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INSTITUTIONAL CAPACITY OF UGANDA'S MINISTRY OF WATER AND ENVIRONMENT - AFFECT ON LAND DEGRADATION

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Abstract

This study is based on the question of how the institutional capacity of the Ministry of Water and Environment affects land degradation in Uganda. Land degradation is seen as a highly relevant issue for developing countries as it is decreasing their development potential. Specifically, the institutional capacity of the Ministry of Water and Environment is seen as relevant as it is mandated to combat land degradation within its ministerial function. Most previous research has been centered around anthropogenic and socio-economic contexts in relation to land degradation issues, whereas this research attempts to clarify the institutional capacity of the Ministry of Water and Environment in relation to how it affects land degradation. This specific approach to land degradation in Uganda has not been demonstrated before, as a single and highly relevant specific ministry in Uganda has not been subject to a major study. The study is a qualitative case study based on a deductive approach where document analysis is the methodical base. The theoretical framework used in the study, referred to as the Institutional Capacity Framework, attempts to clarify the ministry's institutional capacity in relation to specific institutional sections and indicators, and how these can be said to affect land degradation. This holistic theoretical approach in explaining how the Ministry of Water and Environment in Uganda affects land degradation is seen as a new and important contribution to the field of existing research. The study concludes that the institutional capacity of the Ministry of Water and Environment affects in an inadequately manner in relation to land degradation in Uganda because the capacity of the institution is not high enough to combat land degradation, even though this is the goal of Uganda and one of the mandates of the ministry.

Acronyms

UNCCD: United Nations Convention to Combat Desertification

MWE: Ministry of Water and Environment

NEMA: National Environment Management Authority

NFA: National Forestry Authority

NDP: National Development Plan

NDC: Nationally Determined Contributions

NAP: National Action Plan

ULC: Uganda Land Commission

Ugandan shilling (UGX) to American dollar (USD): UGX 1,000,000 = USD 261

1. Introduction

For centuries, the African continent has experienced crises, been exploited, and plundered, resulting in an extremely low level of development. As stated by Njeri Mwangi (2021): *"Africa overcame the process of colonization but continues to face pressing problems"*.

The misery and suffering are everyday realities for millions of people in Africa, and the causes seem almost insurmountable. Africa is facing a severe food crisis of unprecedented proportions. Millions are expected to be at risk of even more fatal hunger due to various conflicts, economic downturns, and the aftereffects of COVID-19 (United Nations, n.d). The African continent is no way near reaching their food security needs, as recent studies have shown that 868 million people were moderately or severely food-insecure (United Nations, n.d). The severity of problems on the continent seems like a story without an end, where also corruption, inflation, crime, violence, and lack of education, are just small bits of major problems that needs to be addressed in order to create a pathway for both economic- and sustainable development (Mwangi, 2021; Bolhuis & Kovacs, 2022; Oguz, 2017).

Although many difficulties are present on the African continent, in recent times, there is no doubt about which catastrophe is deemed the greatest. Climate change is the overarching factor for development and a general societal stagnation (African Development Bank Group [AFDB], n.d). This is particularly true in the poor developing countries. Despite the low contribution to GHG-emissions, the African continent remains the most vulnerable for its devastating impacts (AFDB, n.d). The African Development Bank Group states that Africa is the most vulnerable continent to climate change impacts if the temperature exceeds the limit of 1.5 degree celsius above pre-industrial levels (IPCC, n.d). This is no exception for a country like Uganda, described as one of the most climate vulnerable countries, where temperatures have risen by 0.23 degree celsius per decade since the 1950s (IGC, n.d). Uganda face numerous difficulties in relation to climate change, where one of the most severe climate challenges for economic and socioeconomic development is land degradation, which is the focal point of this research. The understanding of land degradation, in this research, is following the same understanding and explanation as the United Nations Convention to Combat Desertification (UNCCD). The UNCCD states that:

"Land degradation means reduction or loss, in arid, semi-arid and dry subhumid areas, of the biological or economic productivity and complexity of rainfed cropland, irrigated cropland or range, pasture, forest, wetland and woodlands resulting from land uses or from a process or combination of processes, including processes arising from human activities and habitation patterns such as: soil erosion caused by wind and/or water; deterioration of the physical, chemical and biological or economic properties of soil; and long-term loss of natural vegetation" (United Nations Convention to Combat Desertification [UNCCD], 2018).

Land degradation is highly affected by increased temperatures, precipitation patterns, drought, and extreme weather events, which makes land degradation affect the development of the country. This is evidenced by the fact that approximately 80% of Uganda's population lives from agriculture, that land use practices accounts for approximately 25-40% of the country's GDP (IGC, n.d; International Trade Administration, 2023), and the fact that the land use sector supplies a huge part of Uganda's exports (International Trade Administration, 2023; Cooper, 2018). In addition, the cost of land degradation is estimated at the rate of 4%-12% of GDP per year (Piemontese et al., 2022). With a deforestation rate of 2.4% annually (Cooper, 2018), Uganda's forest cover declined from approximately 5 million hectares in 2003 to 3.6 million hectares in 2013, which is highly impacted by land degradation, but also further accelerating (UNCCD, 2018). As stated by the Global Environment Facility: *"Scientists recently warned that 24 billion tons of fertile soil was being lost per year (…) If this trend continues, 95 percent of the Earth's land areas could become degraded by 2050"* (GEF, n.d).

Land use practices are immensely important in combating land degradation. According to the UNCCD (2018), the only viable option in the degraded areas is increasing the productivity of land and genetic resources in ways that do not compromise the quality and future productive capacity. Especially not compromising the quality and capacity seems like a big problem for Uganda, as their land use techniques and practices are said to be accelerating land degradation. Cultivated land has been steadily increasing by 1% since the 1960s, where approximately 72% of Uganda's land area was cultivated land (Cooper, 2018). This clearly indicates that an extreme amount of land area is experiencing, and will experience land degradation, as the quality and capacity of land use is not sufficient to bend the curve. Unsustainable land use practices are major determinants in accelerating land degradation (Oloput, 2012), where especially land cover transformation into cultivated lands affects land degradation, as the cultivated land are breeding unsustainable land use practices. Some of these practices include deforestation, overcultivation, overgrazing, lack of irrigation, logging, mining, and bush burning (Muwaya, 2019; Maitima et al., 2009). As Oloput (2012) argues, because of high poverty rates, changing socio-economic- and political circumstances, and demographic growth, traditional coping strategies are being lost and unsustainable land management practices have become prevalent. As Aggrey et al. (2010) states, the rural poor who make up for more than two thirds of the world's poor, have no option but to consume the environmental resources to survive.

To understand the dynamics and problems behind land degradation it is crucial to investigate the institutional circumstances, as these considered highly influential and some of the main drivers behind change (Oloput, 2012). While agriculture and clearing of land for food and wood are seen as main drivers of land degradation, this does not explicitly mean that agriculture and forestry always cause land degradation (Olsson et al., 2019). Sustainable management in relation to land degradation is possible but not always practiced. The reasons for land degradation is also believed to be present in the institutional arenas (Olsson et al., 2019). Measures to

affect land degradation in a positive direction are available, but economic, political, and absence of appropriate institutional support restrict their uptake (Olsson et al., 2019). Institutional aspects form the major barriers to transition and upscaling (Olsson et al. 2019). In recent years, Uganda has sunk four positions on the global governance ranking index, placing them even further down the list (Musoke, 2023). The indicators going down includes executive constraints, rule of law, and institutional trust to mention a few. Murray et al. (2016) and Makara (2009) argue that changes in some of the state institutions is highly recommended, as weak institutions are multiplying and accelerating Uganda's challenges (International Crisis Group, n.d). As Oloput (2012) argues, there is a need for a deep dive of the institutional capacity in Uganda, which encompasses the institutions, communities, and individuals with the needed resources, knowledge, and skills to effectively address land degradation.

