If climate change proceeds, these resources could be more difficult to attain and thus, more effort and time is required for those chores (Lambrou and Piana, 2006, p. 21). Hence, environmental degradation plays an important part in the increasing of women’s workload and vulnerability (Nelson et al., 2002, p. 52; Denton, 2002, p. 11). Deressa et al. (2009) discuss farmers’ choice of adaptation methods to climate change in the Nile Basin of Ethiopia and conclude that “women are more likely to adapt because they are responsible for much of

the agricultural work in the region and therefore have greater experience and access to information on various management and farming practices” (Deressa et al. 2009, p. 251).

On the other hand, Kristjanson et al. (2015) note that, although the majority of households in Rakai district in Uganda engage in adaptation strategies due to perceived climate change, significantly less women than men are pursuing adaptation. When asked about why, women claimed not knowing what to do, not having the necessary financial resources or not seeing the need to adapt as the reasons for not adapting. This displays that there are gendered differences in access to and control over resources like finances or information. Financial and labour-intensive adaptation practices, like the construction of trenches for water management and mulching, are mainly in the hands of men, as Jost et al. (2016) highlight which also draws back to the lack of access to resources like labour and finances. Nevertheless, adaptation to climate change is context specific and an individual strategy. Also, gender is only one part of the equation and cannot be singled out as a determinant.

2.5.2. Risk perception and gender

Röhr points out studies that have shown that climate change is perceived differently according to gender. One major point of this thesis, the perception of risk, can clearly be seen as a gendered issue. According to Röhr, women have a higher risk perception than men, and are more in favour of lifestyle changes, while men advocate more for technical solutions, at least in industrialized countries (Röhr, 2007, p. 2). A study in the Rakai district of Uganda tried to gain some insights about gender and climate change adaptation and concluded that “women were more likely to report experiencing any climate shock” (Kristjanson et al., 2015, p. 1). However, more women reported droughts, while more men were mentioning storms. This could be drawn back to the different roles and tasks women and men have to fulfil. In many regions of Sub-Saharan Africa, women are the ones responsible for providing food to the family and hence, agricultural production. Droughts in particular are hindering the growth of produce and irrigation systems are not common for subsistence farming in this region of the world. Therefore, as this kind of climatic event is impacting their lives, women probably notice it more than men, who are performing other tasks. Furthermore, this is visible in the result that more women than men noticed impacts on agricultural activity, livestock problems and reduced water availability (Kristjanson et al., 2015, p. 1). Like stated above, the fetching

of water is often a chore for women and children and hence, they are impacted by it to a greater extent.

2.5.3. Access to information and gender

Another issue that was mentioned by Hisali et al. (2011) in their study about climate change adaptation in Uganda is the access to information. The medium of delivery for information about climate change often depends on gender, as gender is seen as a social construction and with that, is inscribed with certain roles to fulfil. This, for instance, is expressed in the higher likelihood for male-headed households to receive information about adaptation methods in the sense of new technologies (Asfaw and Admassie, 2004). Also, they are more willing to take risks (e.g. Charness and Gneezy, 2012). In this light, gender discrimination has to be discussed. In certain contexts, it is difficult for some women to get access to relevant information, be it through their active exclusion from public life that is often subject to men or through women's limited time flexibility and restricted resources. However, some studies emphasise a "dominant role of women in Africa's agriculture" (Hisali et al., 2011, p. 1247) and hence, access to relevant information and a likelihood to undertake climate change adaptation methods (Nhemachena and Hassan, 2007, p. 24). Röhr and Hemmati (2008, p. 792) for instance state that in Sub-Saharan Africa, women are responsible for up to 80 percent of household food production. Nevertheless, Kristjanson et al. (2015) observed in the Rakai district of Uganda that, although women are the main contributor in the workload of post-harvest food, only 50 percent receive information related to the handling of post-harvest food. The study also looked into the means of communication. Newspapers reached none of the women, but one-third of men. Correspondingly, only 2 percent of women, but 14 percent of men had access to TV. Cell phone use was similar with 6 percent of women and 12 percent of men. Internet was not established in the region at the time of the survey. This shows quite clearly that it is mostly men in possession of the technology to obtain new information, like cell phones and television. An exception of that is radio whereby 86 percent of women and 98 percent of men get their information from.

In their article about gender, agriculture and climate change in smallholder farming communities, also in the Rakai district, Jost et al. (2016) point out that age in combination with gender can be a determinant as well. Cell phones are mostly owned by young men which might foster mobility because the owners of technology can access information about

market opportunities and prices with these devices. But similarly, the distribution of information and knowledge apart from media is male-dominated. Farmer's organisations for instance were reaching 36 percent of men and 12 percent of women in Rakai. Nonetheless, it has to be noted that almost all women and men in the survey about Rakai had some sort of access to agricultural or climate information, be it from radio programmes, interpersonal communication with family, neighbours, or their own or traditional knowledge (Twyman et al., 2014, p. 24). However, in the context of Jinja District that serves here as a case study, the National Population and Housing Census from 2014 states that 54 percent of men above the age of 9 and 42 percent of women own a mobile phone in Jinja District (UBOS, 2017, p. 25). Hence, the gap of ownership is not extensive, although this picture shifts if we look at mobile phone ownership between the age of 18 and 30. Here, 71 percent of men and only 57 percent of women own a mobile phone.

Another issue concerned with information and gender is processing it. As Jost et al. state, farmers in Rakai district “did not understand the international weather symbols most often used in print media for daily forecasts, and found seasonal forecasts difficult to understand” (Jost et al., 2016, p. 137). Women were even less likely to understand the forecast than men. So, although there is a wish to receive information about climate change, few are actively seeking out for this information. While men prefer to hear weather and climate information on the radio, women prefer personal communication like megaphones, letters, village leaders or during religious and social gatherings (Jost et al., 2016, p. 137).

2.5.4. Gender and climate change communication

As the paragraph above has shown, gender in connection with different factors of intersectionality is an important point to consider when trying to identify behaviour in the light of climate change. This includes climate change communication. Quite often in research about climate change, women get framed as the victim of their circumstance. However, as Alston stresses, women “hold critical local knowledge that can enhance climate adaptations and assist the development of new technologies to address climate variability in areas related to energy, water, food security, agriculture and fisheries, biodiversity services, health, and disaster risk management” (Alston, 2014, p. 289). When looked at existing approaches of adaptation, these practices and knowledge of women are often left untapped, sometimes due to taking prevailing power and gender relations for granted.

In contrast to this, Rao and colleagues criticize the tendency to either victimize women or only point out their virtue in relation to the environment. In debates about climate change, women are “[l]acking in resources of various types, they are portrayed as ‘victims’ of development, yet stoically carrying the burden of survival as subsistence food producers, bearers of water and fuelwood and guardians of household food security” (Rao et al., 2019, p. 2). On the other hand, men are mostly not part in this discourse, and if so, are seen as lazy or absent due to migration. The main difficulty of these narratives is the homogenization of women and their experiences solely on the fact that they are women. Different factors like class, ethnicity, and geographical and agro-ecological contexts are mostly not taken into consideration and are not reflected upon (Rao et al., 2019, p. 2). Hence, not only an integration of gender in the discourse about climate change and adaptation is necessary, also a reflection on pre-existing roles and access to resources that depend on several factors of intersectionality is crucial.

3. Theoretical framework

This thesis work is based on several theoretical grounds that help analyse the collected data. Media representation of climate change is a central issue in this thesis. As “climate change (as a risk object) cannot be experienced directly, affective evaluations of global warming are often influenced by the popular media” (Van der Linden, 2014, p. 115) which shows the importance of media representation and framing in the context of climate change. The concept of framing will be used to identify recurring patterns and power structures and hence, will be discussed in the next section. Not only is it important to look into what and how it is reported, but also who reports about what, whose voices are heard and who’s not. Class, gender, culture and the power structures which are lying within are important factors that have to be accounted for in the theoretical framework of this thesis. Hence, a feminist approach towards research is taken and further set out below. As vulnerability is a crucial element to adaptation and adaptive capacity, it is of major importance for the theoretical groundwork of this thesis. Those elements will be set out in more detail in the following section.

3.1. Framing

Framing is a concept in several social science disciplines. In a general sense, frames are cognitive structures that are based on perceived phenomena and that enable the individual

person to allocate meaning (Bonfadelli, 2002, p. 143). In the realm of this thesis which focuses on communication, it will be looked into the definition of Robert Entman. According to Entman (1993), a media scholar, frames consist of selection and salience: „To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described“ (Entman, 1993, p. 52). For Entman, salience is the arrangement of information to be more conspicuous, significant and memorable for the audience (e.g. readers, listeners, viewers). Increasing salience increases the probability that the recipients receive the information, perceive their meaning and process them. This leads to the four functions or dimensions of framing in the definition of Entman: (1) problem definition, (2) causal interpretation, (3) moral evaluation and/or (4) treatment recommendation. This goes hand in hand with the definition Spence and Pidgeon (2010, p. 657) use in their study about climate change communication. According to them “[f]raming theory and research seeks to understand the ways in which related sets of ideas in the public sphere are organised, presented and debated”. Schmidt (2012, p. 73) sees three basic framing activities of civil society actors: Firstly, in diagnosing a problem, often with the identification of a cause or a culprit. Secondly, in using the frame of prognosing a plausible and reachable solution for the problem. The third activity is the incentivisation of action. In his research, the frame of “climate change justice” is the most prevalent.

When it comes to climate change communication, Matthew Nisbeth sets out several frames that are applicable to climate change, namely social progress, economic development and competitiveness, morality and ethics, scientific and technical uncertainty, Pandora’s box / Frankenstein’s monster / runaway science, public accountability and governance, middle way / alternative path and the frame of conflict and strategy (Nisbeth, 2009, p. 18). Thus, the aforementioned results of Schmidt about “climate change justice” would also concur with the frame of “morality and ethics”. In their study about climate change in Peruvian newspapers, Takahashi and Meisner (2012) used a different set of frames. They also worked with a two-tier framing scheme where they worked with deductively derived frames from the literature and their own inductive review. This resulted in the frames of effects, opportunities, politics, society, and science and their respective sub-frames of ecological, human and economic effects, technological solutions, corporate initiatives, policies, political discussions, popular culture, civil society initiatives, basic science and new studies. Combined, I will use these frames in a deductive manner later in the analysis of the selected newspaper articles.

Although there are of course other studies about the framing of climate change in media, I will use a combination of the aforementioned, as those are mostly overlapping with frames found in other studies (e.g. Moernaut et al., 2018).

3.2. Vulnerability

The concept of vulnerability is of key importance in this thesis. The IPCC defines vulnerability as the “susceptibility to harm” (IPCC, 2014, p. 36). For Wisner et al. vulnerability means the “characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard” (Wisner et al., 2003, p. 11). It is important to note that the vulnerability of a person or group can never be seen without the wider context of the socio-ecological system and the political economy and access to resources (Adger, 2006, p. 270). As Adger highlights, there is a broad spectrum of concepts and approaches for the assessment of vulnerability. He however sees that as a “strength and sign of vitality, not a weakness, of vulnerability research” (Adger, 2006, p. 277). Karen O’Brien et al. (2004) differ between two different interpretations of vulnerability in climate change research. The first interpretation is based on the assumption of vulnerability as the “end point”. Here, it is looked at the situation after adaptation has taken place. Hence, the residual consequences after adaptation are seen as vulnerable. The second interpretation sees vulnerability as the “starting point” where “vulnerability represents a present inability to cope with external pressures or changes, in this case changing climate conditions” (O’Brien et al., 2004, p. 2). Those different models of interpretation can be explained with the divergent purposes of the research they originate. In this thesis, vulnerability is regarded as the latter. However, no matter what interpretation, adaptive capacity is crucial for both, either to determine vulnerability as it is the case for the end point interpretation, or to determine adaptive action for the starting point interpretation.

3.3. Feminism in research

These remarks have to be seen with a feminist lens. As its very base, feminist research is concerned with power relations not only within the subject of research but also between the researcher and the researched. Especially from the 1960s on, feminism started to influence research practice. In this era, the attention was drawn to women as the research subject due to a “pervasive androcentric bias within science and social science research” (Hesse-Biber, 2008, p. 336). In the 1980s and 90s, the focus shifted towards an epistemological critique of

positivism and scientific objectivity, and hence, a critique of the idea of value-free science. Epistemology as political and knowledge as laden with value is the “basic building block of feminist epistemological analysis” (Madhok and Evans, 2014, p. 3). Also, it is important to highlight, like stated above, that gender is not a category which can be analysed on its own but always have to be recognized within the different forms of marginality like race, class, sexuality, location, etc. In the research process, reflexivity of the researcher is seen as a key practice to detect forms of power, also in the research itself.

Critique on feminist theory, however, lies within the prevailing power structures and the “reproduction of existing hierarchies and of coloniality within feminist theory itself” (Madhok and Evans, 2014, p. 3). Chandra Mohanty for instance stresses in her essay “Under Western Eyes” that in many Western feminist texts, “the “third world woman” [is produced] as a singular monolithic subject” (Mohanty, 1991, p. 51) and hence, non-Western women are strongly subject to othering processes. With this criticism in mind, Chowdhury (2016, p. 161) argues for the recognition of situated knowledges and local voices as a legitimate source of knowledge production. Thus, it is crucial to look into feminist methodology and its dilemmas as well. Like it was stated in the foregoing paragraphs and chapters, intersectionality is an important issue to consider and a central framework in this thesis. According to Yuval-Davis, epistemologically it is “a development of feminist standpoint theory” (Yuval-Davis, 2016, p. 369) which asserts that the social positioning of the social agent has to be accounted for. This means that not only gender can be a factor of inequality but that there are many “instances of inequality involving the overlap of multiple social dynamics” (Clarke and McCall, 2013, p. 351). Hence, although gender is in the focus of this research, it is not taken as the sole explanatory model for observed differences and inequality.

4. Methodology

This chapter will carry out the methodological considerations made in this thesis. First, it will be looked into the ontological and epistemological concerns that lead the approach. Here, an iterative-inductive or abductive logic of inquiry is applied. This is based on the epistemological orientation towards interpretivism and the ontological considerations that are drawn from constructionism. Subsequently, the research design is set out. In this thesis, a case study was chosen as the appropriate design. For further illustration, the selected methods for data collection and their respective sampling are described. Hence, qualitative content analysis, qualitative interviews, focus groups and participant observation are carried out in

more detail. A short section about data analysis outlines the basis for the analysis of the collected data. Furthermore, ethical considerations that can come up during social research and this research in particular are discussed, followed by the challenges the research design is facing. A section about the limitations of this thesis and some words of reflexivity of me as the researcher conclude this part about methodology.

4.1. Ontological and epistemological considerations

Social research is the solving of problems. According to Blaikie and Priest, this includes “both intellectual puzzles and practical problems” (Blaikie and Priest, 2017, p. 7). To solve those problems and puzzles, research questions are needed. Blaikie (2000) groups research question into three main types: what, why and how questions. These questions can help answer different questions and objectives. The answers for what-questions are descriptive, while why-questions aim for an understanding or explanation of social phenomena. How-questions on the other hand are “concerned with bringing about change” (Blaikie, 2000, p. 61). According to Blaikie and Priest (2017, p. 12), there are four main logics of inquiry based on ontological and epistemological assumptions to answer research questions, namely the inductive, deductive, retroductive and abductive strategy. In this regard, epistemology is concerned with “the question of what is (or should be) regarded as acceptable knowledge in a discipline” (Bryman, 2012, p. 27), whereas ontology is questioning the “underlying belief system [...], about the nature of being and existence” and hence, the nature of reality (Kivunja and Kuyini, 2017, p. 27).

In social research, two main research strategies are prominent: quantitative and qualitative research strategies. Bryman roughly assigns the epistemological orientation of a natural science model and objectivism as the ontological orientation to a deductive research strategy and connects it with quantitative research. Qualitative research on the other hand is seen by Bryman as inductive and connected to interpretivism and constructionism (Bryman, 2012, p. 36). However, it is important to note that those distinctions are not so easily made in practice. Apart from epistemological and ontological assumptions and the logic of inquiry, these strategies also depend on the type of research question and the purposes of answering it. In this research an iterative-inductive approach like described by O’Reilly (2005) is used. She stresses that “the researcher should enter into an ongoing simultaneous process of deduction and induction, of theory building, testing and rebuilding” (O’Reilly, 2005, p. 27). Simply put,

the inductive strategy starts with the collection of data whereon theories and hypotheses are developed. A constant revision through iteration is possible. However, the application of a positivist epistemology and an objectivist ontology like Blaikie (2000) connects with an inductive strategy will not take place. Contrary to this, epistemologically, I draw from interpretivism and my ontological considerations are based on constructionism. Blaikie and Priest (2017) call a similar concept of this abductive. According to them, abductive logic deciphers everyday accounts in “an iterative process of typification and abstraction, each of which can involve other logics, such as iterations using induction and deduction” (Blaikie and Priest, 2017, p. 13). Hence, to be able to use deductive and inductive approaches depending on the experiences during the research process, an iterative-inductive or abductive logic of inquiry will be applied. Therefore, I use qualitative research methods in this research project. Another point that led the decision towards qualitative research is the theoretical framework that is based on feminism. Feminism, being based on the exposure of power relations, also takes the power relations of social research into account. Although the power imbalances inherit in research relations are difficult to overcome (if they are at all), qualitative methods can work towards establishing “more egalitarian relationships between a researcher and their researched” (Grenz, 2014, p. 64) as they open up the possibility for exchange and a more levelled approach than most quantitative methods.

In qualitative research in general, reliability and validity are difficult criteria to obtain. Every research is conducted in a certain social setting and context and hence, impossible to “freeze” for a replication of the study. The replicability of a study is often associated with external reliability. The same applies for internal reliability. Every researcher is embedded in her or his own social and cultural background and brings certain experiences and personal traits into the research setting. This can produce different results even though the starting point was the same. Internal validity, however, can be a strength of qualitative research. Bryman for instance, backed by the argumentation of LeCompte and Goetz (1982) argues that “the prolonged participation in the social life of a group over a long period of time allows the researcher to ensure a high level of congruence between concepts and observations” (Bryman, 2012, p. 390). External validity on the other hand is difficult to achieve because of small samples and case studies with which findings cannot be generalized. To make the research process as transparent as possible, a reflexive stance is taken in this thesis. Thus, issues concerned with reflexivity are carried out in more detail further below.

4.2. Research design

The research design in general is meant to guide “the execution of a research method and the analysis of the subsequent data” (Bryman, 2012, p. 45). It provides a framework for the collection and analysis of data. In this thesis, a case study design is used. To be precise, more than one case provides the ground for this research project. Several qualitative methods – that are set out in more detail further below – are used in this regard. First of all, a qualitative content analysis helps to get a better understanding about how climate change is framed in media in Uganda. Therefore, the case of climate change in media is studied. Although case studies are often associated with a location, they can also include research on “the media reporting of a specific issue area” (Bryman, 2012, p. 67). The analysis of media material can provide implications about the wider public discourse about a particular topic. The second case is a more conventional one. To find out how climate change is perceived by people directly affected by it, a community in rural Uganda was chosen. In the context of case study designs, questions about external validity or generalization are often raised. One case of course cannot be representative for a wider population and hence, I do not claim representativeness of this study. However, what is hoped to discover with this research are patterns and a better understanding of people’s perception which then might be used in more practical terms when it comes to the implementation of climate change adaptation methods.

The case study of media is comprised of articles about climate change of two nationwide newspapers. Although the rate of illiteracy is high and knowledge of English is low in rural areas, it can be suspected that “newspapers play an extremely important agenda-setting role” (Corner, 2011, p. 17). Newspapers are sought to influence consecutive reporting in radio and television. For the case study of a community, a village in Jinja District in the sub-county of Butagaya in the east of Uganda was selected. The village lies on the Eastern side of the River Nile, approximately 25 km North of Jinja and large part of the population depends on small-scale farming. Most of the produce is used for home consumption and a small part is sometimes sold. Unemployment, especially for the youth is high in the communities. As those families are particularly vulnerable due to their low income and hence, their ability to cope with climate related shocks is poor, adaptation towards a changing climate is crucial. Thus, this region was chosen as the site for a case study to observe the perception that members of these communities have about climate change. For more information about the

study site, a more detailed description of the location can be found in the introductory part of this thesis.

4.3. Data collection

4.3.1. Content analysis

In this research project, a qualitative content analysis is part of the research design. In delineation to quantitative content analysis, a qualitative content analysis allows to answer “how” and “why” questions and helps to analyse textual data. It is interpretative, and a close reading of the text is necessary. Due to those traits, it is possible to detect and analyse latent structures in the language, links and linguistic symbols. There is a wide range of textual data that can be analysed, like “interview transcripts, recorded observations, narratives, responses to open-ended questionnaire items, speeches, postings to listservs, and media such as drawings, photographs, and video” (Julien, 2008, p. 121). As meaning is highly context dependent and subjective, reliability is something that needs to be discussed. It leaves place for different opinions and viewpoints on how to analyse the material. Because I am the only researcher in this project, inter-rater reliability cannot be given. However, I will disclose as consistent as possible the perspectives on how I analysed the material.

For the analysis, two nation-wide quality newspapers with a high circulation and different editorial lines publishing in Uganda were studied. The selected newspapers are The Daily Monitor, an independent newspaper, and New Vision which was established by the Ugandan government. These two are the two main daily, national newspapers in Uganda. As of 2009, The Daily Monitor had a circulation of 21,488, the English version of New Vision 31,050 (Lugalambi et al., 2010, p. 17). Articles were filtered with the keyword ‘climate change’ and the publishing date was set between the 27th November 2017 until 27th November 2018. This means that the time period of analysis is one year. The articles of The Daily Monitor could be obtained through the newspaper database LexisNexis. Unfortunately, articles of the New Vision newspaper from 2017/2018 could not be found there. Due to this restriction, the articles were drawn from the New Vision website and hence, this selection might not consist exclusively out of the articles published in the newspaper. Although articles published in the newspaper are uploaded to the website as well, it is not clear if the selection includes also articles that were only published online and not appeared in the newspaper. For The Daily Monitor, 155 articles were filtered through the keyword ‘climate change’. For New Vision,

231 articles were found. To conduct a qualitative content analysis, only articles that had the wording ‘climate change’ in the title or where climate change was mentioned more than once in the article were chosen for the analysis. This resulted in 34 articles from The Daily Monitor and 38 articles from New Vision. Articles with a direct reference to climate change and where climate change was the primary content were interpreted more closely. A more detailed description of the articles chosen can be found in the section “General remarks” of the content analysis later in this thesis. The analysed articles can be found in Annex 1.

4.3.2. Qualitative interviews

Qualitative interviews, especially unstructured ones have the advantage to get better insights into how the participants see the world and what they deem important. In contrast to quantitative data collection, qualitative interviews give room to ask follow-up questions and depart from the planned path and maybe allow to detect new information that the researcher has not considered yet. The interviews are flexible so that is possible to adjust to every interviewee and to better touch upon topics that come up during the interview (Bryman, 2012, p. 470). According to Rapley (2004), “[i]nterviews are, by their nature, social encounters where speakers collaborate in producing retrospective (and prospective) accounts or versions of their past (or future) actions, experiences, feelings and thoughts” (Rapley, 2004, p. 16). Hence, it is not about finding the *truth*, but about producing a version of the reality of the person interviewed. This can also mean that the accounts of that person could be different in a different setting, like if not me but another person would ask the same questions. However, as I follow an interpretivist and constructivist view, there is no claim for objectivity. As Mary Maynard put it: “People’s accounts of their lives are culturally embedded. Their descriptions are, at the same time, a construction of the events that occurred, together with an interpretation of them” (Maynard, 2008, p. 84).

In this thesis work, semi-structured interviews with community members and key informants were carried out and hence, two interview guides were created (Annex 2). However, it is important to note that the interviews were realized in a flexible way and depending on the interview situation, additional questions were asked, or questions of the interview guide were left out. The interview guides served as instruments to maintain focus on central issues but were not seen as strictly binding. They left room to discuss other subjects of the participants interest which is a crucial point in favour of using semi- or unstructured interviews.

To attain a better overview of the community in question, key informant interviews were conducted. Those key informants comprised of school teachers (primary and secondary school), people from the local council including committee members responsible for environmental issues, religious leaders and radio presenters. In total, these key informant interviews resulted in ten people interviewed through a purposive sampling. People who hold the mentioned roles and positions are likely to have a good overview of the community and their problems. Additionally, people in these positions have a certain power to be heard by the community and to spread information which is seen as key in the communication about climate change.

Through a list of community members who are part of the village's farmers group obtained from the chairperson, 20 community members were selected randomly, together with a purposive sampling to achieve a gender balance. Hence, ten men and ten women were selected for in-depth interviews. The interviews were conducted in the homes of the interviewees which enabled me to get a better feeling for the context of their lives. The presence of a translator was necessary as most community members could not speak English.

4.3.3. Focus groups

The main purpose of focus groups is to see how a certain topic is discussed in a group. As Bryman (2012, p. 503) states, “[i]n focus groups participants are able to bring to the fore issues in relation to a topic they deem to be important and significant”. But not only **what** is discussed, moreover the **how** it is discussed is the crucial point in focus groups. Especially in the context of my research about the framing of climate change in communication, focus groups are a central tool to pick up notions, opinions and perceptions. To better manage the group discussions and enable comparability, an interview guide for focus groups was created (Annex 3). However, it is important to note that “[a]ll comments made during focus groups are highly dependent upon context and are contingent upon group members’ responses to others’ contributions and the dynamics of that particular group” (Barbour, 2007, p. 31). This refers to the fact that opinions can change in the course of the discussion, particularly if the discussion is about a topic the participant has not thought about much before. With this in mind, my aim was to conduct the group interviews in the beginning of my field research and follow up with individual one-to-one, in-depth interviews later in the process. Only some key informant interviews were conducted beforehand. The focus groups were also carried out

with the aspiration to adjust and improve the interview guide and to enable me to detect concurrent structures in speaking about climate change. As Barbour stated, “focus groups should be valued for their unique capacity to provide an understanding of *how* such views are formed” (Barbour, 2007, p. 32). She points out the challenges arising when it comes to reliable measures about participants’ views. However, not the what but especially the how is interesting for me and can help answering my research question about how climate change is framed and where this formation of meaning takes place.

For the sampling of the focus group, purposive sampling was used. This allows for a systematic comparison of the collected data (Barbour, 2007, p. 58). The goal was to compose the respective groups in a way that the participants shared one important characteristic, like gender or age. This resulted in six group sessions: one gender-mixed youth group, two groups of women, two groups of men (whereas sometimes one or two women joined the group session) and one group of elders that consisted of men and women, but also younger community members. Although especially the men’s groups were mixed with some female members of the community, this is not seen as a substantial problem as the people raising their voices were predominantly the men in those groups. The group size varied from five up to ten people. However, at least one more person joined in every focus group besides one while they were already ongoing. As the place to conduct these focus groups the “Reading Room”, a two-room house which accommodates a library and serves as a place for children to do their homework and study, was chosen as a neutral space. Only the focus group with the elders was conducted in front of the house of one of the elders. The focus groups were designed to find out what the difficulties are that community members encounter in their day-to-day lives, especially in relation to farming. For visualisation purposes, pictures of extreme weather events (drought, flooding, heavy rain) and other related issues like of lack of capital (money) and pollution were presented to the groups to steer the conversation later in the sessions. The pictures used can be found in Annex 3.

4.3.4. Participant observation

Participant observation is a method of ethnographic research. One of the major difficulties with this method is concerned with access, because participant observation “involves being with other people to see how they respond to events as they happen and experiencing for oneself these events and the circumstances that give rise to them” (Emerson et al., 1995, p. 3). Emerson et al. connect participant observation with *immersion*, the seeing “from the

inside”. I would like to stress that an “inside” experience or “going native” are concepts that I see as outdated. Although in this thesis work, participant observation is used to get a better insight, I do not assume that I am “able to feel, think, and even behave as insiders or natives” (Altamirano-Jimenez, 2010, p. 425). There are always power imbalances and structural inequalities – especially when doing research in a country of the Global South as a person from the Global North – that should not be left unnoticed and ignored.

There is no real “how to” participant observation, it is a highly unstructured method in anthropology and social science in general. Also, it is important to note that observation is never an objective or neutral activity because we all “bring to the field our personal characteristics and backgrounds, as well as our ideas, assumptions, experiences and theories” (Coffey, 2018, p. 47). Observation in general should be structured and sampling within a setting can be useful. To be able to structure the things seen and heard during fieldwork, it is crucial to take field notes. According to Coffey (2018, p. 47) “field notes distinguish ethnographic observation from our everyday observations that we all undertake routinely in order to ‘do’ and make sense of our everyday lives”. With this in mind, I included several observations in my field notes, like descriptions of the setting, people in the setting, timelines of events and details of conversations.

4.4. Data Analysis

The collected data was analysed in several steps. As the qualitative content analysis took place before the other methods of data collection, the newspaper content was the first to be analysed. The material was obtained as described in the section “Content Analysis”. To analyse the material, first of all, open coding was used. Open coding helps to examine the empirical material inductively for repetitive patterns (Mayring, 2015, p. 9). This was combined with deductively derived categories provided by the literature review to reveal already known patterns more easily. The concept of framing helped to detect recurring patterns and power structures in the texts. Power structures become apparent when it is looked into who is speaking and how it gets spoken about whom in the short array of an article. The results were used to back the further research and enabled me to state the questions in my interview guide in a more precise matter.

To facilitate the analysis of the data concerned with people interviewed, the in-depth interviews were recorded, and the English parts later transcribed. For the focus groups, two

translators assisted the sessions whereby one was translating the discussions while the second translator was taking notes. Furthermore, I was taking notes during the focus group discussions. This was conducted in line with the research ethics required by the Research Ethics Committee (REC) of Makerere University and the Norwegian Centre for Research Data (NSD). Hence, a form for informed consent was provided to the participants. The interviews were transcribed by me and stored locally because of data protection concerns. These transcriptions, together with my and the translators' notes from the interviews and group sessions, laid the groundwork for the analysis. Additionally, I kept a field diary for my daily notes about my experiences and observations in the field.

4.5. Ethical considerations

One of the main ethical principles in social research is: Do no harm. I assume that nobody plans to harm anyone in the context of social research. However, harm is not only physical. It can have several layers and therefore, can never be entirely ruled out. The researcher can disturb the participants and their handling of social situations for instance. To minimize the effects, informed consent is essential. It is crucial that the participants of the research are fully aware of the purpose of the research and the role they are playing in it. A letter of informed consent was created for this research project and provided to the participants. A point of concern here is the high rate of illiteracy in rural Uganda. Hence, in this case verbal consent should prove sufficient. Sensitivities in this regard had to be kept in mind. Handing over a several pages long document to a person who is not able to read and fully understand them and to anticipate a signature can have adverse effects. For that reason, a sensitive approach towards this issue was necessary and no over-hasty decisions on how to address the participants were made. The document for informed consent was kept short and easily understandable for that exact reason to allow people with poor reading skills to comprehend their rights and options in this research. However, due to my lack of proficiency in the local language Lusoga, the document was created in English. In consultation with the NSD, the consent document was read out and translated by the translator and consent was recorded.

Connected to this is the issue of overt research. The form of informed consent was only handed out in interview and focus group situations. This means that during everyday situations – where I was still conducting research through participant observation – no special remarks were distributed physically. According to O'Reilly, “[o]vert research is conducted

openly, with the researcher's identity being known to all participants" (O'Reilly, 2005, p. 60). Hence, to ensure this, an introductory round with the local chairpersons took place. As I entered "the field", it was already announced to the local councils that a Master student will come and conduct research. When I arrived, I explained my research to the different chairperson in the areas where I was planning to collect data from and asked for approval. The farm where I was staying is known to accommodate researchers and the colour of my skin – being white – was always a visual reminder of my position. However, in a different angle, this also can have counterproductive traits like bias or a constant reminder of my position and privilege which will be discussed further below. Nonetheless, seen with the connection of the overtness of my research, this was a benefit.

Another point in this canon is the confidentiality of records. Although the interviews were recorded and transcribed, it is not possible to trace them back to the individuals. The personal data of the participants is protected in several steps. First of all, the participants' real names are not used in the written text. Also, if a person could be identifiable through a set of characteristics, those were altered to secure the identity of the person. The transcription and audio records were stored on my personal laptop for the time used in analysis and deleted when the work on this thesis was concluded. For the time being, the data was password-protected, so nobody else besides me had access.

The proposal for this research project got reviewed in several ethical research committees. First of all, it was submitted to the Norwegian Centre for Research Data (NSD). For every project that processes personal data, the NSD has to be notified. Hence, this research project was no exception. The focal point of the NSD is data protection. For conducting research in Uganda, a research permission had to be obtained. This process included an ethical clearance from an accredited local Research Ethics Committee (REC), in this case the Makerere University School of Social Sciences Research Ethics Committee. The procedure of ethical clearance is based on the National Guidelines for Research Involving Humans as Research Participants of Uganda. They "provide a national framework for harnessing the benefits of research while ensuring that the rights, interests, values and welfare of people who take part in the research are not compromised" (UNCST, 2019).

4.6. Challenges

There are several factors that can be challenging for the research design and each of the used methods respectively. To begin with, access should be pointed out, especially for the ethnographic methods I envisaged using, like in-depth interviews and participant observation. Without access, there is no chance in carrying out such methods. However, it is important to keep in mind that access is nothing that has can be taken as granted and as researchers, we have to accept when we cannot enter a setting (O'Reilly, 2005, p. 86). Also, our own understanding and placing in the context is important. As O'Reilly points out “[t]his choice can affect how people see you and therefore how they act towards you, and it may also affect who you subsequently gain access to” (O'Reilly, 2005, p. 88). As I entered the field through other researchers already working in this area and with the village since years, it was my hope that they could serve as gatekeepers. I was introduced to the local council to obtain permission to conduct my research and the local council informed the community about my presence. Conclusively, many people were willing to help me with my research and spend their time in focus groups and individual interviews. Another point of advantage was the time period I was in the field as the wet season had not started yet. This meant that most community members, especially the ones farming did not have many other commitments during the day as they could not start to cultivate their fields.