1.1 Research question

The above exposition has led me to the research question of the study, which is as follows:

"How does the institutional capacity of the Ministry of Water and Environment affect land degradation in Uganda?"

Following De Vaus' (2001) argumentation, there is a need for a thorough explanation of the research question in order to develop adequate research (De Vaus, 2001). There is a specific need to elaborate on 'What question am I trying to answer?' (De Vaus, 2001). In relation to the research question, I will elaborate on the following four questions: Why is the institutional capacity relevant? Why is land degradation the scope of the research? Why is the Ministry of Water and Environment relevant? How will I answer this research question?

Why is an investigation of institutional capacity? In this study, the institutional capacity is the focal point of the research. Through the above elaboration and through existing research (see section 2), it is seen that the institutional capacity in relation to land degradation has not been thoroughly examined compared to the more anthropogenic and socio-economic aspects. This research aims to investigate how the institutional capacity of the Ministry of Water and Environment (MWE) affects land degradation, where the affect is understood as the influence of the institutions capacity on land degradation. In this context, the affect should be understood as theoretical and empirical derived correlations and not quantitative causalities or correlations. Through the above elaboration and through existing research (see section 2) there is an immediate understanding of the overall institutional capacity in Uganda as being low. The problem is that there has been no thorough research of the institutional capacity of the MWE as a single and highly relevant entity in relation to land degradation. Therefore, this research works to clarify whether the institutional capacity of the MWE is high or low, and through these clarifications, I explain how the affect on land degradation can be understood. Furthermore, much of the existing research that has been conducted is more than ten years old. This also points to the fact

that new research on this topic is needed in order to investigate the current status of the institutional capacity, particularly the MWE, in relation to its affect on land degradation.

Why is land degradation the scope of the research? Through the above elaboration and through existing research (see section 2) land degradation is seen as a major concern for Uganda, as their developmental, economic, and livelihood opportunities is highly dependent on land degradation to be combatted. Therefore, it is highly important to investigate land degradation in relation to contexts that have not been emphasized a lot, but is emphasized as playing a pivotal role, such as the institutional capacity of the MWE. Additionally, it is stated in advance that Uganda faces a problem of land degradation and that there is a national desire to address this problem, understood as combatting land degradation (UNCCD, 2018). Uganda is said to be committed to maintaining and managing a sustainable environment that is resilient to natural and man-made threats and drivers of change (UNCCD, 2018), making the institutional capacity of the MWE highly relevant to investigate.

Why is the Ministry of Water and Environment relevant? Through the above introduction and through existing research (see section 2), it has been identified that land degradation is a nationwide issue. However, this research is delimited to focus on the MWE, as this ministry is primarily involved in and directly addresses land degradation within its ministerial functions and mandate. It could have been another ministry under investigation, e.g. the Ministry of Agriculture, Animal Industry, and Fisheries, but the delimitation is based on the understanding that the MWE is purported to demonstrate institutional capacity specifically related to combatting land degradation. However, the theoretical framework adopted in this research does not preclude the investigation of other ministries and stakeholders in the pursuit of answering the research question as comprehensively as possible. This is to be understood in the context of how the MWE collaborates with other relevant entities in relation to combatting land degradation.

How will I answer the research question?

To answer my research question, the theoretical framework referred to as the 'Institutional Capacity Framework' is used. This framework covers a number of theoretical assumptions about an institution's capacity to solve development problems. The development problem in this context is seen as land degradation, where the institution, the MWE, is tasked with combatting it. There is an immediate theoretical assumption that the institutional capacity of the MWE is high, low, or somewhere in between, and influenced by various institutional indicators. A low institutional capacity of the MWE is said to affect land degradation in an inadequate manner and vice-versa. Therefore, the theoretical framework is considered particularly rewarding in terms of answering my research question. Furthermore, in this study there is a clear approach towards attempting to explain how the institutional capacity of the MWE affects land degradation. This means

that it is my aim, through my theoretical framework, to explain land degradation as an issue in Uganda, through an investigation of the institutional capacity of the MWE. This therefore goes further than the wish to describe land degredation

The study is based on a deductive theory-testing approach, where the deductive element is the use of the pre-existing theoretical position taken at the beginning of the study. In other words, the study aims to examine the research question based on these pre-existing theoretical assumptions. Furthermore, the research is a single case study, where the qualitative approach is the starting point for the methodological considerations, namely a document analysis. The research examines numerous relevant documents in order to create a solid analysis that can provide answers to the research question. From the study's philosophy of science position, based on post-positivism, there is a clear assumption that it is possible to explain correlations based on qualitative research. That is, how the institutional capacity of the MWE affects land degradation. Post-positivism does not seek to inevitably solve a problem set within a research question, but rather it seeks to explain the problems. This has also led to the study being based on the explanatory approach in relation to answering the research question.

2. Existing research

In the following section on existing research, the aim is to present what has already been the focus and what is already known in relation to land degradation, specifically in Uganda. Research in the field of institutional capacity in Uganda is limited, and immediately non-existing within the MWE, while research focused on the causes of land degradation in terms of socioeconomic, anthropogenic, and economic factors are more available. This section provides an overview of the complexity of the problem and contributes to a broader understanding of land degradation, as well as its magnitude, which is highly relevant concerning the institutional capacity of the MWE. It helps delineate the scale and scope of the problem and task at hand.

2.1 Understanding land degradation in Uganda: Current challenges

Land degradation has been the subject of research for decades, but yet, it remains one of the biggest problems for the modern world. In Uganda, the story is no different. Intensive research in the field continues, and various issues along with their corresponding opportunities abound. Various factors determines degradation, and it remains a persistent concern as much degradation occurs due to human necessities such as wood, food, and medicine for the world's poorest 350 million people (Ullah et al., 2020). Ullah et al. (2020) stress the importance that the social and economic impacts of land degradation and deforestation cannot be overemphasized. The human development of degradation constitutes one of the absolute factors in global environmental change, as about 28% of the 925 million Africans occupy or own degraded land (Adenle et al., 2022).

The relationship between the social, economic, and environmental protection for sustainable development is also highlighted in the research done by Waaswa & Satognon (2020). Some of the reasons for land degradation has been summarized as poverty, inadequate land practices, low levels of commodity trade, increasing rural populations, little farmer knowledge of agricultural techniques and technologies, insufficient research, and inappropriate land use (Olson, 2001). The research conducted by Pani (2020) shows that degradation also happens on behalf of unscientific agricultural practices, deforestation and removal of natural vegetation, industrial activities, illiteracy, and lack of proper land use management information. Twongyirwe et al. (2015) also finds that the leading drivers of forest loss and degradation include escalating timber trade, fuel-wood extraction, agricultural expansion, and charcoal consumption.

The growing population in Uganda has increased human activities with tremendous effects on the environment. The planet and thereby the people, are facing a manmade crisis of environmental destruction (Waaswa & Satognon, 2020). The environmental destruction is a direct result of the pursuit of development, meanwhile, development practices are one of the crucial aspects in attempting to reverse the trend and bend the curve, as the consequences are catastrophic (Waaswa & Satognon, 2020). According to the research done by Olson et al. (2001), the growing population is seen as a major contributor to land degradation in Uganda, as one of the concerns with the vast population increase is that food production cannot keep it's pace, although the expansion of the agricultural sector is constantly increasing. The specific issue with land expansion is directly related to the population growth, and the expansion mostly happens on behalf of the conversion of wetlands, grasslands, and forests to crops, which are antagonisms to degraded land (Olson et al., 2001; Nkonya et al., 2008; Pender et al. 2006; Aggrey et al. 2010). Furthermore, Bernard et al. (2019) finds that not only is there a significant population growth in Uganda caused by its own residents, but refugees also play a significant role in land degradation. This is because a large portion of refugees also settle among the rural population and employ unsustainable techniques that contribute to degradation. This is also described as a concern by Bamwesigye et al. (2022), highlighting that migration makes land degradation an even more complex situation, as the Ugandan government, in recent decades, has started to give natural forest land to refugee settlements. Thus, it is not only national residents that are contributing to degradation but also external residents.

The increasing population growth is seen as a major concern related to land degradation in Uganda, where the way land and soil is used is also characterized as highly influential. Existing research in the field concludes that the yield from agricultural land is far lower than expected, which is seen as a crisis for both the land and the population. It is stated that the actual yields compared to the potential were as low as 51% for maize, 68% for soybeans, and 55% for sunflowers, which is half of the potential realization (Olson, 2001). Pender et al. (2006) support these findings as well, stating that in the 1960s, Uganda's soils were considered to be among the most fertile, but problems of soil nutrient depletion, erosion, and other manifestations of land degradation

appear to be highly increasing. The farmers yields are found to be less than 33% of the potential yields, and that yields of most major crops have been stagnant or declining since the early 1990s (Pender et al., 2006). Olson et al. (2001) highlights that despite the fact that Uganda has a large percentage of arable land, it was estimated that an annual 4%-12% of GNP was lost from land degradation. With an ongoing significant issue of land degradation, this figure is expected to only comprise a larger percentage the longer sustainable development is delayed (Olson et al., 2001). Bad agricultural outputs are one of the major impacts of land degradation and bad farming methods is one of the main causes of this. Aggrey et al. (2010) finds that overcultivation is concluded to be lowering the agricultural output and degrading the fields. Olson et al. (2001) also finds that the available assets are not spent on soil maintenance, and that soil maintenance products such as fertilizers are not usually available or not cost effective in the short term needed for the majority of the rural population (Olson et al., 2001; Pender et al., 2006; Turyasingura, et al., 2022).

One of the main contributors in continuation of land use practices are that many people living in degraded rural areas are mainly poor which inevitably leads to constraints in production which inevitably leads to low yields (Olson, 2001). Poverty is a major cause of environmental degradation, and one of the greatest threats to the environment (Aggrey et al., 2010). Furthermore, the poor population is said to be the least capable of coping with the effects of environmental disasters and environmental-related conflicts as the impacts are too substantial for them to cope with (Aggrey et al., 2010). Nkonya et al. (2008) also concludes that poverty reduces households ability to invest in land management practices that requires cash, which affects the opportunity and incitement to invest in sustainable land management practices. In many cases the nexus is highly context specific, where especially local circumstances are important rather than national circumstances (Aggrey et al., 2010). One of the major constraints of sustainable development is highlighted as the non-existing ability to meet long-term needs for poor households which makes poor households focus on their short-term needs which are more destructive (Aggrey et al., 2010). The poor feel compelled to do what they recognize as harmful to their long-term interests, yet they feel they have no alternative by virtue of their extreme poverty (Aggrey et al., 2010). Land degradation leads to poverty, but poverty also contributes to land degradation as the result of lacking opportunities (Nkonya et al., 2008)

Another aspect that is highlighted as highly influential in the field of existing research is the field of education and extensive learning (Birungi, 2008; Olson, 2001; Nkonya et al., 2008; Pani, 2020; Pender et al., 2006; Ullah et al., 2020). Pender et al. (2006) highlights this in their research where they, through extensive modeling and statistic work, show that participation in agricultural training and extension programs has a positive and statistically significant effect on the value of production. Their findings thereby conclude that education can be an important political and development aspect to focus on, as it is positively linked to development towards land use. Additionally, technical assistance, whether it is through short-term or long-term training and

extension programs, is said to increase the value of crop production with a rather large share. For the full sample by Pender et al. (2006), universal participation in the training programs would lead to a predicted 12% increase in the crop production value. In fact, participants in organizations focusing on agriculture and environment training have lower levels of erosion on their plots than other households which, according to Pender et al. (2006), suggests that such organizations are effective in addressing and reducing land degradation. Especially the participation of organizations have proven to be very important in addressing land degradation, as they are statistically proven to contribute to reducing degraded land through educational and training programs. It is said by Pender et al. (2006) that universal participation in NGOs focusing on agriculture and environmental training is predicted to reduce soil erosion by 23%. Nkonya et al., (2004) add to this research on education and extensive learning programs, as they conclude that education significantly influences households' income strategies, land management practices, and labor used in crop production, which are all contributing to combating land degradation.

Another relevant aspect in existing literature on land degradation pertains to access to land and land tenure rights, hence a serious challenge to land degradation initiatives is the insecurity of land tenure (Bannada, 2011). The process of land titling and certification is expensive, USD 250 at the minimum, and therefore, remains a long term objective for many in the poor rural areas (Bannada, 2011). This is also highlighted by Twongyirwe et al. (2015), stating that land tenure rights is one of the leading drivers of degradation. Many land owners lacked legal titles, which in turn made it difficult to invest and manage land, as you have no legal right to the land, and therefore the tendency of overexploitation of land is higher. Also, insecure land rights are increasingly leading to conflicts, which can lead to displacement, and thereby lowering the incentive to invest in the land you occupy. Nkonya et al. (2008) found the same observations in their research arguing that there have been several studies demonstrating that insecure private tenure is a problem for poor people in developing countries, and that land titling can address the problem.

2.2 Navigating land degradation in Uganda: Insights into institutional challenges and solutions

By exploring the more institutional aspects of land degradation in the field of existing research, it is said that local governance and community-based approaches should be emphasized more, after realizing that the classic top-down approach impedes the rush for land degradation neutrality (Ullah et al., 2020). In general, the results of Pender et al.'s (2006) research concludes that combatting land degradation must be location-specific and highly dependent on the local governance. The interventions must be tailored to the local circumstances where they exist, and that there almost inevitably will be a trade-off among different outcomes. Their research finds that there is no "one-size-fits-all" solution to the complex problem of land degradation, and that the focus has to be placed on the individual areas and needs (Pender et al., 2006). Aggrey et al. (2010)

finds the same issue, as they state that joint implementation of poverty and environment strategies may be cost-effective for some problems, but that independent implementation may be the most preferable in many cases. Although local governance is emphasized throughout the literature, the national governance is also immensely under pressure in controlling rural resource degradation primarily because of limited resources (Aggrey et al., 2010).

Although governance is said to lack better implementation because of lack of financial opportunities, research states that both the national governance and local governance sector is highly accused of corruption, which affects the population's trust in the authorities (Pender et al., 2006). Turyasingura et al., (2022) comments on this in their research where they found that, efforts have been made by the Ugandan government through the 'National Resistance Movement', but local farmers are not putting into practice what the government is implementing. The study results conducted by Bamwesigye et al. (2022) confirmed high corruption in their survey sample (82% agreed that corruption happened), and the respondents highlighted lack of transparency in land and forest property rights as a major issue. Uganda is said to experience its worst crisis related to land conflicts, most of them which are highly related to corruption. Some of these conflicts and scandals showed that the state officials and the police were highly included in these affairs (Bamwesigye et al., 2022; Twongyirwe et al., 2015). Moreover, the understanding of the political and institutional landscape is highlighted in the existing research on land degradation, emphasizing the need for political interference, coherence, and structure. It is said that research is especially important in relation to how to improve technical assistance programs, agricultural research, changes in land policies and institutions, and investments in rural areas of developing countries, where problems of poverty and land degradation is severe (Nkonya et al., 2008). Birungi (2008) elaborates on this in his research too, where he states that soil fertility management would be strengthened by capacity building programs for local groups, infrastructure support, and enabling environment support. This can be done, he says, by incorporating social capital in government policies such as the 'Poverty Eradication Action Plan'. Aggrey et al. (2010) also states that environmental policies and environmental strategies needs to focus on the welfare of the poor and thereby on poverty-alleviation, as this would help the resilience of the communities in degraded areas. It is evident, that finding ways to achieve more sustainable and productive land management is urgent. There are good national environmental plans in Uganda, but the lacking implementation and poorly developed institutions are acute hinders (Olson et al., 2001), which advocates for strengthening, policies, institutions, and technological strategies (Pender et al., 2006; Bannada, 2011).