Language is another factor which has to be considered. This was particularly a challenge for interviews, especially for in-depth interviews. Even though English is an official language in Uganda, it cannot be expected that everyone speaks it. According to Lugalambi et al. (2010 p. 10), Uganda is home to 56 indigenous languages and there is a tendency that people living in rural areas are only having a basic command in English. This left me in the need of an interpreter. Although an interpreter, especially when it is someone from the community that takes part in the research, could provide access, there are also some downsides. She or he might not translate everything word by word and it is impossible for me to monitor if the translation was extensive enough. Especially in the focus groups I detected the difficulty that my questions got translated in a more analytical way and were not so much about people's perceptions and experiences which I actually was aiming for. Answers (and assumingly the translated questions) were often de-personalized and discussed in a more abstract way than I intended in the first place. However, after a re-briefing of the two translators, this issue worked better in the following focus group sessions. Furthermore, a translator is always an

additional person who might add to power imbalances and an effect of “studying down”. Also, gender plays a part here. Some information might not be given or given differently to a woman and vice-versa. Therefore, it is important to brief the interpreter as much as possible in what the aim of the study is to be able to get notions and a better feeling for the interviews. Our language determines the way we think, so it is important to be able to interpret these patterns.

A major challenge in the context of this research were the difficulties that came from the concept of climate change. There is no translation for it in Lusoga which made it necessary to use either explanations of it (which ruled out questions about pre-existing knowledge) or a paraphrasing as “changing weather” which often got confused with seasons. Additionally, it was out of my control of what the people translating made out of it and more often than not, I was confronted with confusing answers that had nothing to do with the original question. In numerous events, I tried to change the phrasing of “global climate change”, for instance into “warming up of Planet Earth” which led to puzzlement what a planet is. Hence, a lot of trying out was required to find the right tone and use of wording. This will be further discussed in the analysis of the perception of and knowledge about climate change.

The role as a researcher is also something that can be seen as a challenge, especially when it comes to access and ethics. With a feminist framework, ever more dilemmas occur. Feminism in general is concerned with power relations and the common goal to establish equality. However, qualitative research methods are based on human interaction and hence, questions about power cannot be sidestepped. As Sprague states, “[l]ike other forms of human relationship, research relationships happen within a milieu of interpersonal and social power, whereby one party to the relationship can exercise its will even in the face of opposition by another” (Sprague, 2005, p. 53). Being a white female researcher in rural Uganda often left me with expectations of the community members, e.g. help “develop” the community, help out in the school as a teacher, support children with paying their school fees or help fund the building of a new church. Although I am aware of my privileges as a person from the Global North going to a country of the Global South to conduct research and wanting to give back to the community that I “use” to do so, this was an act hard to balance. This also opens up the question about my intentions to do research in a country with no prior experience in being or living in this country. Isn’t that reinforcing existing power structures and neo-colonialism? In a way it is and saying that it is not is just negating white privilege.

However, I hope that I can use this privilege to add knowledge in a field that is notably Eurocentric with the most research conducted in the Global North

4.7. Limitations and reflexivity

As with every research that involves human beings – and even though researchers are often disguised as rational and objective – it has to be kept in mind that no one is value-free. We are all embedded in our social and cultural backgrounds and hence, social research cannot be in any way objective. My experiences and the answers I received from the community members might not be the same another person with a different educational, social or cultural background would have gotten although she or he asks the same questions. Thus, it is important to reflect on the personal bias when conducting social research. Being a white woman from Germany comes with a certain set of both expectations of the community towards me and a mind frame that I myself bring into the setting. Never having been to Africa and Uganda before, there were a lot of things I had to learn anew and many more things that, after three months, I still do not know or understand.

This goes hand in hand with the thought of power imbalances, especially in light of feminist research because the “balance of power in research is always tipped in favour of the researcher” (O’Reilly, 2005, p. 64). Although feminism has its core in the exposure of power relations, it is important to keep in mind that there are not only power imbalances in the setting that is researched upon but also in the research process itself. The privilege of being white and/or from abroad needs to be reflected upon. The most visible form of that can be explained in the seating arrangement during group meetings. While women were seated on the ground and men mainly on low benches, I oftentimes was positioned in a prominent space on a plastic chair together with the chairperson or group leader. And even though I tried creating interview situations based on exchange to avoid a notion of “studying down”, this was often very hard to accomplish – first and foremost because of my position as an outsider and my role as a researcher. This was also complicated through my inability to speak the local language.

In a different matter, this thesis looks into the framing of communication about climate change in media, particularly newspaper reporting. Of course, there is more communication than just media, for instance through governmental actors, non-governmental organisations

and civil society. Nonetheless, due to time and space limitations, it cannot be looked into all possible sources and hence, in the scope of this thesis it is only looked into newspaper reporting and observed communication of the community. However, it would be interesting to see further studies in this field to get a fuller picture into how climate change is communicated by different actors (that probably also have different target groups) and if that influences the risk perception of people.

Additionally, the assumption that newspaper reporting influences radio reporting cannot be completely confirmed as there is no pre-existing literature about the agenda-setting function of newspapers in Uganda. This assumption is based on findings about agenda-setting in Western media (e.g. McCombs and Shaw, 1972). However, key informant interviews with two radio presenters / producers were carried out to get a better picture on how radio stations choose the topics and issues they present in their news and information outlets. Both informants confirmed that stories covered by newspapers are highly likely to get covered in radio as well. Nonetheless, these are only two voices and cannot represent an entire media system.

5. Analysis

5.1. Content analysis of newspapers

This first part of the analysis is solely concerned with the first research question: How does media frame climate change in its reporting? This in turn shall give an insight into how climate change is portrayed and what picture is painted about climate change in the public sphere. Newspapers were selected as representative for media for several reasons. First of all, it is the most feasible way of obtaining media outlets for this research. Newspaper articles are easily attainable because of their written content and the storing in data bases and the websites of the newspapers. Hence, access is given to content created over a long period of time – contrary to television or radio where past content is not widely accessible or not stored at all. The written content also gives the opportunity to dissect and deconstruct it in more detail as the material to be analysed is present in a haptic way. Secondly, newspaper reporting still is seen as having an agenda-setting function whereby other forms of media take up the topics that are reported on in newspapers.

This chapter starts with general remarks about the articles selected and is followed by the analysis of deductively derived frames from the literature. As the deductively derived frames

were not exclusive for a Ugandan context, inductively derived frames are set out afterwards. This is concluded with a little discussion, before the second part of the analysis is focussing on the perception of climate change of small-scale farmers in rural Uganda.

5.1.1. General remarks

Before a deeper analysis of the material is set out, a more general overview of the articles will be given. The selected articles of the Daily Monitor were 15 in sum with a direct climate change reference. Additionally, 20 articles were mentioning the term “climate change” at least two times but did not address climate change as their primary topic. Ten articles of that were concerned with agriculture in a broad term. Five articles were talking about the planting of trees and the conservation of nature, hence mitigation methods, which shows the importance of agriculture and its interconnection of climate. However, those articles were not analysed in more detail because of the lack of information about climate change.

This leaves us with the aforementioned 15 articles published in the Daily Mail in the course of one year. Seven of them were published in the section “National” and six in the section “Commentary”. Two articles from the section “National” were, besides some minor changes, one and the same article from the same author and hence, are treated as one in the further course of the analysis. One article was written as an editorial and thus, has a stark prominence in the newspaper. What was notable during the general collection of data was that half of the articles about climate change in the Daily Monitor were written in October and circle around the IPCC report which was published 8th October 2018. The 14 articles (15 minus the one which was published twice) had 12 different authors. For the article published as an editorial, no author was named. From the 12 authors, ten were male and two female. The average length of the articles analysed was 572 words (median 564). All of the six articles written as commentaries were longer than average and only one article from the section “National” also was longer than average.

For the second newspaper, New Vision, 38 articles with a direct reference to climate change were selected. Eleven articles appeared in the section “Environment”, eight in the section “News”, eight in the section “National”, eight in the section “Opinion”, six in the section “News” and five in the section “World”. All the articles under “World” were from the global news agency AFP, as well as most articles under “Environment”. All eight opinion articles on

the other hand did not originate from a news agency. In total 16 of the 38 articles originated from AFP and the remaining 22 were written from either commentators or journalists of New Vision. As the articles of AFP are not particularly dealing within the context of Uganda, I decided to not analyse them in more detail. This shall give me more room to indulge more deeply in content written and produced by Ugandans for a Ugandan audience. Also, it is more probable that the articles written by local journalists were published in the newspaper and not solely online.

In contrast to the Daily Monitor, only four articles in New Vision used the IPCC report as an opportunity to write about climate change. However, five articles were concerned with actions of the “walkers association” and thus, got quite some prominence in the canon of climate change articles. The 22 articles analysed were written by 16 different authors, 14 male and two females. One article, an opinion article from Geoffrey Mulindwa (Climate change is a monster we must fight), was published in both the Daily Monitor and New Vision. The average length of the articles of New Visions was 611 words (median 608 words) and hence, slightly longer than the articles in the Daily Monitor. All opinion articles besides one were above the average length as well as two articles written for the section “National” and one news article. The selected articles of the two newspapers combined resulted in an average length of 595 words (median 572 words).

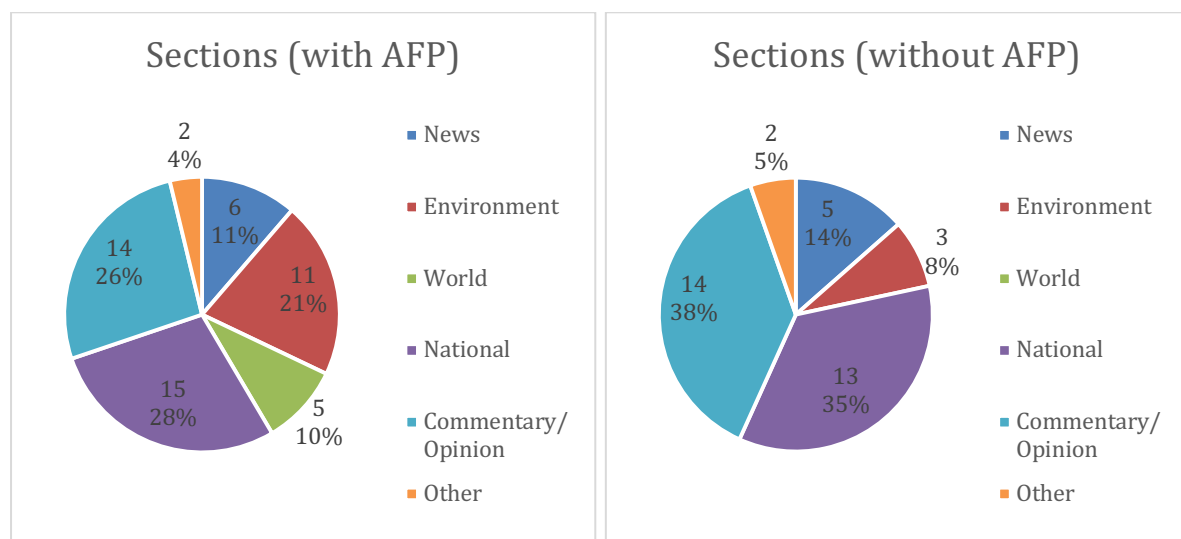


Figure 4: Distribution of articles according to newspaper sections

This results in a total sum of 36 analysed articles. Generally speaking, the opinion / commentary articles provide a deeper insight into the framing of climate change. What is

interesting is that, although individual action is demanded in many of the articles and bottom-up approaches stressed, an overwhelming majority of people getting a word in the articles are “experts” or politicians. Only a small amount of voices from people who are actually affected by the effects of climate change are displayed. Because of that, it will also be looked into the various actors of communication after the different frames are set out. Remarkably, the articles were quite consonant in their reporting about climate change internally but also between the two newspapers. A large number of articles had a strong focus on Uganda (29 out of 36), whereas only two articles had no focus on Uganda. The selected articles can be found in Annex 1.

5.1.2. Deductively derived Frames

To analyse the selected material more intensely, first, deductively derived categories provided by the literature review were used. In his paper “Communicating Climate Change: Why Frames Matter for Public Engagement”, Matthew Nisbet (2009) laid out various frames. Furthermore, Takahashi and Meisner (2012) produced a set of frames in their study about climate change in Peruvian newspapers. These will be discussed in the following paragraphs. However, as not all frames fit into the context of Uganda, only the one’s applicable will be examined in more detail.

Also, the framing activities of civil society actors Schmidt (2012, p. 73) set out (diagnosing a problem, prognosing a plausible and reachable solution for the problem, incentivisation of action) can be observed in many of the newspaper articles. This might have to do with the majority of commentaries and opinion articles being written by professionals in the climate or environmental sector and hence, their advocacy towards action. Opinion articles and commentaries count for more than 1/3 of the overall sum of articles.

5.1.2.1. Human effects

Nisbet (2009, p. 18) defines the frame of social progress as the “means of improving quality of life or solving problems; alternative interpretation as a way to be in harmony with nature instead of mastering it”. This kind of frame can be observed in only a few articles and only in cases when personal action was called for in terms of planting trees and protecting wetlands. There, an appeal for a more environmental concern was key. Hence, the more general frame of Takahashi and Meisner (2012, p. 433) of *human effects* will be used. This frame is used to

describe climate change as the following: “Climate change has an impact on the health of human populations, or is responsible for deaths, conflicts or migration”. 21 of the 36 articles were coded within this frame. Several articles were pointing out the health effects climate change will have, like the spread of malaria in places with no prior exposure, e.g. “The fog and cold in southwestern Uganda has significantly reduced, attracting malaria into places like Kabale that had no prior exposure to it.”

Another important topic within this framing was food security which is directly related to both health and ecological effects. Twinomugisha (2005, p. 9) states that agriculture employs about 81 percent of the labour force. Hence, the agricultural sector plays an important role in the everyday lives of people in Uganda. As one example of the interconnection of ecological concerns and human effects, this sentence should be highlighted: “Increased climate variability and extreme weather conditions that have led to famine and droughts thus affecting food security”. What can be observed is that a changing climate is not seen as distant in time and place, but as something already happening and threatening livelihoods.

What is worth noting is the call for individual action, which is prevalent in many articles, especially opinion articles. The planting of trees and general protection of the environment, e.g. wetlands and forests, is an often-stated solution to fight environmental degradation and a changing climate. “Let every Ugandan be a climate manager, but not a destructor”. Although a demand for the implementation of environmental policies on a governmental level is also expressed, individual action is equally called for. “Time has come to change our mindset to protect our country and planet and for this noble cause every individual should take his or her share of responsibility. It is our moral duty to give our coming generations a safe and healthy future. Everybody must do something and do it now. But to do so, we need to make everybody aware.” This quote is extracted from a commentary article from the director of Health Climate Uganda. Here, the different framing activities of civil society actors become apparent. Beforehand, the problem was diagnosed and in the mentioned quote, a solution was proposed in the context of awareness. This goes hand in hand with the frames of education and morality that will be set out further below and shows that many frames cannot be seen without each other. However, individual action and agency is used noticeably within the frame of human effects and cross-references to mitigation efforts. “If every Ugandan plants [sic] a tree, respects forests, swamps and wetlands, we can see a positive influence on climate”. This is also interesting when we get back to the general thoughts of this thesis that

adaptation measures mostly take place if a certain feeling of risk prevails. And that the perception of risk towards climate change gets mainly distributed through communicative activities. However, the analysed articles show no connection of individual action and adaptation measures but mitigation efforts. This could partly be because of the target group / readership of the newspapers that probably is located more in urban and peri-urban areas. Nevertheless, this is only an assumption and cannot be investigated further in the realms of this research.

Even though the *human effects* of climate change is one of the frames that is most covered (second only after ecological effects), it is used mainly in a more general way. Effects of climate change to the population are mentioned, especially to people dependent on agriculture, but just a few articles explain in more detail what that means. Only 5 out of the 36 analysed articles actually describe cases of how local communities are affected by climate change with a more or less explicit description. Sometimes, a visit by an international organisation to the communities affected was the reason for the article. Besides one, they all talk about vulnerabilities, threats to livelihoods and increasing poverty in the regions affected by droughts and unstable weather patterns. The one standing out however, brings up a case where the community is setting an example: “When locals are empowered, they can conserve the environment”.