Last but not least, Olson et al. (2001) highlights that investments in remedial action is hard to quantify, but appears to be way smaller than the actual problem. To overcome this challenge there is a need to strengthen the capacity at the different levels of society for the establishment of a land information system that will

support and inform national land and land-use policies and also serve the needs of other stakeholders (Bannada, 2011). Another highly influential finding was that involvement of stakeholders greatly contributed to conservation of land. Therefore, it is crucial to support greater stakeholder involvement and create incentives for stakeholder interests and enabling conditions through political interventions and innovation (Bannada, 2011).

2.3 Summary of existing research

The preceding section have delineated the multifaceted impact of land degradation on a society, encompassing economic, environmental, socio-economic, and institutional dimensions. The aforementioned overview provides a comprehensive understanding of some of the institutional aspects that the MWE could potentially face in relation to influencing land degradation in a positive direction. The existing research in the area of institutional capacity in Uganda is rather limited, particularly in relation to the MWE. Nevertheless, some of the institutional factors that are said to affect land degradation have been investigated, such as corruption, local inclusion, cooperation, and funding. As previously stated, this study is based on a study of the institutional capacity of a specific relevant ministry, namely the MWE, and not just an overall statement of the instutional capacity of Uganda as a collective entity. This study thus represents the first empirical research in this specific field.

In the forthcoming section, the theoretical framework for the study will be introduced. This framework adopts a holistic perspective concerning an institution's capacity to address developmental challenges. Specifically, in this research context, the institution under scrutiny is the MWE, and the targeted developmental issue is land degradation.

3. Theory

3.1 The institutional capacity framework

The theoretical position taken in this research revolves around 'The Institutional Capacity Framework'. The institutional capacity is to be understood as *"(…) the ability of individuals, groups, institutions, and organizations to identify and solve development problems over time"* (Morgan, 2005). Morgan (1997) further states that institutional capacity is taken to mean the growth of formal institutional relationships and abilities, meaning those changes in institutional behavior, skills, and relationships that lead to the improved abilities of groups and organizations to carry out functions and achieve desired outcomes over time. Furthermore, as stated by the International Labour Organization (n.d), capacity is the combination of people, institutions, and practices that permit countries to reach their development goals. It is investment in human capital, institutions, and practices.

The Institutional Capacity Framework, as described by Morgan and Qualman (1996), distinguishes between internal institutional capacity and external governance capacity, both highly relevant, and both adopted in this research. Internal institutional capacity focuses on an institution's resources, structure, and operational efficiency through training, technical assistance, and internal development (Morgan & Qualman, 1996). In contrast, the external governance capacity extends its scope beyond the institution to include various societal stakeholders such as the legal system, private sector, and civil society organization (Morgan & Qualman, 1996). The primary goal of the governance approach is to foster accountability, transparency, legitimacy, cooperation, and participation within the institution and the processes it encompass (Morgan & Qualman, 1996).

The scope of context within this research is following two of Virgin & Bhagavan's primary institutional categories. The first, which is the government entities category, covering ministerial departments, policy-making authorities, and regulatory authorities. The second, which is the governance entities category, which encompasses the international organizations and civil society organizations, including nongovernmental and community based organizations, covering the rural communities and their anticipation in the institutional capacity (Virgin & Bhagavan, 2004). This research is set to cover these two institutional categories and examine how the MWE collaborates with them.

As stated by Morgan (1997), institutional capacity constraints are likely to stem not from a single cause (e.g. lack of skilled staff), but from a pattern or deeper structure of interlocking forces that combine to prevent the institutions improvement. It is crucial to focus on more than one aspect of the institutional capacity, as attention to only one part of the institution may have little impact at the broader level (Morgan, 1997). This approach is highly relevant for the research conducted in this study, as the aim is to provide a holistic understanding of how the institutional capacity difficulties and opportunities affects land degradation in Uganda. The overarching aim of the institutional capacity framework is thereby, as mentioned earlier, to understand how the relevant institution utilize its capacity to address and achieve desired outcomes (Virgin & Bhagavan, 2004). An institution's capacity is regarded as high if, within a longish timeframe, internal and external conditions persist that make it possible for the institution to carry out its critical functions reasonably well, and vice-versa (Virgin & Bhagavan, 2004).

Virgin & Bhagavan states that the institutional capacity encompasses, on the one hand, the functions that institutions should have the competence to perform, which means they should have the skills and capability to perform these tasks well. And, on the other hand, the resources (human, technical, and financial) they need to that end, emphasizing the importance of having the ability to fulfill the core functions or duties assigned to an institution (Virgin & Bhagavan, 2004). The theoretical explanation for a strong institution is thereby said to be highly dependent on the opportunities, the competencies, and the resources of the institution. Virgin & Bhagavan (2004) further elaborate on the institutional capacity in relation to the importance of securing the

resources that are appropriate and essential for satisfactorily performing the functions that the institution is mandated to, as this is a highly relevant objective. This involves securing resources in order to enhance skills, acquire new technologies, restructure processes, or adapt to changing circumstances (Virgin & Bhagavan, 2004).

As previously mentioned, the framework of institutional capacity incorporates elements from what is referred to as governance (Virgin & Bhagavan, 2004). This approach typically involves multiple institutions within a single sector or across various sectors. It combines a focus on individual institutions with broader considerations of institutional clusters or networks. When dealing with clusters and networks, the emphasis shifts to analyzing and modifying the structures and modes of interaction between institutions (Virgin & Bhagavan, 2004). The institutional capacity framework thereby emphasizes the focus and implementation of various problems and solutions to be clustered within a given context, but with a focus and involvement of different structures, institutions, and stakeholders. In the analysis of the institutional capacity, greater attention is paid to the surrounding context, including political and economic factors as well as the enabling environment and the actual levels of local ownership and commitment (Virgin & Bhagavan, 2004).

Especially, the inability of local actors to preserve, strengthen, and make proper use of the institutional capacity is a highly encountered problem. Institutional capacity is meant to influence the demands expressed by local actors and the stakeholders who either actively participate in the process or are significantly affected by it (Virgin & Bhagavan, 2004). Within the institutional capacity framework, there is a general need of understanding the causes behind this inability, and to investigate the ways of facilitating the relevant actors to deal with the surrounding causes of these problems (Virgin & Bhagavan, 2004). In order to achieve a high institutional capacity, the ownership of the process and its initial outcomes has to be focused upon. There is a strong need for everyone involved to feel like they own the process and its results, as they are the ones who has the abilities to change the circumstances for both them and for the greater good (Virgin & Bhagavan, 2004). This is relevant for all hierarchies of the state apparatus. Those who implement the process, and in particular the “hands-on”, would be the best judges of the more decisive factors to concentrate on and the strategies for tackling them (Virgin & Bhagavan, 2004).

3.1.1 The institutional capacity indicators

On the basis of a list of performance indicators, the aim is to point out the current state of the institutional capacity of the MWE in relation to how it affects land degradation (Virgin & Bhagavan, 2004).

In addition to the above described theoretical framework, the analysis will try to cover some of the following theoretical indicators set forth by Virgin and Bhagavan (2004). The indicators for the main aspects presented by Virgin and Bhagavan (2004) is derived from their intended explanation of why these aspects are important,

but there has been some academic creativity involved in the grouping of the indicators to make it fit to this specific research. The capacity indicators have been divided into sections in which they work to present a more shared understanding (Blagescu & Young, 2006; Virgin & Bhagavan, 2004). The indicators are seen as theoretical guidelines, as the indicators help the analysis in strengthening its structure and treat the aspects deemed necessary and available for the analytical work. The following capacity indicator groups are the framework for the coming analytical dissection (Blagescu & Young, 2006; Virgin & Bhagavan, 2004).

Table 1: Institutional Capacity Indicators

Section	Indicator
State of the institutional mandate	The state of the institution's mandated fields
Implementation and adaptability	Policies, strategies, and regulatory regimes developed and implemented
	Decisions taken and implemented to achieve specific aims, objectives, and targets
	Targeted standards of performance: timeliness, responsiveness, accuracy, efficiency, and effectiveness
	Transparency and accountability
Technical and financial resources	Essential equipment and expendable supplies, servicing, repair, and maintenance
	Resources mobilized (internal and external to the institution)
Cooperation, coordination, and communication	Channels of communication established and utilized between relevant institutions, actors, and stakeholders
	Actions coordinated involving relevant institutions, actors, and stakeholders
	Intra- and inter-institutional consensus achieved on matters at hand
Human resources	Quantitative and qualitative levels of in-house expertise and skills that are essential for performing the institution's mandated tasks
	Conducting training and education courses (both in-house and external) in the institution's mandated fields
	Available knowledge and skills, recruitment procedures, training

Note: Table is made by the author of the study. Some indicators have been left out as they were either; 1) Too difficult to understand; or 2) Were identical to other indicators

Source: (Virgin & Bhagavan, 2004)

3.1.2 Operationalization of the institutional capacity indicators

For a better understanding of the institutional capacity indicators (Virgin & Bhagavan, 2004), they have been operationalized as follows:

The state of the institution's mandated fields.

- This indicator refers to the current condition or status of the specific areas or sectors that fall under the institution's mandate.

Channels of communication established and utilized between relevant institutions, actors, and stakeholders.

- This indicator aims to assess the effectiveness of collaboration established and utilized by an institution with other relevant entities, such as institutions, actors, and stakeholders, to address

development problems collaboratively. It involves identifying the various organizations, agencies, or groups that the institution interacts with to tackle specific development challenges.

Actions coordinated involving relevant institutions, actors, and stakeholders.

- This indicator refers to the collaborative efforts undertaken by the institution in conjunction with other stakeholders to address specific issues or achieve common objectives. Operationalization involves documenting and evaluating the extent of coordination.

Intra- and inter-institutional consensus achieved on matters at hand.

- This indicator involves assessing the degree of agreement or alignment among internal departments or units within the institution, as well as consensus reached with external organizations or stakeholders.

Policies, strategies, and regulatory regimes developed and implemented.

- This indicator encompasses the adoption, and enforcement of policies, strategies, and regulations by the institution to guide its operations and achieve its objectives.

Decisions taken and implemented to achieve specific aims, objectives, and targets.

- This indicator involves identifying the decisions made by the institution to address specific issues or achieve predefined goals, and assessing their implementation. Operationalization includes tracking decision-making processes, timelines, resource allocation, and outcomes.

Targeted standards of performance: timeliness, responsiveness, accuracy, efficiency, and effectiveness.

- This indicator refers to the benchmarks or criteria used to evaluate the institution's performance in terms of timeliness, responsiveness, accuracy of outcomes, efficiency of resource utilization, and effectiveness in achieving objectives.

Transparency and accountability.

- This indicator involves ensuring openness, and integrity in the institution's operations, as well as mechanisms for holding individuals and entities responsible for their actions.

Quantitative and qualitative levels of in-house expertise and skills that are essential for performing the institution’s mandated tasks.

- This indicator refers to the quantity and quality of knowledge, skills, and expertise possessed by staff within the institution, necessary for carrying out its responsibilities effectively.

Conducting training and education courses (both in-house and external) in the institution’s mandated fields.

- This indicator involves organizing and delivering training and educational programs to enhance the knowledge and skills of staff members in areas relevant to the institution's mandate. Operationalization includes planning and implementing training activities, as well as assessing their impact on staff performance.

Available knowledge and skills, recruitment procedures, training.

- This indicator involves assessing the institution's capacity in terms of the knowledge and skills available among its personnel, as well as the procedures for recruiting new staff and providing training. Operationalization includes documenting the qualifications and expertise of existing staff, evaluating recruitment processes, and implementing training activities.

Resources mobilized (internal and external to the institution).

- This indicator refers to the allocation and utilization of financial and material resources by the institution to support its operations and achieve its objectives. Operationalization involves tracking budget allocations, fundraising efforts, and resource utilization, as well as assessing the adequacy and efficiency of resource mobilization.

Essential equipment and expendable supplies, servicing, repair, and maintenance.

- This indicator involves ensuring that the institution has the necessary equipment and supplies to support its activities effectively.

3.1.3 Ranking of the institutional capacity

In order to easier analyze and discuss how the institutional capacity's affects land degradation, the *Organizational Capacity Assessment Tool* (OCAT) approach is used (Virgin & Bhagavan, 2004). This approach assigns a score to a capacity section on a scale of 1 to 6 in order to discuss the research question. The OCAT indicator scale is structured as follows: 1 = Needs urgent attention and improvement; 2 = Needs attention; 3 = Needs improvement; 4 = Needs improvement in limited aspects, but not major or urgent; 5 = Room for some improvement; 6 = No need for immediate improvement (Virgin & Bhagavan, 2004). The assignment of scores combines individual perceptions from the data collected and analyzed (Virgin & Bhagavan, 2004). Although the different theoretical sections will be analyzed individually, the overall score of the institutional capacity of the MWE, in relation to how it affects land degradation in Uganda, will be demonstrated at the end of the analysis. This is done by taking the average of the scores for the different indicator sections. This overall score will then be discussed in relation to an overall summary and explanation of how the institutional capacity of the MWE affects land degradation in Uganda.

3.1.4 Strengths and weaknesses of the theoretical framework

One of the greatest strengths of the theoretical framework is considered to be is its alignment with the desired holistic approach to the issue at hand. The institutional capacity framework is considered to employ a holistic approach to examining an institution's capacity in relation to how it influences a given problem. This is because the framework accommodates many explanatory factors that are essential for uncovering development issues, rather than one isolated problem. The more factors are considered, the more opportunity there is to explain and comment on the issue. However, one of the potential weaknesses of the theoretical framework is also what makes the framework essential for the study, namely its breadth. The theory does not delve deeply into the various capacity indicators further theoretically, but rather remains open to interpretations. Another weakness within the theoretical framework is that some of the indicators are challenging to capture in terms of a clear understanding and operationalization, while other indicators are almost identical to other indicators. This is considered a weakness, as aspects of the study are excluded, based on the lack of deeper explanations and operationalization. This will be further elaborated on in the overall discussion of the research after the analysis has been conducted.

4. Philosophy of science

The scientific approach in this study is based on the post-positivist philosophy of science, as post-positivist research principles emphasize meaning and the creation of new knowledge. This study tries to explain the research question within a post-positivistic philosophy of science and a predetermined deductive rationale.

4.1 Post-positivism

Post-positivism stands in contrast to positivist scientific theory. Positivist researchers believe that it is possible to achieve a complete understanding based on experimentation and observation (Ryan, 2006). Positivist knowledge is considered to be the product of straightforward experience, interpreted through rational deduction (Ryan, 2006). The post-positivist philosophy of science, however, is based on the idea that the practice of conducting subjective research is a valid form of knowledge (not necessarily more valid than the objective, but of equal importance), and that all individuals are capable of constructing knowledge, which represents a departure from modernism (Ryan, 2006). This is particularly evident in this study, as the qualitative approach and the more theoretical interpretive framework pave the way for this form of knowledge. Therefore, understanding that complexity science has challenged the dominance of reductionist scientific models, and questions the classical positivist ontology that is based on the idea that knowledge is something discovered, not produced by human beings (Ryan, 2006). This study takes it stance in questioning this positivistic understanding by emphasizing a post-positivistic understanding, emphasizing that knowledge can be derived from human beings.