5.1.2.2. Economic effects

The frame of *economic effects* is a prevailing one. A large number of articles mention the impact of climate change on the economy and the negative impingement it can have on the level of productivity. However, one article for instance is stressing the impact the growing of businesses has on energy consumption and demand and hence, its hindrance for mitigation efforts. One journalist writes: “Uganda is seeing an explosion of business and development in both rural and urban areas, demanding new levels of energy consumption that the country has never seen before.” Oftentimes, the economic aspects of climate change are seen in a dark light. One sentence marks it quite clearly: “The New Vision reported that the cost of adaptation to climate change is \$400m but the cost of not acting at all is 20 times higher, but it does not mention how much it would save if we prevented”. The economic aspects are undoubtedly an important and often mentioned frame and in the context of Uganda regularly linked to agricultural production and hence, livelihoods. So, it is difficult to see one without

the other. One article states that “Food security not only carries significant benefits for human health, but also serves as the basics to achieve sustained economic growth.”

On a different note, Nisbet (2009, p. 18) defines the typology of the frame of economic development and progress as follows: “An economic investment; market benefit or risk; or a point of local, national, or global competitiveness”. Like in the aforementioned quote, it is talked about the consequences on the economy if no or not enough action takes place and hence, the investments that have to be made. However, in the analysed material it is mostly talked about the negative impact’s climate change has on the country’s economy. Another voice connects the actions made in terms of economic development with environmental destruction: “We have continuously cut down trees, reclaimed swamps and wetlands for economic purposes, but Ugandans are the victims in the end”. This victimization is a frame that occurs quite frequently and will be discussed further below.

What is important to note is that climate change is the overarching topic, but impacts on the economy are seen more immediate, like the impacts landslides or droughts have on it. Climate change serves as the contributor to these. This goes hand in hand with what Neverla and Schäfer (2012) point out in their summary of literature about communication and climate change. Global climatic changes are often linked to regional extreme events and in this case connected to economic aspects of these events. One whole article for instance addresses the outcomes of decrease in rainfall on the economy. Hence, it gets apparent that the frame of economic effects in the discourse about climate change is a strong one and mostly concerned with the negative repercussions.

5.1.2.3. Morality and ethics

Nisbet (2009, p. 18) defines the frame of morality and ethics as a “matter of right or wrong; or of respect or disrespect for limits, thresholds, or boundaries”. Moreover, I also see climate justice within this frame. However, due to the little impact Uganda has on the global scale of CO₂ emissions, additionally I will add the frame of climate financing here. This is an inductive frame I derived from the articles. Nevertheless, it also suits into the prospect of *morality and ethics* in terms that climate financing often come from countries of the Global North, like contributions to the NDCs. Hence, it falls into the morality and ethics of the Global North. Two almost identical articles for instance talk about the 2.9 billion Ugandan

Shilling (about 775,000\$) the Ministry of Water and Environment received from the UNDP through funding of the European Union. Another article depicts a meeting on climate change where the Swedish ambassador to Uganda “promised support to the environment and the energy sector”. However, there are only four articles that address outside funding. Some other articles discuss the lack of funding, like “as a poor country, Uganda cannot adequately finance adaptation measures that would enable it to minimise the impacts of adverse effects of climate change”. Interestingly, a lot of articles examine the problems of a changing climate and propose a solution. Still, the financing of those solutions is often left on the side-lines.

Going back to original frame of *morality and ethics* proposed by Nisbet – this is a frame not frequently used in the analysed material. One article addresses the “greater responsibility” of “developed countries” when it comes to “keeping fossil fuels in the ground” and hence, a sense of accountability and moral obligation of countries of the Global North in their mitigation efforts. However, this was the only article explicitly calling out countries of the Global North, back stepping with the next part of the sentence “developing countries need to and are already showing leadership in mitigation and adapting to climate change”. Generally, the immense output of emissions from other countries was not so much illustrated as it was highlighted what Uganda has to do to mitigate climate change in the form of protecting forests and wetlands.

5.1.2.4. Science and Technology

Nisbet (2009, p. 18) set out a frame he names “Scientific and technological uncertainty” and describes it as a “matter of expert understanding or consensus; a debate over what is known versus unknown; or peer-reviewed, confirmed knowledge versus hype or alarmism”. In his example, he specifies it with the discourse in US-American media where especially the media torn towards Republican values question the certainty of climate change. Although several studies have looked into the frame of scientific uncertainty (particularly when it comes to the anthropogenic contributions to global climate change) (e.g. Boykoff and Boykoff, 2004, Antilla, 2005), this is something that cannot be observed in the Ugandan newspaper articles analysed. Interestingly, the question of human contribution to climate change was not challenged in any of the articles. Only one article acknowledges scepticism with a short sentence: “Whereas skeptics [sic] might consider the IPCC warning as farfetched, recent research shows that failure to adapt to climate change has been responsible for the fall of

civilisations”. Although the author recognizes scepticism, he dismisses it with the phrasing “fall of civilisations”. Other examples on how the anthropogenic contributions to climate change are portrayed do not sound much different. “The source of carbon dioxide is us”, “Human-driven climate change is loading the dice in favour of more flooding” and “It is becoming clear that humans have caused most of the past century’s warming by releasing heat-trapping gases as we power our modern lives”. Anthropogenic induced climate change is seen as a matter of fact. However, the articles hardly explain what those “heat-trapping gases” are or where they come from.

Therefore, this frame is broadened with the frames about the basic science of climate change, new studies and technological solutions that were proposed by Takahashi and Meisner (2012, p. 433). Some articles try to explain climate change and hence, the basic science behind it, in a short sentence like “The climate change phenomenon refers to seasonal changes over a long period with respect to growing accumulation of greenhouse gases in the atmosphere”. However, those explanations are rare. Explanations of climate change – if they are there – mostly are concerned with descriptions of the effect’s climate change can have and not so much the reasons behind it. Climate change gets used as a wording that should be well known. However, as a study about the perception of climate change in Africa revealed there is an “absence of a solid scientific understanding of climate change” in most Sub-Saharan African countries, and “most people reach for explanations that build on their existing knowledge” (Godfrey et al., 2010, p. 10). This can also be found in many articles. Climate change is not drawn back to global emissions of greenhouse gases but to the environmental degradation that happens on the doorstep of Ugandans. The conclusion of one article is a paramount example of that: “Scientists say maintaining healthy wetlands, maintain forests and planting more trees, adopting renewable energy sources such as solar and biogas, and reducing emission of gases into the atmosphere are of [sic] the ways of combating climate change”. The actually biggest contributor to anthropogenic climate change, the emission of greenhouse gases, is put last in the list and it is not even mentioned as greenhouse gases but solely as “gases”.

Another frame within the *science and technology* frame is “new studies”. In the time period picked for the selection of the material, the new IPCC report was published and hence, this was an important occasion to issue articles concerned with climate change. Like it was mentioned before, almost half of the articles about climate change in the Daily Monitor were

written in October and circle around the IPCC report which was published 8th October 2018. In comparison, the New Vision only issued one article that used the release of the report as an opportunity for an opinion piece. Additionally, the “technological solution” frame was used occasionally. One article for instance stresses the need to fully transition to renewable energy. Another article mentioned the possibility to “engineer climate” in the future. However, those ways to think about climate change were sparsely talked about in the articles and hence, do not have a strong presence in the overall discourse.

5.1.2.5. Politics and governance

Policies and the role of the government was a frame often applied. Takahashi and Meisner (2012, p. 433) also include the sub-frame of political discussions within their frame of *politics*, the “agreements or disagreements about policy options based on political interests”. This sub-frame, however, could not be observed in the analysed material. Because of the political situation in Uganda, there was no strong (or in that case any) opposition voice to be heard in the media. Although there is no application of the frame about agreement or disagreement, one article of executive director of Citizen Concern Africa – an initiative based in Kampala – blamed the government for not having enough political will: “Encroachment on wetlands across the country has been accelerated by corruption leaving the problem unaddressed and as such making environmental devastation an unwarranted consequence”. Many articles call for more governmental action, although the demands remain peripheral and more general in their tone.

Some articles circle around a climate change bill which, according to the State Minister of Environment “provides direction for keys [sic] sectors to implement climate change adaptation and mitigation actions, [but] it lacks an enforcement mechanism”. Thus, it can be observed that climate change is on the political agenda. However, it is not seen as a primary topic and hence, does not take up much space in the reporting about it and as well as in politics overall. The implementation of climate change policies generally is something that is seen as something lacking. Also, the NDCs that were mentioned in the section about *morality and ethics* can be put under this frame. One article for instance stresses the importance of including indigenous knowledge in “the fight against climate change” and the cross-cutting issue of the NDCs to “include crosscutting respect for human rights, gender-responsive climate change actions and the protection of vulnerable groups, including women” which is

an essential topic of the Ugandan NDCs. Hence, the author concludes that, “I am, therefore, challenging policy makers and all stakeholders in the fight against climate change to harness this local indigenous knowledge in the climate change fight.” In basically all the articles “policy makers” remain abstract and no individual politician is called upon. The authors of the articles recognize that something has to be done in terms of the implementation of policies. However, most of the time this is not specified and additionally, the persons responsible are neither named nor called to account.

5.1.2.6. Civil society initiatives

Takahashi and Meisner (2012) define their sub-frame of *civil society initiatives* as “Issues about justice, risk, public understanding of climate change, knowledge (e.g. poll results, consumer reports), etc. Social mobilizations, education initiatives, and individual and societal level actions to mitigate or adapt to climate change are also included (e.g. earth hour)”. However, I will only treat the second part of this exposition under the term “civil society initiatives” as I see an initiative as something more or less formalized (e.g. “issues about risk” in such a general manner is nothing I would code as civil society initiative as the important aspects of initiative and civil society is missing).

One initiative that stuck out in the bulk of articles was the “Walkers Association”. Five articles, all published in New Vision, were concerned with its actions. That is half of the articles that were coded within the frame of civil society initiatives. The Walkers Association, represented by their chief walker Geoffrey Walker Ayeni, is walking to “create awareness about the effects of climate change”. He is funded by the WWF and the Ministry and Environment and perhaps because he and his actions are affiliated with a governmental body, he is able to achieve such a media presence in a newspaper that is owned by the government. Especially the planting of trees gets highlighted in those articles.

Other articles emphasize individuals or groups, like the selection of a Ugandan media entrepreneur and sustainability activist “to attend a Climate Reality Leadership training in Los Angeles” or “environmentalists” that call “upon Ugandans to lead the fight against climate change by defending the wetlands and the entire eco-system from possible destruction”. However, as in other frames, actions stay vague or are focussed on the planting of trees and the conservation of wetlands. One exemption of that is the activities of the Africa

Climate Reality Project. They use a famous musician to “mobilise Ugandans through music and also forming environment clubs at least at LC level in most of the towns” which also interconnects with a frame that will be introduced later on: education and climate literacy.

5.1.2.7. Ecological effects

The *ecological effects* of climate change is by far the frame most used in the analysed material. 24 out of the 36 articles contain references to ecological effects that are defined by Takahashi and Meisner (2012, p. 433) as “Climate change has an impact on ecosystems, biodiversity, or extreme weather events (e.g. heat waves, droughts, floods)”. In this case, extreme weather events are the most prominent. One concern that is often pronounced is the expected effects climate change will have on Uganda. An example of that is the following statement: “Perhaps what resonates with the majority in Uganda is the increased frequency and intensity of extreme events, including droughts, floods and landslides”. Especially those events are often referred to when it comes to the explanation and description of climate change. Furthermore, droughts for instance are often connected with food insecurity and hence, human effects. As a country highly dependent on agriculture, it can be observed that ecological effects play a crucial role in climate change communication. Also, the fact that Uganda is already suffering from unpredictable weather patterns make the ecological effects of climate change a strong argument for adaptation and mitigation: “Effects of climate change are on our doorstep and can be seen in the form of drought and heavy rains. Its impacts transcend environment, health, food security etc. and that tells you just how urgent this problem is.”

Another picture that is often used is the melting ice caps of Mount Rwenzori, a mountain range rather than a single mountain on the border between Uganda and the Democratic Republic of the Congo. Examples of that are: “Thus the icecap has significantly reduced on Mt Rwenzori” and “The warming of the earth disrupts rainfall patterns and also melts the ice on mountain tops like the Rwenzori.” With that description of a climate change impact, it is tried to “domesticize” the reporting about climate change in the national context like Neverla and Schäfer (2012) summarized in their overview of climate change communication in media. Although *ecological effects* is the frame most applied, it is always connected with other frames, like human or economic effects. For instance, it is never solely about

conservation but what the benefits of conservation are for Uganda in economic terms through more tourism.

5.1.3. Inductive Frames

Although the deductively derived frames from Nisbet (2009) and Takahashi and Meisner (2012) provided extensive ground for analysis, not all frames they discovered could be applied in the context of news reporting in Uganda. Contrary to that, other frames could be identified that will be set out in the following section.

5.1.3.1. Victimization and vulnerability

The first inductively discovered frame was that of *victimization and vulnerability*. The vulnerable position of Uganda and the limitations of adaptive capacity were highlighted in several articles, for instance with “Uganda is undoubtedly one of the countries in Africa that is most vulnerable to climate change”. Particularly vulnerable regions and people like indigenous communities were emphasised within the frame of vulnerability. Additionally, vulnerable sectors were set out like agriculture and livestock, forestry, infrastructure, water, energy and health. This goes hand in hand with what academic literature predicts for Uganda. According to the Notre Dame Global Adaptation Initiative, Uganda is placed on rank 155 of 181 when it comes to adaptation to climate change. This is due to a high vulnerability score and a low readiness score. “Uganda is the 15th most vulnerable country and the 49th least ready country” (ND-GAIN, 2019). However, in the analysed articles often it is not further explained why Uganda is vulnerable towards a changing climate.

Another set of wording is the victimization of Uganda and Ugandans, like “We have continuously become victims of climate change, the alteration in the established weather patterns has brought still more economic, political, and social havoc.” Although Uganda and its population are seen as the victims, there is almost no mention of especially countries of the Global North being responsible for the vast amount of emissions that are heating up the planet. Hence, even though the term “victim” is used, the “culprit” is not called out. One article stresses the actions Ugandans are doing that are not favourable in terms of protecting the environment: “We have continuously cut down trees, reclaimed swamps and wetlands for economic purposes, but Ugandans are the victims in the end”. Conclusively, climate change,

its effects, and causes are domesticized and brought on a more environmental level rather than looked at on a global scale.

5.1.3.2. Climate literacy and education

One interesting point that came up was the call for more education and climate literacy for the Ugandan population. It is seen as a solution and a helping hand towards adaptation and mitigation. “We need to increase the levels of education among Ugandans. Citizens need to be made more responsible for their actions through improving their scientific knowledge of climate change. And this education should be made non-formal so as to benefit people from all walks of life.” Hence, personal responsibility is highlighted here although Ugandans contribute very little to the spectrum of global emissions. Others emphasise that similar actions like the ones conducted during the HIV/AIDS crisis have to be taken to create awareness: “A replica of the early 1990s massive anti-HIV/Aids campaign must be urgently commenced. Government authorities and NGOs should take the initiative in this matter. We need to change mindsets.” Interestingly, many of these education efforts are aimed more at environmental conservation of trees and wetlands and to educate about pollution than on how to adapt to a changing climate. Thus, this matter is seen more within environmental concerns (which of course are not less important) but it shows that a general understanding or explanation what climate change is, is missing.

As most articles writing about climate change education were opinion articles, little tangible examples were set. One exemption of that was the aforementioned musical approach to sensitise “the masses about climate change and its effects”. However, as well as with the other approaches, the focus was more set on the conservation of the environment than a real understanding of the global phenomena that is climate change.

5.1.3.3. Mitigation and adaptation

Half of the analysed articles mentioned mitigation and adaptation in the realms of their reporting about climate change and its impacts. Interestingly, the main focus was set on mitigation rather than adaptation with the protection of trees and wetlands as the pronounced solution. As Chebet Maikut, the commissioner in charge of climate change says in one article: “Uganda is investing in mitigation efforts, but developed countries should do their bit

to give money to developing countries to finance mitigation of and adaptation to climate change”. This sentence is noteworthy in itself as he does not call “developed countries” out for not doing enough to mitigate themselves and reduce emissions but to make finances available for mitigation although developing countries are not contributing to greenhouse gas emissions to a significant amount. Hence, mitigation efforts were given more focus within the challenges of climate change.

Adaptation on the other hand is often seen in connection with vulnerability, like in this statement: “Furthermore, as a poor country, Uganda cannot adequately finance adaptation measures that would enable it to minimise the impacts of adverse effects of climate change”. Thus, both adaptation and mitigation have a direct link to financing. However, other important aspects of adaptation like communicating the effects of climate change to the population, are rarely pronounced. This as well can be traced back to the frame climate literacy and education and shows that climate change is a highly interconnected topic that touches a multitude of issues.