While most philosophy of science approaches rightly treat assumptions about causes with caution, it is still important for post-positivism, as for positivism, to test, for example, a theoretical standpoint, but there is a greater caution in post-positivist thinking regarding direct causal reasoning (Ryan, 2006). This logic unfolds in this study in such a way that the theoretical framework attempts to explain correlations between institutional capacity and land degradation, but not further causality. As Ryan (2006) states: *"Most people rightly treat assumptions about causes with caution, recognizing that it is rarely possible to show a direct cause for some aspect of the social world"* (Ryan, 2006).

Additionally, the positivist researcher is highly determined to discover the truth hidden within a phenomena, whereas this post-positivistic research aims to approach the predictability with qualitative theoretical reasoning instead of quantitative (Ryan, 2006). This post-positivist way of thinking can be seen in this research, as it attempts to uncover broader nuances, explanations, contradictions, and unexpected findings that might challenge existing assumptions. The post positivistic understanding taken in this study emphasizes that research does not seek to inevitably solve a problem set within a research question, but rather seeks to explain the problems (Ryan, 2006). Research can answer questions and indicate causes, but equally, research can be about problem setting, coming up with the right questions and discussions, which is consistent throughout this study. As stated by Ryan (2006): *"There are no universal solutions to problems, therefore conclusions may change over time. Many of the problems that we wish to investigate do not lend themselves to ready answers, but are more appropriately addressed by research outcomes that offer thoughtful guidelines, principles, and acknowledgements"*.

5. Research design

In this section it will be described how this research seeks to address the research question through its design and choices. The section addresses the qualitative research, a qualitative case study, the deductive theory-testing approach, and the understanding of explanatory research. These components are crucial as they form the cornerstone of the study's structure.

5.1 The importance of research design

How is the term 'research design' to be used? In the words of De Vaus (2001), when constructing a building there is no point ordering the materials or setting dates for completion of project stages until there is a consensus and plan for what sort of building is constructed. Similarly, research needs a design before empirical collection, or an analysis can commence. The function of a research design is to ensure that enough and sufficient evidence is obtained, and that this evidence enables the researcher to answer the initial question as unambiguously as possible (De Vaus, 2001). Obtaining relevant evidence entails specifying the type of evidence which is needed to answer the given research question. In other words, when designing research there is a need to ask: "*given this research question, what type of evidence is needed to answer the question in a*

convincing way?" (De Vaus, 2001). To comprehend research design, one must understand its essence and the structured array of methods and techniques selected to execute a study (Perrin, 2023). It entails the intentional arrangement of components to gather information necessary for addressing my research question. Research design holds high importance as it steers this research in navigating decisions throughout the research process to arrive at a particular conclusion and contribute intellectually to the existing body of knowledge (Perrin, 2023). It encompasses various opportunities, each characterized by its unique attributes and objectives, strengths, and weaknesses (Hunziker et al., 2021). These strengths and weaknesses will be discussed at the end of this section in order to create a deeper understanding of the specific possibilities and limitations inherent in the choices made in this research.

The research design in this study covers the following aspects: qualitative research, the qualitative case study, a deductive theory testing approach, and the explanatory approach. The understanding of qualitative research, the qualitative case study, the rationale behind choosing an explanatory framework, and how the deductive theory testing approach is applied will be elaborated on during the following section.

5.2 Qualitative research

This research is built around the qualitative research approach. When research is said to be qualitative, it typically refers to the fact that there is an interest in how something is done, said, experienced, presented, or developed (Creswell & Creswell, 2018). This relates to the aim of this research, particularly how something is done, experienced and developed, as some of the theoretical aims is to investigate how the institutional capacity affects in relation to what has been done, how the capacity is experienced by e.g. local authorities and stakeholders, and how the capacity is developed within the MWE in terms of their resources, potentials and capabilities. In contrast, quantitative research is more concerned with examining how much of something exists. One is said to be interested in quantities (Brinkmann & Tanggaard, 2015). Quantitative research is highly interested in examining relationships and causalities between and among variables through surveys and experiments, which is not the aim of this research (Cresswell & Cresswell, 2018).

When doing qualitative research, the aim is to develop a complex and holistic picture of the problem surrounding the research question. This involves incorporating multiple perspectives and identifying various factors involved in the issue related to the research question. There is a need for sketching the larger picture that emerges (Creswell & Creswell, 2018). In this study, this is seen in the way that the methodological and theoretical choices taken helps to enable these many perspectives in relation to the research question. This is seen in the methodological choice of document analysis, which allows for a broad and holistic range of information. At the same time, the theoretical framework requires a holistic and broad approach in order to examine many institutional indicators in the same analysis. The picture does not necessarily present itself in

a linear model of cause and effect, but rather a model of many influent factors, which is the center of the methodological choices and the analysis in this research (Creswell & Creswell, 2018).

5.3 The qualitative case study

In relation to the above section, the understanding and the choice of the qualitative case study is elaborated on in the following.

A qualitative case study is a research method that involves an in-depth investigation of a single instance (Yin, 2009). The purpose of this case study is to achieve a detailed and nuanced understanding of my phenomenon in its natural context (Yin, 2009), understood as the MWE, in relation to how its institutional capacity affects land degradation.

The qualitative case study is particularly valuable for studying phenomena that may appear difficult to capture quantitatively (Yin, 2009). As explained by De Vaus (2001), case study designs differ from other designs as they seek to achieve both more complex and fuller explanations of phenomena. This rationale justifies this study' qualitative case approach, as the qualitative case study is thought to be better suited in capturing the essential aspects of the research question in this particular case. Thus, the qualitative case study is sought to enable a more comprehensive understanding and explanation of the case examined, which is also thought to fit very well with the theoretical framework's holistic approach.

A case is referred to as the 'object' of study. It is the unit of analysis about which we collect information. In case study designs it is this particular unit I wish to understand as a whole (De Vaus, 2001). The unit of analysis, in this given research, can be seen as the MWE as per the research question: "*How does the institutional capacity of the Ministry of Water and Environment affect land degradation in Uganda?*", as the institution is the unit we try to understand in relation to how it affects land degradation (De Vaus, 2001).

Moreover, this case is seen as a holistic case (Yin, 2009). The institution is conceived of at the holistic level where the focus is set upon the characteristics of the institution that apply to that level (De Vaus, 2001). The institution exists as an entity with embedded subcomponents which are important to be aware of, such as size, type of institution, rules, management, resources, collaborating partners, etc. Immensely important for this specific case study is, as De Vaus frames it: *"The final case study will tell us more than, and something qualitatively different from, that which any constituent element of the case could tell us"* (De Vaus, 2001: 221). De Vaus (2001) thereby emphasizes that a holistic approach sets forth the opportunity of different insights that contributes to a more complex final understanding of the given case, which is the main aim of this research.

De Vaus (2001) further states that the task of the case study researcher is fundamentally theoretical. Collecting and analyzing the information from the given case study must be guided by a theoretical standpoint. Case

study research must have a theoretical dimension, as without, a case study will be of little value for wider discussion and reflection (De Vaus, 2001). For this case study, the approach, which Yin (2003) sees as the heart of case studies, begins with a theoretical framework. On the basis of this framework, it is predicted that this case with a particular set of characteristics will have a particular outcome (Yin, 2003). In this research, the particular outcome based on the theoretical framework is that the institutional capacity is either high or low, or somewhere in between, and the institutional affect on land degradation can thereby be analyzed and discussed. By thoroughly investigating the institution, the aim is to build up an understanding of the capacity, and map out the links between the institution and its capacity, and how it affects land degradation in Uganda.