5.1.4. Actors

Besides the different frames used in articles about climate change, I also wanted to have a look into the different actors in those articles. More so, whose voices are heard and who gets to speak. As my research has a special focus on gender, this is also an important category in the content analysis. Gender imbalances are quite outstanding in this regard. Only three articles out of 36 were written by female authors (for one article the authorship is unknown. But as it is an editorial, probably the editor of the newspaper, who is male, wrote it). All three are opinion/commentary articles, written by women working for different organisations. If we want to see if women report differently about issues than men, this is hard to tell with this little substance. Additionally, none of those three articles quoted or mentioned other people in particular. Six more articles also did not mention or quote other people. When it comes to people getting a voice in the articles, 21 articles did use quotes, whereas a majority of them were quoting men. The difference was significant with 32 quotes of men and 20 quotes of women. However, the difference of mentioning people without quoting them directly was even more so. 28 men were mentioned by name in comparison to only one woman.

The overwhelming majority of the people quoted and mentioned were experts. Often, state ministers and other representatives were given space and voice in the articles. Other experts were people working in environmental organisations or NGOs like Oxfam or scientists working on the IPCC report. People actually affected by climate change were rarely given a face and voice. This might have to do with the general tendency of journalistic pieces to need to have an occasion. Besides the commentary/opinion articles which not necessarily require a timely topic, to be considered news an event has to be comprised of several news factors. These journalistic routines and norms are not any different for reporting about climate change (see, Neverla and Taddicken, 2012). Additionally, field pieces are more costly and time intense and as the study “Africa Talks Climate” concludes, “there is a lack of interest in climate change stories, from both the public and editorial viewpoint. This lack of ‘buy-in’ is sometimes seen to be connected to a lack of understanding of the implications of climate change” (Godfrey et al., 2010, p. 17).

However, one person occurs quite regularly in the reporting who is not a politician or working for an organisation: the activist Walker who, like his name might suggest, is walking to raise awareness about climate change. He sometimes even gets quoted directly and some of his fellow walkers also get mentioned. Those articles writing about the Walkers Association were also the ones where most people were mentioned by name. However, those articles included the mentioning of different state ministers and politicians as well. As a result, this “elitisation” of a topic like climate change as a concern mostly for experts and politicians might contribute to the detachment of climate change with the broader population.

5.1.5. Discussion

As this analysis has shown, not all frames detected in Western and especially US-American media reporting about climate change can be equally transferred to media reporting in Uganda. The major difference can be seen in the general acceptance of anthropogenic induced climate change. While especially in US media, climate change deniers are given space for their arguments, in Ugandan media the influence of humanity on the global climate is left unchallenged. Also, there is no portrayal of political debate in media about the necessity to mitigate and adapt to a changing climate (which also could be traced back to Uganda’s political landscape without much opposition). Interestingly, a more local approach can be found here, and individual action is highlighted frequently in terms of planting trees

and protecting wetlands. This corresponds with the findings of Godfrey et al. (2010, p. 3) about the perception of climate change in Africa where “there is a strong tendency for people to hold themselves individually or collectively responsible for these changes, which they blame on local environmental degradation”. However, the lack of a global perspective of climate change in storytelling of media is reinforcing people’s single-sided explanations about it and hence, creates a misguided explanatory model.

As a country that is strongly affected by global climate change and that is highly dependent on agriculture, it comes as a surprise that media outlets are focussing more on the side of mitigation rather than adaptation. A possible reason for that could be the demographics of newspaper readership. Those can be found more in urban areas and in elite positions and hence, might not be primarily subject to climate change impacts in the sense that their livelihood relies on it. However, if, as Schmidt et al. (2013, p. 1233) proclaim, most knowledge about climate change is distributed through public communication, mass media like newspapers have a genuine responsibility towards the public to spread information about it. Nevertheless, the difficulty in that could lay in the functionality of news reporting. Media representatives interviewed by Godfrey et al. emphasise that “reporting on climate change is event-led; it appears if there is a new law passed, a conference, or an environmental disaster to cover” (Godfrey et al., 2010, p. 17). Event-led reporting can also be observed in the analysed material with the IPCC report being occasion number one for an article, followed by conferences and meetings, and activist actions (that are connected to governmental personnel).

To get a better picture about how climate change is framed in Uganda, the next part of the analysis will look into the perception of climate change of small-scale farmers in rural Uganda.

5.2. Analysis of the perception of climate change in Jinja District

5.2.1. Knowledge about climate change

To answer the question about what is known about the concept of climate change in a community directly affected by it and how is it perceived, it is firstly looked into the knowledge about climate change in the community of the case study. According to Van der Linden (2014) knowledge as the cognitive dimension is an important factor in the risk

perception of climate change. A major issue in this regard in the context of this study was the translation of “climate change” or “global warming” into the local language. Unfortunately, my translator did not know the meaning of either wording. Hence, a different solution had to be found. When asked about a change in weather patterns, many participants mostly understood that as the natural occurrence of changing seasons from wet to dry season which led to some confusion. For instance, when Norah, a widow and mother of ten who sometimes sells her produce, was asked if droughts were occurring more often now than some decades ago, she answered: “It [droughts] normally happens from September to January, it can happen sometimes. It depends on the year and the season. It normally happens. In the past years it could happen and now it is still happening”. This is something Neville et al. (2010, p. 15) also emphasise in their study about the knowledge and perception of climate change in Africa. People mostly understand climate change as the “seasonal changes or immediate changes in the weather” – this could also be observed in this study.

However, some people knew about a “heating up of the Earth”. Several of the interviewees claimed that they had heard about it. But many connected the question more with information about short-term weather phenomena and forecasts about the coming dry or wet season than about climate change in the general understanding of a long-term impact. Nonetheless, three of the 20 people interviewed, two men and one woman, seemed to have heard about climate change through radio. George states “I heard about that and for myself, I am just trying to plant trees”. This statement goes hand in hand with many remarks of droughts and why they are happening more often nowadays. This will be discussed in the following section.

5.2.1.1. Reasons for droughts

When it comes to the observed changes in weather, prolonged drought was almost in all the cases a point of concern and was mentioned as a perceived change by most people. When asked about their explanation of more droughts, the reason was clear: the cutting down of trees. “The drought has come because people are cutting down trees without replacing them. So that is a big challenge”, Lucy, who owns a little shop in front of her house says. The main reason for cutting down the trees is the need for timber and charcoal. Thomas, who experiences the impacts of land shortage, connects it also with unemployment: “There is a problem of not enough jobs, of unemployment. So, when people lack jobs, they just think of destroying the nature like cutting down trees, thinking ‘maybe I can get some money from

charcoal””. Additionally, the increasing population is a contributing factor to deforestation. Although the population increases, and more and more people depend on the produce from the cultivated land, there is not more land available. This leads to the cutting down of trees in the gardens and the encroachment of forests and wetlands. Tony, one of the younger participants, relates those actions to poverty: “Here, which has brought all those things, is that people are suffering from poverty. They don’t have enough money to change the nature in terms of maybe buying trees to plant to reduce the dry season. To maybe buy some land to reduce the high population. Yeah, poverty.” Poverty plays a big role in the context of the village. Only a small amount of people interviewed are able to sell some of their produce and hence, are able to receive some sort of income from their farming. The rest is dependent on the yield for home consumption. This makes droughts, a prolonged dry season or other weather-related events even more devastating as many people cannot afford to buy food from the shops in case of bad and insufficient yields. This point of – or hindrance to – adaptation will be examined further below in the section about adaptation to climate change.

Interestingly, also the local economy plays a crucial part in how people make sense of cutting down trees and conclusively of droughts and climate change. In the past years and with the opening of a new sugarcane factory, people started to grow sugarcane as a cash crop. However, as Sarah who started working in the gardens when she was six years old puts it, “People are engaging too much in deforestation. They are cutting down the trees, some people are planting too much sugarcane. You know, when you are planting sugarcane, you have to cut all the trees in the garden, so you can plant which is not good.” Hence, local actions are getting blamed not only for environmental degradation but also for wider causes like weather phenomena. Global causes of this change in climate are not well understood. None of the interviewees was referring to emissions as a cause. This goes hand in hand with the findings of Neville et al. (2010) that the awareness of international causes of climate change is low. That might also have to do with difficulties of grasping a “global” phenomenon. The interview guide included a question if the participants thought their perceived problems are also experienced in other parts of this world. Often, participants did not clarify about which parts they were talking about. Though, in the conversations it became apparent that most of those “other parts” were still in Uganda, like a district further to the East or the Karamoja region which is experiencing more droughts and that is dryer in general. The opinions are quite divergent and go from “For them, they are facing more droughts than we here. For us here, we are better off than other parts in Uganda” to “Some parts which are

far from us, they are better off. For us, we are receiving more droughts than other parts” and impressions that it is the same in other parts. Helen, who owns a radio and a mobile phone stresses that she has never been away from home and hence, cannot tell how it is in other places. “But when you listen to the radio, you hear that it is common also in other countries.” This statement emphasises the importance of public communication and especially mass media to create a picture and knowledge about things that cannot be experienced directly.

5.2.1.2. Knowledge of key informants about climate change

An important point in regard to knowledge about climate change is the knowledge and awareness of the key informants as they are seen in a position to distribute information into the community. Besides the secondary school teacher for geography, no one was aware of climate change in the sense that this terminology is used. Although climate variability was noticed in the past decades, this got connected to local occurrences of environmental degradation – or even environmental improvement. As the church leader claimed: “In the past years there was a problem of rainfall. The rain used to take a long time to get back. But now some people are encouraged to plant trees which are good for the rainfall cycle. So now the rain has changed. Now it’s good”. This statement is as so far remarkable as, during the period of data collection, the rainy season did not start in the expected time. However, he was not the only one who claimed that there was either no change in weather or that the region does not have a problem with deforestation. Nonetheless, those voices were outnumbered by contrasting remarks.

Even though “climate change” or “global warming” was known by one of the teachers, he did not see it as a problem and explained that with geographical traits of the region. He claimed that Jinja District will not be impacted by climate change as it has a tropical climate. Regions further in the north with a semi-arid or arid climate like the Karamoja region, however, will be impacted according to him. Additionally, climate change is neither taught in this school nor a part in the national curriculum and thus, the dissemination of information about climate change through education and hence knowledge does not happen in schools – at least not in the community of the case study. Moreover, the knowledge of the political representatives on the village level about climate change was not existent. This is also something Corner (2011) stresses in his paper about climate change communication in Uganda. “At the local level, politicians tend to be poorly informed about climate change, yet local government structures

represent a crucial opportunity for reaching large numbers of ordinary citizens” (Corner, 2011, p. VI).

5.2.2. Perception of climate change

To answer the second research question fully, it is looked into the perception of climate change in a community directly affected by it. As climate change is not a known concept in the region of this research, it is difficult to apply Van der Linden (2014) different dimensions about risk perception of climate change, namely socio-demographic, cognitive, experiential and socio-cultural factors. The cognitive factor of knowledge was the subject of analysis in the section above. Socio-cultural factors like values and worldviews fall short in this case and cannot really be applied in a context where the concept of climate change is not known. As Van der Linden states, the social embeddedness of risk is an important factor in this regard and the opinion of “important social referents (e.g., friends, family etc.)” and trusting the source of information (Weber, 2010; Moser and Dilling, 2007, p. 13) are crucial. However, as key sources of information and social referents for the community like local council members and religious leaders do also not know about climate change, risk perception about climate change cannot be drawn back to their opinion as there is none.

What became apparent here is that experience in farming and hence, age is a determining factor in the perception of a changing climate. This is contrary to how Van der Linden (2014) sums up the literature about the connection of age, and risk perceptions of climate change where he finds little or no correlation. However, in this community, age is accompanied with experience as usually people start farming from an early age and continue to do so during their lifetime. Also, it has to be taken into account that the studies Van der Linden draws his summary from were conducted in the Global North. Thus, it is hardly possible to entangle the different dimensions of risk perception of climate change in the context of the community where this research was conducted. The focus is set here on socio-demographic and experiential factors. Gender (which falls beneath socio-demographic factors) is a core focus in this research and thus, is discussed in more detail further below in section 5.2.5.

Experience in farming and hence, being reliant on weather is a big contributor of how climate change is perceived. The biggest differences in weather observed by the interviewees are more droughts, heavier rainfall and generally less reliable seasons. Helen, a young woman in

her twenties, states: “When you look back, droughts were not common. People used to receive rain in the expected seasons and months. And now it’s not”. She continues with the problem of heavier rainfall and connects it to deforestation:

“There is more rain compared to the past years. Because in the past, we used to have trees and forests. When we received rainfall, the rain could not destroy the things because of the trees. The wind can come, and it will be stopped in the tree. So, the tree can limit the wind to destroy the house. Cutting down the trees is a problem.”

However, rainfall was only named by the interviewees to a small degree. The overwhelming majority were claiming that droughts are one of the biggest challenges they face in farming. Nonetheless, only half of the participants directed their answers about difficulties in farming towards weather and brought up the issue themselves. The other half did not mention weather as one of the changes in the past decades that became more difficult and had to be asked directly about their opinion and experiences in this regard. The issue that was addressed the most was land shortage which was blamed on the rapidly increasing population. This illustrates that other issues are more pressing and more in the mind of people than changing weather patterns. However, most of the perceived changes and difficulties were based on issues of farming or at least connected to them. Some addressed more sickness in the family or higher costs for the education of children. But as most livelihoods depend on subsistence farming, issues concerned with farming were a priority. Many problems that were mentioned are highly interconnected, like soil infertility. This difficulty was brought up by most of the interviewees and also draws back to land shortage. People cultivate a small piece of land and thus, are mainly engaging in monocropping techniques that they blame on persisting poverty. Many cannot afford new crops and hence, people are continuing planting the same kind of crops. This on the other hand results in lower yields as the crops cease to grow well due to missing nutrients in the soil. Lower yield culminates in less food for the household and lower possibility to sell surplus production. Conclusively, the household has a lower income and cannot afford new, maybe even drought resistant crops. A vicious circle is in place.

It would be interesting to see if factors like age and hence, experience in farming in years contribute to a higher awareness of droughts or other weather-related phenomena. As this sample is too small to correlate data, it has to be refrained from doing so. Climate change is, like stated above, not a known concept and the main perception of risk is drawn towards droughts as a weather-related event with a high occurrence in the region. The NCCP (MWE, 2015, p. 6) states that droughts “are on the rise in Uganda. The western, northern and north-

eastern regions have been experiencing more frequent and longer-lasting droughts than have been seen historically”. Nine drought events were recorded from the 1960s until 2013 in Uganda, whereas six events occurred during 1998 and 2010 and hence, in a time span of only 12 years (Masih et al. 2014, p. 3642). It could be assumed that people who experienced those drought periods will have a higher risk perception about droughts than people who did not experience these times. However, it is not clear to what extent those drought events impacted the region of the case study as not all parts of Uganda are the same and a drought in the North-Eastern region does not necessarily mean a drought in and around Jinja District.

What becomes apparent when people were asked what a warmer planet on average will mean for them, is that most people think about it as a short-term consequence. Thomas explains: “The moment they announce that the whole world is getting warm, for us it’s better to be aware to be able to store food. So that when the time comes, we just pass through it without any effect on us”. Famine was a consequence that was mentioned regularly, often in connection to poverty. Nonetheless, the favourable location of the village close to the river is seen as a benefit for the community. In case of a drought, it would be still possible to irrigate the plants with jerrycans filled from the river. Hence, drought is something people fear about for the future, but which is also only seen as having a short-term impact with feasible solutions.

In personal interviews, the mentioning of droughts as something people are afraid of in the future was quite frequent, especially in comparison to the focus groups where the occurrence of droughts was further back in the list of concerns. This could have to do with the differences in time when those respective data collection methods were carried out. The focus groups took place end of February before the start of the rainy season. One set of interpersonal interviews was realized before and during the first rains and the second set after the rains stopped for two weeks and people already started planting in anticipation of the rain. Hence, people who were interviewed after the rains stopped were more likely to steer the conversation towards less reliable seasons, especially if they had more experience in farming. In the focus group, a different set of fears occurred. The elderly focussed more on shortage of capital and a worry about thieves. Other groups brought up the topic of price fluctuation and poor markets. Money was always a point of concern.

5.2.3. Adaptation to climate change

One of the core assumptions of this thesis is that people who adapt towards climate change do have a certain understanding of the risk implied in climate change. Hence, it will be looked into the hazard-coping and climate change adaptation strategies applied in the community of the case study and thus, a micro-level perspective of adaptation. Several different adaptation strategies could be observed, for instance income diversification, like selling charcoal or fishing, storing food and the planting of trees. Coping strategies include purchasing food or “begging” the neighbours for food. However, it will become apparent that many of these adaptation strategies are unsustainable which Hisali et al. (2011) also stress in their article about micro-level data of climate change adaptation in Uganda. Some adaptation strategies that might come to mind for a context in Sub-Saharan Africa, like irrigation systems, were not mentioned by the interviewees. This could have several reasons. First of all, irrigation systems require financial investment that many community members simply do not have. Secondly, the village has the vantage point of being located directly at the river Nile. In the worst case, people could still go to the river with jerrycans and water their plants manually. Hence, only the strategies brought up by the people interviewed are set out below.

5.2.3.1. Income diversification

Income diversification is especially important in a context where people rely on their agricultural produce for their food security (Oxfam, 2008, p. 54). If the yield of the household is not enough to feed the family, it is not possible to sell surplus food (because there is none). Many members of the community set out this problem. Not only that, it was often the first thing people stated when asked about things that changed in the past decades. Safina, an elderly woman explains “When I look back 10 years ago, I used to get a large quantity of crops from the garden. But now I no longer get that because it is not fertile any more. And the weather changed. Nowadays we receive sunshine for a long time which was not common in the past”. Soil infertility which is often associated with an increased population and hence, a shortage of land and monocropping practices, together with an increased number of pests and diseases are blamed for a lower yield in recent years. Also, as it becomes apparent in the quote, a shift in weather and especially droughts are noted that are threatening the food supply.

Diversifying livelihood is a crucial aspect for climate change adaptation. This does not necessarily mean income, but also diversifying on how to obtain food (Hepworth and Goulden, 2008, p. 18). Particularly young men in the community engage in fishing practices whereas the fish is sold to gain income. Other men interviewed sometimes take on jobs that are in demand, like in construction. But those jobs do not offer secure income and only happen occasionally. A few women own a little shop on their compound or a stall in front of their house to sell some of their produce and often needed commodities like matches, soap or laundry detergent that they buy in town. However, many interviewees don't have any other income than selling their produce which, according to their remarks, is almost not possible anymore nowadays with all the problems that occur in their farming practices. Income diversification is not understood as an adaptation strategy but as a form to escape poverty and for instance to be able to pay the school fees of the children.

The major cash crop in the region is sugarcane and some community members grow it to earn income. However, none of the people interviewed does so. This might have to do with low financial capacity of the interviewees to invest in sugarcane as it requires a lot of land and seed money. In the focus group discussions people were asked what they would do if they had some money at hand. While many people just referred to opening up a business without further details, in one of the sessions with the youth planting sugarcane was set out. Sugarcane has, according to the participants, a high resistance and no price fluctuation. Interestingly, sugarcane is seen by most people in a negative light. To plant sugarcane, the fields need to be uprooted and hence, this process is a contributor to cutting down trees and conclusively leads to droughts according to the interpretation of the community and their perception of climate change. Nonetheless, it cannot be said if this negative stance is only taken by people who cannot afford to invest in it anyways and if people still would have the same opinion about planting sugarcane if they would benefit from it. According to Oxfam, (2008, p. 9) oftentimes subsistence farmers are hesitant when it comes to income diversification, especially in regard to a diversification away from food crops and towards a cash economy where they have to buy food. However, in the context of income diversification as a climate change adaptation strategy, it has to be taken into account that poverty minimizes capacity for change (Chanza, 2018, p. 112) as this strategy requires some sort of financial capital to be able to buy seedlings or have the necessary land to cultivate.

5.2.3.2. Food storage

When people were asked what impact they think a warmer planet will have on them, the answers given made clear that long-term consequences are not considered. Many connected that to questions about information that were asked before. They stated that, when people on the radio inform about a warmer planet, they can be aware and store food for that time. Hence, most people only understood the threat of a warmer planet as a short-term consequence like a drought. This indicates that people only will store food if they see an immediate threat of a lack in food supply for the coming time as nobody was engaging in the storage of food at the time being and only named it as a possibility of how to cope with the situation. One comment of Richard, an elderly man emphasises that:

“Also, those scientists, they are not sure. But when they tell people that information and when people get this information for example, when they inform that in September of this year, we are going to receive too much sunshine, we just stand with this situation, preparing ourselves on how to pass that period of time which they have announced that it will be like that for two months or so. So, we just prepare ourselves. For example, if they inform in time, we can try and store food”.

Thus, although the storing of food would be a feasible adaptation strategy for many households – assuming that the yield is sufficient – no one is employing this strategy yet. However, this could also have to do with low storage capacities and difficulties of storing the food that is grown. The adequate storage of food needs space and knowledge which in turn requires capital – financial and social capital, but also time and know-how. A storage unit where food does not turn bad quickly is necessary as cooling systems are not accessible and usable in the context of rural Uganda. At least not at the moment where the electrification rate for rural Uganda lies at 7 percent (European Commission, 2019). Nonetheless, it is not possible to make further remarks about the hinderances of food storage as this would go beyond the limits of this thesis work.

5.2.3.3. Planting trees

The planting of trees is seen as a strategy to counter weather-related phenomena in particular. As illustrated above, trees are perceived as important to offset droughts. But not only is the planting of trees seen as a policy issue. It is moreover framed as an individual task. Sarah, whose husband sells charcoal, states: “In my garden, I am engaging in tree planting. I am trying to change the situation in my garden to limit the drought. I am trying reforestation.” Thus, the presence of trees is seen as a crucial factor to adapt to the effects of climate change

even though the term or concept of climate change is not known. However, the planting of trees is also connected to more direct effects for the garden, like Janet, one of the women who is heading a household, emphasises: “If we receive drought, what I can do is maybe try mulching my garden and plant trees so that maybe I can limit the sunshine from destroying my crops”. Individual action is highlighted which also might be due to current deforestation activities in the forests close by. In the end of 2017, residents of the village and surrounding villages got evicted from the forest by the National Forestry Authority (NFA) (Muzaale, 2017). In an effort to reforest the area, the NFA planted a forest of pine trees in this area some years ago. However, as all trees got planted at the same time and in a monocultural way, the opinion about the forest in the community is not an exclusively positive one. In conversations with community members about the forest, it became apparent that the forest is only seen as a financial asset of the governmental organisation for logging at a later point in time. As the trees got planted at the same time, they all will be ready for harvesting simultaneously and logging will result in fallow land. This also might be the reason why sometimes the cutting down of trees was not seen as a problem as trees are set up artificially anyways for timber and firewood and trees will be replanted out of the exact same reason. Hence, the policy decisions of the government to cut down trees and replant them with non-indigenous trees species is not so much connected with drought as individual action in the own gardens is.

The lowest political administrative unit in Uganda is on the village level. Every village is governed by a local council that consist of a chairperson and nine executive committee members (Kavuma, 2009). In the committee, there is one person that is responsible for environmental concerns. The role of the environmental committee member is very much focussed on encouraging people to replant trees, like the environmental committee member of the village stresses: “My big role is to emphasise... When for example someone cuts down a tree, to tell him or her to replant. Not just to cut and just leave. So, I encourage the people to replant.” This again shows the immense importance trees are given, in this case within environmental protection concerns. Although the planting of trees falls more into the realms of mitigation as trees act as CO₂ sinks, it can be seen here as an adaptation strategy. This has to do with the current understanding in the community that “trees attract rain” and hence, they are regarded as an important tool to counter droughts. Further remarks about the planting of trees and its connection to climate change can be found under the section “Knowledge about climate change” in this chapter.

5.2.3.4. Coping strategies

The aforementioned strategies can be seen more in the light of adaptation. However, there are also coping strategies that are applied in case of a climatic hazard like drought. The focus of the interviewees here lied on food security. If a drought occurs, a major part of the expected yield is lost and as people often only have the resources to grow food for home consumption, food security is threatened. Thus, the most often mentioned strategy in this regard was buying food from the shops. Like Hadija, who leads a household with 15 members, emphasised: “I just wait. For example, when we expect the rain season and it doesn’t rain, I am just around, waiting for rainfall. And use money to buy food.” However, a big challenge in this regard is the prevailing poverty in the community. Many community members do not have a secure income and might not be able to afford to buy food from somewhere else. In the focus group sessions, especially in the settings with women, it became clearer that this results in withdrawing children from school for a certain amount of time because the money of school fees is used to buy food. Also, as one woman in the focus group states: “We have to go to neighbours to beg for something to eat”. Hence, people require some sort of capital, be it financial or social capital, to cope with this situation. Values play an important part if social structures and relationships are necessitated to overcome the impacts of climate hazards like droughts. Like stated in the literature review Adger (2010) sees social capital as an important driver for adaptation to climate change. But not only adaptation strategies, also coping strategies require social capital as it can be seen here with the example of begging.

5.2.4. Obtaining new information

Climate change is an issue that is to a high degree mediated through public communication as it is a concept that is hardly directly experienceable. Additionally, risk is a mental construct that cannot be “sensed” and thus, is also influenced by communicative activities. Hence, it will be looked into how the members of the community obtain new information and what the sources of this information is. In regard of the rational and objective of this thesis, information about farming and weather/climatic events is of particular interest. Three different strands of communication channels stuck out during the interviews. First of all, radio plays a crucial role in the dissemination of new information for the community. Second, interpersonal communication, be it conveyed through mobile phones or face-to-face, is another indisputably important factor to obtain information. In the context of good farming practices, rural extension services and other non-governmental organisations could be bearers

of information. However, those organisations do not contribute significantly in the life world of the members of the community. In the following sections, these different channels of information and how they facilitate the dissemination of new information are set out in more detail. Television, newspapers and internet will not be discussed further as the latter were not named as a source of information from anyone. One person interviewed is in the possession of a TV set. However, he does not use it often as it requires valuable energy.

5.2.4.1. Information through radio

Radio is a central medium all around the world. In Uganda, there are around 200 licensed radio stations as of 2008 (Lugalambi et al., 2010, p. 18). According to the Uganda Bureau of Statistics, 59 percent of women and 70 percent of men listen to the radio at least once a week (UBOS, 2018, p. 47). This goes hand in hand with the observations made in this research. The majority of households in the community owns a radio and listens to it on a regular basis, mostly daily. However, more male-led households than female-led households are in possession of a radio. Of the four female-led households (out of 20 people and their respective households), only one household owns a radio whereas all the male-led households besides two have a device.

Radio is an important disseminator not only for general news but also for information and recommendations about farming. Many radio stations broadcast a weekly programme about farming which is repeated throughout the week. Those programmes are known by everyone in the community. Lucy stresses the importance of getting weather and farming related information through radio: “I get informed about that [farming] from the radio stations. For instance, this year we received too much rain in January and many farmers, they were teaching from the radios ‘Don’t plant now. When you plant, it’s too early. Ahead, we will receive drought.’”. In the realm of this research, it was looked into one radio station and its farming programme more closely. A radio producer of a radio station in Kampala answered some questions about the process on how an edition of the programme is created. The farming programme is broadcasted in the local language Lusoga, is receivable in the community of this case study and some people named this programme in particular as a source of information about farming. As this programme’s main focus lies on farming, questions about weather and climate are issues that occur regularly, but always in the context of farming.

Listeners of the radio station are able to contribute to the topics discussed in the programme through feedback via social media, call-ins, a SMS platform or a software that enables the audience to send in voice messages free of charge. Additionally, the producer/presenter of said programme goes out to “the field” and visits communities and discusses different matters in their areas. Hence, low-income listeners are not cut out of the process of content creation as they have the opportunity to raise their voices (if they are in possession of a mobile phone). However, climate change is not a focal point in these programmes and only arises if there can be a connection made to a timely topic. As the presenter explains: “Recently I have just received a document, talking about climate changes and seasons in Uganda. How is it going to happen when they’ll have more sun, when they’ll have less? What they are supposed to do? So, we integrate all that into our programme. Although the general theme is farming, it has different segments”. However, it seems like those segments do not correspond effectively with the listeners in the community of the case study. Only one person remembered to have heard something about climate change via radio. Other listeners were stressing the teaching about farming methods, good seeds and how to maintain the land. This is not always seen as helpful for them, as Ronald who depends on the yield for home consumption put it: “There are some radio stations, they normally carry out farming programmes. But sometimes, a programme can be teaching about farming, but expensively whereby you have to buy a tractor, or you have to irrigate your garden. You have to apply fertilizers in your garden. So, it depends. You can listen to the farming programme when you cannot even afford what they are suggesting.”

Similar to the reporting about climate change in the analysed newspapers, the focus of the causes of climate change lie on deforestation and other environmental issues. Wider, global explanations like the releases of greenhouse gases through the burning of fossil fuels and the role other nations play in that are not so much used in the narrative. As the presenter of the farming programme put it: “We also try to look at global warming and climate change but looking at the aspect of conservation of the environment more here. We might bring up trees, but we are looking at the conservation of the environment as a whole”. Hence, this might add to the belief system that trees are the main reason for climatic events like droughts or flooding – which of course have a local impact. But the wider picture is often not put into perspective.

5.2.4.2. Information through interpersonal communication

Even more important for the dissemination of information than radio is interpersonal communication. This can go two ways – either through face-to-face communication or the spread of mobile phones. In their study of 2015 in the Rakai district of Uganda, Kristjanson et al. found a mobile phone usage of 6 percent of women and 12 percent of men. Interestingly, in the available sample of the village of Jinja district, even more people were in the possession of a mobile phone than a radio set. Only two people did not own one. Although Jost et al. (2016) point out that mobile phones are mostly owned by young men, this is not the case with the people interviewed. Also, it is not like radios where there is one device for the whole household but both adults of the household possess their own phone. In a focus group session with women, one woman stressed the importance of empowerment and gender equality through having her own phone. However, it has to be taken into account that this is a small sample size with no claim of being representative. With the help of technology – in this case mobile phones – information can get carried quickly from one place to another and overcome physical distance.

Probably the most important factor in the dissemination of new information is face-to-face. Especially for people who do not own a radio set, it is crucial that the information broadcasted gets to them. Hadija explains her role as an owner of a radio in the community: “Sometimes we use people like me. When I tune in my radio and I hear about new things, then I go to neighbours who don’t have one – and just tell them about it”. Hence, the information from radio still plays a big part in receiving new information. This also counts for information about farming in particular. Sarah, who is the head of household, describes how she receives information about farming: “I just hear the information from those who are having radios at their home. When they hear something about farming, they share it with me sometimes.”

But not only information through radio, also people who are working outside the village bring in vital news. “For me, as I don’t have a radio, I get information from my husband. When he moves around, he receives some new information. And when he comes back, he just tells me”, Safina, an elderly woman, states. Those informal ways of distributing information are crucial. Especially for women who might not leave the village as often as men, people walking around and spreading information are an important source. Furthermore, in the

village there is a reading room that allows pupils to study after school. Literacy classes for women are offered twice a week as well. The male teachers of this class are also influential in terms of spreading news and women who take part in this classes name them as a source of information. Hence, social capital and relationships in the village are central to be not cut out of the flow of information. An elderly man without children who owns neither a radio nor a phone, elucidates what “being old” means in the context of the village structure and why he is missing more formal meetings: “The problem is that I don’t have any media and I can’t listen to radio. Even sometimes, people neglect us because we are too old. We are old in years, so others think ‘Ah that one doesn’t even manage to do farming. We can go.’ So, they neglect us.”

When asked if people share their knowledge and experience about weather-related events, the responses were divergent. Less than half of the interviewees said that they communicate with their neighbours about issues connected to weather. As Wilson put it: “We don’t sit down and share ideas. We just suffer for ourselves”. In contrast to many other community members, he has a little business and is even able to employ workers from time to time. One reason for “suffering on their own” was expressed as the circumstance that everyone is having the same problems and is trying to cope with them the best way possible. Hence, people are busy with daily struggles and do not intend to solve them in the group “because people lack food, instead of just speaking with neighbours to share their ideas, they just be looking for what to eat, where to get money. So, we don’t have that time, we don’t share ideas with neighbours”, Thomas explains. On the other hand, a lot of people do exchange ideas with their neighbours to different degrees. However, in times of drought, it seems that conversations are not prevailing. “Sometimes we sit and converse, we share ideas. But it depends. If it has taken too long without rain, maybe, it depends. People just suffer in their houses. Because nobody has food”, Tony tells. During droughts, there is not much people who are dependent on subsistence farming can do. Seeds cannot be set out yet and crops in the gardens are not growing. Hence, they “sit and wait” and hope for the rains to come. Nevertheless, some people have more formalised ways to discuss weather-related events with their neighbours. Saida who is growing food for home consumption while her husband is growing cash crops sets out: “We normally sit together with the neighbours around and we share ideas. We normally sit during December when we almost completed the year and discuss how we are going to survive the coming year. So, we normally sit together with neighbours and discuss what is coming”.

As a more formal way to distribute information, village or group meetings are held. The chairpersons of the villages constitute the local council II (LCII) which operates on parish level. A parish is made up of several villages. Hence, administrative and governmental decisions and policies can be carried down to the smallest administrative unit of the country – the village. That at least is the idea behind it. However, when it comes to information about climate change, this system does not seem to be able to convey that information. Although several policies like the National Adaptation Programmes of Action (NAPAs) and the Uganda National Climate Change Policy (NCCP) were created in 2007 and 2015 respectively, their implementation failed to a large part, especially on a local level (Ampaire et al., 2017, p. 81). This becomes quite visible as both chairperson and their environmental committee member interviewed had never heard of climate change and the impact this has and will have in the region. Said unawareness results in inaction that will be detrimental for the future development of the region.

Hence, this section shows how crucial interpersonal communication is for the dissemination of information and how certain people are more likely to distribute information than others. Also, it shows that some people are more dependent on interpersonal communication to receive information than others. People in particular positions of power, like chairperson, teachers (in this case teachers for adult education in the context of literacy for women), neighbours with access to media or even husbands who work outside the village are important disseminators. Already marginalized people like the elderly, disabled or poor people are further marginalized with their exclusion from information flows.