5.4 The deductive theory testing approach

As previously mentioned, this research takes its stance in the deductive research approach, where a pre-determined theoretical framework sets the boundaries for what is to be investigated and how it is analyzed.

The deductive approach is seen as I have a pre-existing theoretical position from which I undertook at the beginning of the research. Thus, my empirical data is based on my pre-existing theoretical framework, whereas the inductive approach links theory to empirical evidence after the empirical data collection (De Vaus, 2001). The deductive approach used in conjunction with the qualitative case study means that I cannot conclude direct causal relationships. Instead, this research aims to comprehensively elucidate, that there are theoretical correlating links between the framework and the empirical data. Thus, it involves theoretical explanation rather than quantitative causality (De Vaus, 2001). Furthermore, I have chosen to focus solely on a single case study, which limits my ability to make claims about causal cause or effect (De Vaus, 2001). It requires multiple cases to establish a basis for further comparison.

However, the deductive theoretical rationale and philosophy of science allows me to derive theoretical explanations regarding the institution's capacity in relation to how it affects land degradation. This is typically referred to as a theory testing approach (De Vaus, 2001). The theory testing approach for this case study is setting up the framework of being able to “test” how the institutional capacity is affecting land degradation. It is possible to determine whether land degradation has decreased or increased over time, and thereby the case with its explanatory approach seeks to explain how this can be seen in relation to the institutional capacity’s affect (De Vaus, 2001). The point of the deductive approach in this regard, is thereby to see if the theory can actually explain how the institutional capacity of the ministry affects land degradation. If it can explain any immediate findings then the theory is supported, although not proven. This means that the theory is supported if it finds that a low institutional capacity affects land degradation negatively, and vice-versa. If this is not the case, then there is a need for understanding why it proved to be inefficient. Is it because the chosen theoretical framework is bad? Does the framework require refinements? Or is the theory applicable only under certain

specific circumstances? It is important to have in mind when conducting research, that it is not a failure to potentially get 'unwanted' results, the failure lies in not being able to understand and thoroughly explain what went wrong (De Vaus, 2001).

5.5 Explanatory investigation

In this study, there is a clear approach towards attempting to explain how the institutional capacity of the MWE affects land degradation. This means that it is my aim, through my theoretical framework, to explain why land degradation is an issue in Uganda, through an investigation of the institutional capacity of the MWE. This therefore goes further than the wish to describe land degradation. Explanatory research is used to investigate how or why a phenomenon takes place, which is also the main point derived from the explanation of the case study (George & Merkus, 2021).

It is said that in an explanatory case study, there is often data available regarding the specific issue, which is also the case in this instance. Thereby, it is easier to try to explain a phenomena than merely trying to describe it (George & Merkus, 2021). Furthermore, an explanatory research approach is emphasized when the theory and the empirical data are heavily emphasized to be correlated (George & Merkus, 2021). Thereby stating, that there are immediate correlations within the research question that need to be further investigated (George & Merkus, 2021). These linkages are sought to be understood through the analysis and discussion in the sections later on. The aim of the explanatory approach is thereby to try to explain the links between the institutional capacity of the MWE and its affect on land degradation in Uganda.

5.6 Strengths and weaknesses of the research design

An important aspect of doing research is ensuring as high quality as possible. This is approached differently within qualitative and quantitative research. Quantitative research often discusses internal and external validity, representativeness, and generalizability, whereas qualitative research is more concerned with transparency and the extent of methodological reflection (Brinkmann & Tanggaard, 2015). These aspects has been thought of during the process of this research, as transparency and reflection for the choices made throughout the research has been, and will be, thoroughly described. By focusing on transparency, understood as clearly explaining the choices made during the research, it helps to inform the quality of the research, and further helps to establish credibility and trustworthiness (Brinkmann & Tanggaard, 2015). In this research, basic assumptions and methodologies are made as transparent as possible so that the reader can assess the quality and rationale behind the research. Otherwise, it will be difficult to assess the context in which the final results should be considered (Brinkmann & Tanggaard, 2015).

The qualitative approach has a clear advantage in this research as it enables a holistic investigation (Metodeguiden, n.d). Furthermore, the qualitative method also entails methodological implications considered

essential for conducting research in this study e.g. the possibility of a document analysis. However, one of the main weakness of the qualitative approach is that generalizability is considered low in the academic world regarding qualitative research (Metodeguiden, n.d). This is understood as there is no substantial quantitative evidence for objectivity, representativeness, and broader quantitative conclusions in relation to the link between institutional capacity and land degradation. The further discussions and conclusions are therefore theoretically and subjectively derived, as per the post-positivistic philosophy of science.

In relation to the philosophy of science, theoretical derived conclusions from the analysis is the immediate intention. This is in line with the theoretical framework, the deductive approach, the explanatory approach, and the document analysis, but it may not necessarily be possible to explain causalities, regarding the above-mentioned weakness of the qualitative approach in relation to the quantitative (De Vaus, 2001; Metodeguiden, n.d). It is although emphasized from the post-positivistic epistemology, that the philosophy of science in this regard allows to derive correlations based on qualitative and theoretical foundations, but these must be carefully explained and examined. In the context of the epistemological understanding, this is interpreted in the way that there is no immediate intention for this research to be able to generalize to wider contexts, but instead provide theoretically and empirically grounded explanations of the given case. This is also in line with De Vaus (2001), as he states that case study research must have a theoretical dimension, as without, a case study will be of little value for wider discussion and reflection.

Looking at the deductive theory-testing approach in this study, it has the advantage that I know in advance what the study is about, as well as which immediate data are necessary to answer my research question (Metodeguiden, n.d). This ensures a strong theoretical guidance throughout the study, and selection and deselection of data are therefore immediately easier to choose, as it must align with my theoretical framework (Metodeguiden, n.d). The theory-testing approach also allows the study to be very transparent and explicitly grounded, which also makes this study repeatable in another context, especially if one wished to conduct a more comparative case study in the future. This would also benefit the aforementioned discussion about wider generalizability (Metodeguiden, n.d).

The immediate weakness of the deductive theory testing approach is that it is a very theoretically closed approach, which means that the empirical and analytical work is very closed and not as open to other possible explanations (Metodeguiden, n.d). At the same time, another weakness of the theory-testing approach may be that it can simplify the complex reality to fit a theoretical model (Metodeguiden, n.d). Theory-testing studies can be said to be only as good as the theory they test, understood as the way in which the theory is applicable for investigating my research question. If the theory is inadequate, the results will also be inadequate, and vice-versa.

Lastly, the strength of the case study is that it enables an in-depth approach to explaining the research question. This means that it is possible to examine the case in relation to the relevant issues it unfolds. This is considered useful as the case interacts within a complex phenomenon where quantitative methods may be too limited (De Vaus, 2001). The advantage of the case study is thus that it allows for new perspectives on a subject and uncovers new areas of knowledge that may not have been considered previously (De Vaus, 2001). There are aspects that I think need to be explored in relation to the specific ministry dealing with land degradation, for example human resources and the ministry's capacity of financial absorption, and the case study is considered useful in uncovering this.

Something generally considered a disadvantage of the case study is that the analytical and discursive aspects are subjectively based (De Vaus, 2001). This is understood in the context of that the researchers perspective often plays a significant role in the data collection and the analysis. Unlike quantitative research, which aims for objectivity through statistical methods, case studies rely heavily on the researcher's interpretation. Because of the importance of the researcher's perspective, the results may be less generalizable for broader explanations and more susceptible to bias than more objective methods (De Vaus, 2001). However, this is something the study is very aware of through the analysis and discussion, in terms of the choice of empirical data and choice of theoretical framework. Specifically, what interpretation is ascribed to the data the case consists of. The study aims to be as precise as possible in terms of clarifying what the theoretical understanding is for the case, and to use the theoretical interpretations as objectively and close to the theoretical framework as possible. At the same time, the empirical basis also attempts to present the evidence for the analysis as clearly as possible in terms of the documents used and their immediate implications (See 7.3: Data foundation and presentation & Annex 1-5).