5.2.4.3. Information through rural extension services and other organisations

Rural extension services can be of great use for the government to help implement the NCCP as the agriculture extension officers go into the field to disseminate knowledge. The FAO interprets agricultural extension as a tool to “advance not alone production knowledge but the whole range of agricultural development tasks, such as credit, supplies, marketing and markets (agricultural process development)” (FAO, 2001). The government launched a national service in 2001 called the National Agricultural Advisory Services (Naads). However, due to ill-management of funds, Uganda’s president Yoweri Museveni disbanded Naads in 2014 and resurrected it “under the leadership of Uganda People’s Defence Forces

(UPDF)” (Oluka, 2016). This is something that is reflected in the remarks of the interviewees. Many people either never were in contact with the advisory service or it is already a long time ago. A good example of that is the commentary of Tony, a young farmer and fisher, about Naads:

“The government used to send people to the ground, and they could come and teach farmers how to maintain land, about good seeds. But sometimes, they came and just lied to people without coming back, collecting money from farmers. So, I stopped listening to them and they stopped coming down the ground.”

Others were criticising the costly methods the extension service are or were promoting or only picking already advantaged people like the local chairperson. A major inequality is seen in the selection of beneficiaries of the programme. Norah depicts that in a vivid way:

“The government normally send people on the ground to teach farmers. But I was never involved and the government, when they send the people to the ground, for them they just visit people with big farms. Leaving us, the local farmers, suffering. So, we don’t even get the chance to get new information, how to maintain the land, the new techniques of how to do farming – for them they just visit people with big farms.”

The programme is held on a sub-county level nowadays which stops a lot of people going to the events as it requires travel expenses which many people do not have or do not see as resourceful to spend the money in this kind of way. None of the people interviewed attended a meeting of Naads in the past two years. However, apparently sometimes people from the village do attend as Saida explains. She herself is not able to go meetings on the sub-county level because of disability. But people who are present at those meetings spread information about what was talked about. Hence, again, face-to-face communication proves to be crucial in the dissemination of information.

5.2.5. Gender

With a feminist standpoint in this thesis, the dimension of gender is of particular interest. The literature review gave some interesting indications what impact gender roles can have about vulnerabilities and susceptibility in the context of a changing climate. This has to do with a wide set of reasons, like the gendered distribution of work, knowledge and access to information and education (Röhr, 2007). To bring that into perspective and illuminate the last research question in what way gender plays a part in the perception of climate change, it is looked into the distribution of technology and how information is obtained. Furthermore,

adaptation strategies are examined with a gendered lens and last but not least, knowledge about and perception of climate change is deconstructed.

5.2.5.1. Technology and information

The most striking difference between the observations made during the field work of this thesis and existing literature is the possession of technology. Especially mobile phones are widely accessible. Jost et al. (2016) ascribe the possession of phones to young men which allows them more mobility through information about markets etc. However, this was not the case in the sample of this research. Almost everyone owned a phone and a difference between gender could not be observed. A more determining factor than gender is age in this regard. Only one household which was male-led did own neither a radio nor a mobile phone and hence, had restricted access to information. The two members of this household were significantly older than the rest of the interviewees. Hence, gender does not play a crucial role in the ownership of technology, at least not in regard of owning a mobile phone. A bigger difference could be observed in owning a radio set. Like stated above, out of the 20 persons and their respective household, four were female-led. Just one out of those four households owned a radio set. For the 16 male-led households, two did not own a radio whereas both heads of households were significantly older than the average villager.

When it comes to the most important and common mode of information dissemination – face-to-face-communication – the focus group discussions illustrated that women are often better connected in the community. They are more likely to be at home and exchange ideas with their neighbours and for instance share knowledge and information heard in the radio with people who do not possess a device. Additionally, there are several women's groups in the village, like a savings group or literacy classes where women meet and discuss. Men on the other hand are more likely to work outside the community and to a certain degree migrate for employment opportunities. This, together with their higher position in society makes men the bearer of new information and a crucial distributor of relevant information – which can also be seen in the distribution of roles and positions in the community. Most important positions connected to the dissemination of information like local chairperson, teachers, religious leaders or even radio presenters are held by men. One exemption was the appointment of women as environmental committee members both in the village itself and the administration unit next to it. This, however, could have to do with what feminism calls out as a dualism of

“culture/nature” and “man/woman”. These dichotomies “tag male and female with positive and negative valences” (Alaimo, 2016, p. 531) whereby women are seen as being closer to nature and hence, more irrational and “bodily”. Nonetheless, only two administrative units were observed, and it could be coincidence that those positions were held by women both times. Unfortunately, there are no statistics about the local government in Uganda and hence, it cannot be verified if there is a tendency for those positions to be filled with women.

5.2.5.2. Adaptation

As climate change is not a known concept in this community, it is a bit difficult to correlate adaptation strategies to the impacts of a changing climate. Some of the strategies analysed above are strategies that are implemented because of a set of different reasons. Income diversification for instance brings more money into the family first and foremost and is not necessarily seen as a mode of adaptation by the family. Moreover, the shortage of land which is regarded by many people as the prevailing problem is leading to less yield and an increasing population that contributes to more people that have to live off from less land. Due to that (and other personal reasons) people are diversifying their income which is especially prevalent for men. Particularly younger men were engaging in fishing and producing fishing baskets to sell as an income opportunity. Other sorts of businesses like selling charcoal were also dominated by men. For women, those with a shop explained that they will put more work in this business when a drought arrives as they cannot do much farming. Norah, who is the leader of her household illustrated that she could turn into handicrafts and weaving mats, so she can “get some money to survive” during a drought. Here again it gets apparent that most adaptation strategies are understood as a short-term solution whereas droughts are seen as the biggest threat to livelihood. Interestingly, planting of trees is an adaptation strategy widely acknowledged by women. Only one man was undertaking actions of replanting trees, in contrast to five women that were talking about planting trees in their gardens to counter the impacts of dry seasons and to stop the encroachment of nature. Another mode of action that showed great gender differences was “doing nothing” in relation to “God’s plan”. Although some women stated that there is nothing to do when a drought arrives as they cannot work in their gardens and hence, have to wait for the rains to come, men especially explained the changing climate with “God’s plan”. Charles, who is the only one owning a television and who is one of the few persons who have heard about climate change emphasises: “I don’t have any way to control that [climate change]. Because it is God’s plan. So, I just bear with

the situation.” This feeling of helplessness might not be gender specific and might have more to do with the fact that Charles has more information about climate change than others. Nonetheless, it says a lot about the communication of climate change that it is seen as such a prodigious calamity that nothing can be done to prevent it or reduce its impacts.

Deressa et al. (2009) concluded in their study about climate change adaptation methods in Ethiopia that women are more likely to adapt because of their higher responsibility in agricultural work and hence, more experience and better access to information. This could not be observed in this case study as the participants of both genders were equally engaged in agricultural work – which is mostly due to the sample that consists of members of the farmers group of the village. However, a difference in adaptation can be seen in the strategy that is chosen. Women were more likely to invest in the planting of trees. This is not solely an act against the effects of climate change but also to offset environmental degradation and to benefit from connected perks, like giving shade and fruits. Some adaptation and coping strategies applied by women require more social capital than others. One woman in a focus group session set out the example of having to beg her neighbours for food during droughts. For men, the answer to droughts was often “sit and wait until the situation passes”. The storing of food was a strategy that was equally applied by women and men. Also, income diversification could be observed for both genders, although in different shapes. Men were more likely to grow cash crops, have a side business or go fishing, some women were running small shops or were doing jobs on the side if they occurred. Thus, the biggest difference in adaptation could not be noted in relation to gender, but in relation to age and socio-economic status of the household. Households that were economically better off than others were already the ones that could diversify their income and hence, will probably not be as vulnerable to climate related shocks as poorer households.

5.2.5.3. Perception of climate change

Although some studies emphasise a “dominant role of women in Africa’s agriculture” (Hisali et al., 2011, p. 1247), this is something that cannot easily be taken in the context of this study. This might be due to the selection of the participants who were all members of the village farmers group and hence, all engage to a certain extent in farming practices. The main difference can be seen in the cultivation of the garden. Women were mainly growing crops for home consumption with the prospect of selling surplus produce. Men, on the other hand

were more likely to cultivate cash crops. This was especially salient if husband and wife had two different gardens to manage on their own. If only one person was cultivating the garden, the yield was primarily for home consumption – and no significant difference in gender was prevalent. If both the husband and wife worked on the same piece of land, people claimed that they “work together”. Hence, a difference in the time spent in the garden between gender could not be observed. However, food for home consumption is majorly a topic of concern for women as well as post-harvest practices. After all, the preparation of food is a task in the spectrum of women in the gendered division of work, including fetching water from the borehole. This although is a task that is often handed over to children. Due to this constellation, big differences in the perception of climate change could not be observed. Again, more differences occur in relation to age and experience than in relation to the gender of the interviewees.

In their paper about gender and climate change adaptation in Rakai district in Uganda, Kristjanson et al. (2015) conclude that climatic events like droughts are noticed more by women than men because of their responsibilities in the provision of food and thus, agricultural production. This could not be observed in this setting. However, the time when the interviews were conducted has to be taken into account here as well. This makes a comparison difficult and additionally could act as a determining factor. Most interviews with the ten women were realized in the beginning of March when people started to expect the rains to come soon. The rains came but stopped for about two weeks. Hence, people already started planting in anticipation of the rainy season. The majority of interviews with men were conducted when the rains had stopped, and fear started to arise that the crops will be lost. Thus, weather in general was a point of concern more prominent in the interviews that happened during the dry spell. However, looking into the interviews more deeply, a pattern can be noted. People who call out weather-related events or phenomena themselves are more likely to name droughts as a difficulty in farming that has gotten more challenging. But a difference between the genders cannot be observed here, especially not with the sample size that was applied here. Other issues in comparison were more dependent on gender, like the challenge of soil infertility that was predominantly identified as a problem from women.

6. Discussion

This section shall bring together the results made during the content analysis and the analysis of the field work in a community in rural Uganda to discuss the overarching question of this

thesis: How does the framing of climate change in communication affect the risk perception of men and women in rural Uganda? As it became apparent in the analysis, most people do not perceive risk in relation to climate change because it is not a known concept. Moreover, a perception of risk can be observed with climate related events like droughts and storms. Those climate related events are highly impacted by progressing climate change and will get worse in the future. However, the interviewees did not connect these events to the global phenomena of climate change but with local actions of deforestation and environmental degradation. This is a theme that could be found in the framing of climate change in the analysed newspapers as well. Global causes were mentioned, but the main focus lied on local actions like deforestation whereby the explanatory model of climate change got slightly single-sided. To structure this discussion a bit, it will go through the different frames detected in the content analysis and link it to the experiences and remarks from the members of the community that serves as a case study.

6.1. Human effects

A widely discussed topic in newspaper reporting within the frame of *human effects* of climate change was food security. As Uganda is a largely agrarian society and an extensive part of the population is dependent on agriculture, food security plays a crucial role, especially if it is threatened by the impacts of climate change. This also gets visible in the interviews with the community members. Each and every one cultivates a garden, either to earn income or to provide food for the household. Hence, climate related events like droughts but also other circumstances that reduce the yield are feared. Soil infertility, land shortage, and pests and diseases are problems that started to occur more frequently and more intensely in the past decades. The same goes for weather events, in particular droughts. Famine in the family was stated as a result of progressing climate change and hence, the first thing people think about when they hear that the Earth will get warmer although they have not heard of such a development beforehand. First and foremost, this can be explained with the direct impact such a situation will have on the livelihood of the people interviewed as well as the experiences the people already had with previous events of droughts or other weather disasters. Although one function of media communication is the dissemination of information that cannot be experienced directly, in this case this is something people of the case study are and have been experiencing and hence, is a prevailing frame for both public communication and individual perception.

Similar to the framing in media reporting, individual action is highlighted in the personal remarks of the people directly affected by climate change. The explanatory model of more occurring droughts is the cutting down of trees in the vicinity. Hence, trees are seen as crucial to maintain reliable and favourable seasons. On the other hand, trees are needed as a resource for several things, from biofuels like firewood and charcoal to construction material – and it is widely available whereas alternatives are not or are too expensive. Additionally, trees are cut in the garden for the cultivation of sugarcane for instance or to make place for other crops. Yet, these actions are recognized by the interviewees as something negative for the environment and conclusively for their livelihoods but blamed on poverty and hence, not ostracized. Interestingly, mainly individual actions were called out in the interviews and not so much the governmental responsibilities that lie within sustainable reforestation efforts of whole forests – which would make a much larger impact than the odd tree here and there that is cut down. More than anything else, this is also emphasized in the journalistic articles. Individual action is exceptionally more called for than governmental action. Even the look at it from a macro-perspective is mostly missing. The planting of trees and general protection of the environment, e.g. wetlands and forests, is an often-stated solution to fight environmental degradation and climate change – at least for individuals, according to many newspaper articles.

6.2. Economic effects

Although the frame of *economic effects* is a prevailing one in the newspaper articles, especially in the context of the cost of adaptation and inaction, it is not so much for the people of the community. Within the frame, it is looked at the issue from a macro-level – which stands in contrary to the frame of *human effects* were the micro-level of individual action is emphasised. The people interviewed on the other hand do not have this viewpoint as climate change is not known to them. The only economic effects they see are the immediate effects of climate related events like droughts. If a family does not have enough food stored to bring it through the drought, buying food is necessary which requires financial resources. Hence, it is not possible to entangle human and economic effects as the livelihood of the people interviewed are based on agriculture.

6.3. Morality and ethics

The frame of *morality and ethics* as it was used in newspaper reporting could not really be observed in the communication with members of the community. The fact that emissions of greenhouse gases can be seen as the primary cause of global climate change is not known at all by the interviewees as the concept of climate change is not known either. Hence, the aspect of climate financing goes astray here as well as the responsibility of countries of the Global North in all of it. A theme of morality however can be seen in talking about the individual action of cutting down trees. Although it is seen as something bad, both for the community and the environment and hence, for livelihoods in the community that depend on a healthy environment, these actions of environmental destruction are connected to poverty and not having much choice. Through governmental action of deforestation on a large scale in the region and reforestation in an unsustainable manner, for many people the severity of cutting down trees is reduced and hence, the moral obligation to safeguard the environment lowered. This, together with prevailing poverty and the lack of options hinder climate change mitigation efforts and enhance environmental degradation.

6.4. Science and technology

The frame of *science and technology* that is applied in many newspaper reportings is mirrored to a certain degree in the communicative actions of the community members. As stated before, climate change is barely known in the community and thus, the science behind it even less so. However, although it is not known, a change in climate is perceived and connected to local activities like the cutting down of trees. Despite the lack of knowledge about climate science, anthropogenic causes of a changing climate are part of the narrative – in this case not as much as the releaser of greenhouse gases but as the destructor of the environment. This is as so far interesting as all the articles examined are based on the conjecture of anthropogenic climate change in contrast to, for instance climate change reporting in the US, where opposite opinions are also raised (Boykoff and Boykoff, 2004). According to the local explanatory model in the community, trees attract rain and as a result, missing trees cause droughts. This is similar to how the newspaper articles about climate change frame it. Global causes of climate change are rarely discussed, and the focus lies on the environmental degradation that happens on the doorstep of Ugandans.

6.5. Politics and governance

According to the articles analysed, climate change is on the political agenda. In the study period of the newspaper articles, a climate change bill was discussed, and the political elite appeared in many articles. However, climate change is not seen as a primary topic and hence does not take up much space in the reporting about it and as well as in politics overall. This was sometimes criticised, especially in opinion articles, but the overarching tendency was leaning towards a call for individual instead of governmental action. Similarly, in the public discourse, individual action is highlighted. The NFA, a governmental organisation is responsible for the forest nearby which got reforested with pine trees. Although this forest exists, it is quite clear to the community members that the trees will get cut down again at some point. And as the trees are all the same height, age and species, this will result in fallow land. Interestingly, when talking about cutting down trees and the repercussions of that for the environment and livelihoods, those governmental actions are not mentioned but the focus lies on the individual action of cutting down trees in the gardens. Additionally, talking with the local council members about climate change showed that in this lowest unit of government, climate change policies did not reach, not even to speak of implementation. These administrative and governmental units however are crucial in leading climate change adaptation effort as they are important disseminators of information and hence, awareness. If these relations are not used, vital synergies are lost. The same goes for governmental rural extension services like Naads. As it became clear in the interviews, this tool of agricultural service conveyance is not well managed. Although it could serve as an important disseminator for information of farming practices – and even more paramount for this thesis – information about climate change and possible adaptation practices, this is not happening.

6.6. Ecological effects

Ecological effects was the frame most applied in the analysed articles. Many articles stress droughts that result in food insecurity and famine. This resonates with the perception of a changing climate for the community members. When asked about the changes and difficulties that occurred in the past decades, around half of the interviewees mentioned changes in weather themselves. More occurring and longer droughts were the number one change in weather that was observed. Droughts were also one of the things most feared about in the focus groups as drought periods result in less yield and hence, less food for the household and an elimination of income. If the yield does not sustain the household, food has to be bought,

but there seldom is an income that could help the household to afford to buy food from the shops. Hence, the fear of famine is big in many households. Although the village is situated next to the river, no one besides one person talked about irrigation during the time of that kind of hazard. This demonstrates the significance a reliable climate has for the livelihoods of the community members. Ecological effects are closely tied to human effects as the people are dependent on agriculture and hence, a healthy environment.

6.7. Victimization and vulnerability

In many articles, the vulnerable position of Uganda in the fight against climate change was highlighted. This kind of wording was not used by the people interviewed. However, local vulnerability got characterized by poverty which was often proclaimed as the root cause for inaction. People are victims of poverty and rarely can get out of it due to lack of resources that would be necessary to break the vicious circle of poverty. Poor people especially are vulnerable to climatic hazards because of their lower adaptive capacity. It is more difficult for them to purchase food from the stores, which is a common coping strategy in the village because of lack of income. They also are often left out of information sharing systems and hence, are not able to prepare themselves in time or miss crucial information. This is oftentimes accompanied by the factor of age. The elderly people interviewed were more prone to climatic hazards like droughts because they were more likely to be neglected by people with important information. Additionally, they were not able to put as much labour into their fields as others because of their advanced age and hence, will have less outcome of their fields. This sense of vulnerability was highlighted in many interviews where many people stressed their fear of famine in the family and not being able to feed them, connected with the inability to adapt to this situation.

6.8. Other frames and communicative actions

The newspaper articles applied some more frames than the ones mentioned before, like *civil society actors*, *climate literacy and education*, and *mitigation and adaptation*. These frames were not used by the members of the community. Just one person mentioned an organisation he is part of that helps small-scale farmers with funding and training. However, this was also a frame that was not overly present in newspaper reporting.

When it comes to climate literacy and education, this was something that was not talked about in communication with the community members. How could it be? People had no prior

knowledge about climate change and hence, could not demand more information about it as they did not know what it is in the first place. Conclusively, no awareness campaigns from whichever branch reached them which were promoted as a solution to the climate change problem in the newspaper articles. Nevertheless, many people stressed the importance of radio coverage about upcoming weather events like droughts “to be aware” and to take necessary, precautionary action.

Mitigation and adaptation are not per se frames that were used in communicative activities of community members. Although mitigation and adaptation do happen to a certain extent in the community, they are not aimed at climate change. Mostly, they are used as strategies to counter poverty and hardships. The reforestation of trees is a good example for that. Although people do connect trees to weather phenomena like droughts, they are also seen as positive for the garden because of shade and other advantages. Adaptation however is closely tied to adaptive capacity and thus, vulnerability.

7. Conclusion

The main purpose of this thesis was to find out how the framing of climate change in communication affects the risk perception of men and women in rural Uganda. To answer that, a set of questions was raised. The findings for those and the leading question of this research will be concluded below. What has to be noted and is of crucial importance is that the concept of climate change is not a known subject by most people in the community where this research took place. Hence, it caused some confusion what climate change is and often got mixed up with the usual change of seasons. As knowledge is a considerable contributor to risk perception, this unfortunately fell flat. However, people do experience a change in climate, mostly in the form of more occurring droughts. For these phenomena, the community members have an explanatory model that will be discussed further below. Nonetheless, the concept of climate change had to give way to more adjacent weather-related events and most of the conversations took place within the account of droughts.

7.1. Media framing of climate change

In the research about climate change communication, climate change is seen as an abstract construct and not equivalent to secure or unproblematic knowledge. It is often transformed and modified by mass media to make it fit into the narrative structure of mass media. Additionally, this representation is replenished with social and cultural constructions by different actors (Neverla and Schäfer, 2012, p. 9). This is something that could be widely

observed in the analysis of the newspaper reporting of this thesis. To answer the question how media frames climate change in its reporting, two nationwide newspapers that are published in English were analysed. Articles about climate change in the course of a year were selected which resulted in a sample of 36 articles that were analysed qualitatively. In contrast to much of the reporting in the Global North, the anthropogenic causes of climate change were not discussed and generally accepted as facts. Climate change was portrayed with its local implications and individual action is substantially highlighted. Planting trees was accentuated greatly as a solution to “fight” climate change. However, the causes of climate change or a layperson explanation of it were rarely discussed. Furthermore, the role GHG emissions play in all of that was often side-lined and not made clear.

Interestingly, many factors Susanne Moser (2010) summarizes as difficulties to report on climate change, like distant impacts or the “modern human being” being insulated from its environment, are not the case for the average person in Uganda. According to the UBOS census (2017, p. 6), two thirds of households in Uganda are dependent on subsistence farming as the main source of income and impacts of climate change can be felt already. Although a changing climate is having a bigger influence on the daily lives of people in Uganda than for instance for most people in the Global North, reporting about climate change is not necessarily more prevailing. Media reporting is to a high degree influenced by news factors and journalistic norms which Neverla and Schäfer (2012) point out. This could also be observed in the content analysis. Many articles circled around timely topics connected to climate change, like the release of the IPCC report or were opinion articles and hence, more in the realms of civil society actors that were given space in mass media. Generally, climate change is still a topic of experts and politicians and even though a changing climate is affecting a high percentage of the population in Uganda, the “common farmer” and people directly affected by it are rarely given a voice in the articles.

The most notable frame in all of the reporting in newspapers was that of *ecological effects* that in turn result in incisive human effects due to the interdependency of the population on agriculture. Interestingly, adaptation strategies were not so much in focus as mitigation. Mitigation, however, was mostly seen as reforestation efforts and environmental protection concerns in general and not so much in the reduction of GHGs which is the point of concern in media reporting in the Global North (Ferlini and Cruz-Mena, 2008). This left many

analysed articles with an appeal to “plant a tree” as an individual action. Governmental solutions and action on the other hand were seldomly in the focus.

7.2. Knowledge about and perception of climate change

The question about knowledge about climate change is a crucial one for finding out how much of a risk climate change is perceived to be. As Shi and colleagues stress, climate-specific and causal knowledge are crucial for being concerned about climate change as well as being relevant for behaviour change and acceptance of climate policies (Shi et al., 2015). Unfortunately, knowledge about climate change was almost non-existent in the community where the research took place. Nonetheless, when asked about perceived changes in the past decades, a considerable amount of people was mentioning more occurring droughts. Although there was a lack of knowledge about climate change, people did perceive a change in climate and had an explanatory model why more droughts are taking place. In this case, deforestation and environmental degradation in general was seen as the culprit. Many people illustrate that explanatory model with the ability of trees to attract rain. Consequently, the lack of trees is seen as the reason why the rains come later than usual. Reasons for deforestation are manifold and connected to other problems in the community. Trees are cut down for land because of a growing population that requires more land and food in particular. Sugarcane became an important and lucrative cash crop for which people are uprooting their fields and thus, cutting down trees.

Knowledge is also a significant dimension in the risk perception of climate change set out by Van der Linden (2014). He presents four dimensions of risk perception, namely socio-demographic, cognitive, experiential and socio-cultural factors. Knowledge falls under the cognitive dimension. When we look at socio-cultural factors, the social embeddedness of risk is a relevant element and the opinion of “important social referents (e.g., friends, family etc.)” and trusting the source of information (Weber, 2010; Moser and Dilling, 2007, p. 13) are crucial. However, key sources of information and social referents for the community like local council members and religious leaders did also not know about climate change. Hence, risk perception about climate change cannot be drawn back to their opinion as there is none.

The leading factor in risk perception or perception in general could be observed in the dimension of experience. In the case of the community where this research took place,

experience was tantamount to age and hence, includes socio-demographic factors, as most people start farming from an early age and continue to do so during their life. Experience in farming and hence, being reliant on weather is a significant contributor of how climate change is perceived. The biggest differences in weather observed by the interviewees are more droughts, heavier rainfall and generally less reliable seasons. However, like stated above, there is almost no knowledge about the long-term prospects of climate change and thus, reactions are focussed on short-term solutions. Many people do perceive a change in weather patterns and more difficulties in farming following these unreliable seasons. Nonetheless, more droughts or other weather-related events are not the only things people worry about. Poverty is a crucial component in all of that and minimizes adaptive capacity.

7.3. Adaptation measures

The low adaptive capacity is connected to the vulnerability of the community members. In this thesis, vulnerability is seen from the “starting point” interpretation that “represents a present inability to cope with external pressures or changes” (O’Brien et al., 2004, p. 2). This is reflected in the adaptation strategies applied by the community members. As Grothmann and Patt (2005) describe, the relative risk perception is a main motivator to adaptation. Hence, a core assumption of this thesis is that people who adapt towards climate change do have a certain understanding of the risk implied in climate change and thus, one of the research questions was ‘what kind of adaptation measures are taken in the community?’ Several different adaptation strategies could be observed, for instance income diversification, like selling charcoal or fishing, storing food and the planting of trees. Coping strategies included purchasing food or “begging” the neighbours for food. However, it is important to note that most adaptation strategies are not clearly intended to counter climate change induced effects but also broader implications of food insecurity. Even though more occurring droughts destroy the crops on which the people depend upon for food aimed at home consumption, there are also other factors that are shrinking the yield. Soil infertility, land shortage and pests and diseases are issues that are highly debated and often put before weather-related events. For a lot of these problems, the prevailing poverty in the community is a major impediment. Without money, people are using the same seeds they used the seasons and years before and engage in monocropping techniques which lower the fertility of the soil. The land is not enough for the growing population which also results in monocropping because people do not have enough space to grow different crops. Pests and

diseases are affecting crops which cannot be controlled because of lack of capital for insecticides. All of these issues are affecting food security and hence, are seen as risks. Especially because climate change is not known as a concept and the reasons for unreliable seasons not well understood, it is not high on the agenda of the members of the community. “It is just as it is. We do not even think about it” is a statement of a young man in one of the focus groups that describes it pretty well.

One exemption of that is the (re)planting of trees. Trees are perceived as important to offset droughts. But not only is the planting of trees seen as a policy issue. It is moreover framed as an individual task and hence, seen as an important adaptation strategy to counter the effects of droughts through shade but also to “attract rain”. The importance of trees is also expressed through the position of an environmental committee member in the local council whose particular concern is to educate and admonish about the relevance of trees.

7.4. New information about farming and climate change

To get a better understanding of communicative activities in the community, the question of how the people of the community receive new information about farming and/or climate and how this information gets distributed was raised. Climate change is an issue that is to a high degree mediated through public communication as it is a concept that is hardly directly experienceable. It is a statistical expression of weather over a period of time and hence, not really visible (Moser, 2010). Additionally, risk is a mental construct that cannot be “sensed” (Sjöberg, 2000, p. 408) and thus, is also influenced by communicative activities. Three different strands of communication channels stuck out during the interviews. First of all, radio plays a crucial role in the dissemination of new information for the community. Second, interpersonal communication, be it conveyed through mobile phones or face-to-face, is another indisputably important factor to obtain information. In the context of good farming practices, rural extension services and other non-governmental organisations could be bearers of information. However, those organisations do not contribute significantly in the life world of the members of the community.

Radio is an important disseminator not only for general news but also for information and recommendations about farming. Many radio stations broadcast a weekly programme about farming which is repeated throughout the week. Climate change and its effect on farming

practices is sometimes a topic in those programmes. In a conversation with one of the programmes producers, it was highlighted that also here, trees are especially accentuated for their role in mitigating climate change whereas other adaptation strategies are not so much in focus. Hence, a similar framing to newspaper reporting about climate change takes place. Probably the most important factor in the dissemination of new information are face-to-face conversations. Especially for people who do not own a radio set, it is crucial that the information broadcasted gets to them. Additionally, information from outside the community gets distributed through either the usage of phones or face-to-face. What is important to note is that some people are more dependent on interpersonal communication to receive information than others. People in particular positions of power, like chairperson, teacher, neighbours with access to media or even husbands who work outside the village are important disseminators. Already marginalized people like the elderly, disabled or poor people are further marginalized with their exclusion from information flows.

7.5. Gender

With a feminist framework in this thesis, the dimension of gender is of particular interest. Hence, the question of the role of gender in the perception of climate change was raised. Gender is also an essential socio-demographic factor Van der Linden (2014) sets out in his dimensions of risk perception of climate change. When looking at the access to information based on gender, not much difference could be observed. Almost everyone owned a phone with no large gender difference. A more determining factor than gender was age in this regard. Slight divergence however could be seen in the possession of radio whereby male-led households were more likely to own one. Women on the other hand were often better connected in the community. They are more likely to be at home and exchange ideas with their neighbours and for instance share knowledge and information heard in the radio with people who do not possess a device. Additionally, there are several women's groups in the village, like a savings group or literacy classes where women meet and discuss. Men on the other hand are more likely to work outside the community and to a certain degree migrate for employment opportunities. This, together with their higher position in society makes men the bearer of new information and a crucial distributor of relevant information – which can also be seen in the distribution of roles and positions in the community. Most important positions connected to the dissemination of information like local chairperson, teachers, religious leaders or even radio presenters are held by men.

When it comes to adaptation strategies, some studies proclaim a higher likelihood of women to adapt because of their higher responsibility in agricultural work. This was not the case here. The sample consisted of members of the farmers group of the village and hence, both genders were equally engaged in agricultural work. However, a difference in adaptation can be seen in the strategies that were chosen. Women were more likely to invest in the planting of trees. This is not solely an act against the effects of climate change but also to offset environmental degradation and to benefit from connected perks, like giving shade and fruits. The storing of food was a strategy that was equally applied by women and men. Also, income diversification could be observed for both genders, although in different shapes. Men were more likely to grow cash crops, have a side business or go fishing, some women were running small shops or were doing jobs on the side if they occurred. Thus, the biggest difference in adaptation could not be noted in relation to gender, but in relation to age and socio-economic status of the household. Households that were economically better off than others were already the ones that could diversify their income and hence, will probably not be as vulnerable to climate related shocks as poorer households.

Also, when looking at the perception of climate change, there were no significant differences observable. Again, more differences were visible in relation to age and experience than in relation to the gender of the interviewees. Furthermore, the time when the interviews took place has to be considered. Weather in general was a point of concern more prominent in the interviews that happened during the dry spell. However, a pattern can be noted. People who called out weather-related events or phenomena themselves were more likely to name droughts as a difficulty in farming that has gotten more challenging. But a difference between the genders could not be observed here, especially not with the sample size that was applied here. Other issues in comparison were more dependent on gender, like the challenge of soil infertility that was predominantly identified as a problem from women.

7.6. Connection between media reporting and perception of climate change

The different methods of information gathering in this thesis showed one thing quite clearly: trees are in the focus of both the framing in media reporting as well as in the explanatory model of members in the community about the reasons for changes in climate. Not only that,

both emphasise individual action before governmental or regulatory responses. In the newspaper articles, oftentimes climate change is outlined more in the sense of environmental degradation and the issue of emissions is rarely discussed. Clearly, emissions are not a big topic in Uganda as the country is responsible for only a marginal degree of global emissions. However, omitting this point in the explanation of global climate change can lead to single-sided explanatory models and false conclusions about causal relationships. To a certain amount, this is visible in the interviews with the community members. The interviewees did not connect drought events to the global phenomena of climate change but with local actions of deforestation and environmental degradation. As a solution to counter the effects of many weather-related hazards, the planting of trees in the own garden was proposed. Of course, trees have many benefits that can help local adversities. However, this explanatory model can also bring dangers. If people fall victim to the conclusion that planting trees will save them and their yield from the effects of climate change, other forms of adaptation might not take place. Climate change will happen, no matter the number of trees planted in the gardens of small-scale farmers and hence, other forms of adaptation are necessary.

7.7. Areas for further research

This thesis looked into the framing of communication about climate change in media, particularly newspaper reporting. Of course, there is more communication than just media, for instance through governmental actors, non-governmental organisations and civil society. Nonetheless, due to time and space limitations, it could not be looked into all possible sources and hence, in the scope of this thesis it was only looked into newspaper reporting and observed communication of the community. As key informants, two radio presenters of farming programmes were interviewed. However, it would be interesting to see further studies in this field to get a fuller picture into how climate change is communicated by different actors (that probably also have different target groups) and if that influences the risk perception of people. Additionally, this thesis is based on the assumption that newspaper reporting has agenda-setting functions. This assumption was tested in many studies about media in countries of the Global North. There is no such study for Uganda and hence, studies in this regard would prove useful.

Furthermore, a case study was selected for the research design and hence, only a small section of the area or even the community was included. It is important to note that not only

does the perception of risk about climate change vary between countries or regions, but also inside the society of a country (Smith and Leiserowitz, 2012). Hence, this case study only can make statements about the community that took part in the research. Different areas in Uganda are differently affected by the impacts of climate change and hence, experiences and perceptions may vary, together with different contexts, like the access of information or gender roles. Thus, further research in different regions of the country could give a fuller picture about Uganda.

8. References

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