Furthermore, internal validity is also a problem often found in a case study (De Vaus, 2001). Internal validity in other designs relies on screening out the influence of variables other than the key causal variables. This could, for example, be in an experiment, or another quantitative-oriented approach (De Vaus, 2001). They involve focusing on a small number of variables and removing the influence of other variables by controls of one sort or another. Threats to internal validity stem from the danger that factors other than our key variable are producing the outcomes we observe (De Vaus, 2001). This is particularly relevant to be aware of in this qualitative case study, as it is not possible to examine which factors actually have a direct quantitative effect, but rather which factors are said to have a theoretical influence, as per the philosophy of science. Although these are common understandings of weaknesses when doing a case study, the philosophy of science explicitly states that subjective and theoretical knowledge and explanations can be of equal importance as a quantitative approach.

In the following section, the methodological and methodical choices will be described. These choices are considered the foundation for how my analysis unfolds, as the theory will be applied in relation to the methodological choices that have been made.

6. Method and methodology

The methodical and methodological considerations elaborated on in the following section are respectively the document analysis, an explanation of the empirical data strategy, the data foundation, an explanation of the analytical strategy, and a final discussion of strengths and weaknesses.

6.1 Document analysis

As stated by Brinkmann & Tanggaard (2015), the document analysis is perhaps the most used method in the field of social sciences. The document analysis is being frequently used as the analysis is particular good and relevant in order to provide comprehensive analyses (Brinkmann & Tanggaard, 2015). It must be said that a comprehensive analysis is present in this study, which is why the document analysis is considered particularly worthwhile. This is understood by the fact that the theoretical framework is incredibly broad, encompassing many different fields and understandings. Document analysis is particularly rewarding in this context because it gives a lot of relevant knowledge and at the same time it is possible to clarify a lot of different knowledge in a relatively short period of time. Documents, especially official reports, policies, and political plans can contain detailed and in-depth information that is difficult to obtain through other methods, which is also one of the main reasons for choosing this method (Brinkmann & Tanggaard, 2015).

The document analysis is, although one of the most used methods, also a very fluid method that requires a special degree of attention and discretion to ensure precision in the analytical process (Brinkmann & Tanggaard, 2015). A common understanding of a document is, that it is a piece of text which is comprised of language. This immediately seems like a very easy way of understanding the rationale behind the method, but it is crucial to understand that even with this narrow definition, examples of documents are vast and can include countless types of documents. Different types of documents provide access to different types of information and interpretation (Brinkmann & Tanggaard, 2015). This is particularly emphasized in this study (see section 6.3 Data foundation and presentation), as different types of documents are also the basis for further analysis

The research conducted in this study will be centered around what is referred to as secondary documents by Brinkmann & Tanggaard (2015), which is understood as documents that are available to the public. An example of these, in this study, are budget plans, development plans, acts, policies, etc. While accessing primary texts such as confidential minutes from the MWE or other internal or confidential documents from

Uganda could be particularly rewarding in terms of deriving knowledge, the obstacle in this possibility lies very explicitly in the words internal and confidential (Brinkmann & Tanggaard, 2015). Although, what is immensely important when doing document analyses, is the point that the analyst does not necessarily gain a more direct access to more legit knowledge about a given phenomenon by using primary documents compared to secondary documents (Brinkmann & Tanggaard, 2015). Different types of documents may give access to different types of information. For example, some aspects of institutional capacity may be lost by not using primary documents, as it is not immediately conceivable from the perspective of the ministry and the government that they would extensively damage or criticize themselves to the public.

6.2 Empirical data strategy

In relation to the above section on document analysis, it can be seen that there are many methodological implications to be aware of when doing a document analysis. The empirical data strategy will help to provide an overview of how these implications will be dealt with, but also to understand the opportunities of the method.

The following questions is sought to make the data strategy for the analysis more transparent and understandable: By what criteria do I collect my document material? How do I gain access to relevant document material? How do I conduct a systematic analysis of documents? (Brinkmann & Tanggaard, 2015).

By what criteria do I collect my document material? In relation to how the documents are collected, this is highly influenced by the theoretical framework, as the framework paves the way for understanding what is needed in order to answer the research question, as per the deductive theory testing approach. While the method provides the foundation of the documents and knowledge of the methodical implications, the theoretical framework guides the use of these documents and the relevance of them (Duedahl & Jacobsen, 2010; Brinkmann & Tanggaard, 2015). To make a valid explanation, you need to aim for good quality in the documents used (Duedahl & Jacobsen, 2010). Quality, in this context, encompasses a variety of aspects, ranging from the credibility of the documents concerning the issue at hand, to the extent to which the documents possess depth and information density that can contribute to important knowledge (Duedahl & Jacobsen, 2010). It is from this understanding that documents for further analysis are selected, as credibility, depth, and information density are crucial for answering the research question. These criteria are thought of during the empirical data collection, but the research also considers these criteria when doing a further discussion of how and to what extent the data can help to explain the research question. This will be elaborated on in the forthcoming subsection.

How do I gain access to relevant document material? A method for generating a set of documents involves the so-called ‘snowball method’ (Brinkmann & Tanggaard, 2015). The snowball method involves

interconnections between documents. Here the analyst starts identifying what is referred to as an overarching document, or perhaps up to a handful of these overarching documents, covering a certain horizon of interest. Then, references in this/these documents to other documents are pursued. This means that documents will take positions within a field of other documents by cross-referencing them in various ways (Brinkmann & Tanggaard, 2015). This approach is taken in this research, as the snowballing method paves the way for investigating hundreds of relevant or irrelevant documents. The overarching documents will take its stance in what I, with the theoretical framework in mind, asses as relevant documents, e.g. policies, acts, internal work procedures, budget documents, local development plans, national development plans, news articles, expert statements, etc.

How do I conduct a systematic analysis of documents? As stated by Creswell & Creswell (2018), the qualitative researcher typically gathers data from many different sources. In this study, these different sources consist of different documents with different understandings and agendas. These documents are all forms of data in which the sender shares their information both freely but also constrained by predetermined conditions. To conduct a systematic analysis of these documents there is a need to review as many relevant documents as possible, as per the snowball approach, make sense of it, and finally organize it into the grouping used in the theoretical framework sections and the related indicators in order to systemize it (Creswell & Creswell, 2018). This systematic approach organizes the necessary documents regarding the questions they are expected to help generate knowledge about and the overarching sections they belong to. This creates a coherent thread throughout the analysis, as it provides a systematic overview. In relation to the number of documents used in the study, the assumption is that when there is no longer any new relevant knowledge, but it becomes more repetitive, a saturation point has been reached, and then the final data foundation is seen.

6.3 Data foundation and presentation

Following the previous section, there is a desire to elaborate on how to effectively present the results of a document analysis (Brinkmann & Tanggaard, 2015). Following Brinkmann & Tanggaard's (2015) way of document presentation, the entire document material will be presented for a bigger overview. This will be done in different tables where information related to the sender, type of document, and date will be presented (see Annex 1-5 in order to access tables with all information about the documents used for each analytical section). The idea behind this is to make it more manageable to understand which documents have been used, and to comment on how the overall picture of the documents unfolds (Brinkmann & Tanggaard, 2015). It may be that the documents regarding a group or indicator are deficient, or that the documents have a particular type of senders, while other senders that might have different interpretations are unavailable (Brinkmann & Tanggaard, 2015). It is important in relation to the research question, that there is an openness and discussion in relation to which documents have been used, as this is highly relevant in order to gain a deeper

understanding of what the analysis will tell us about the research question. What can be said, why, and on what basis. This section seeks to investigate the strengths and weaknesses of the data, in relation to the analysis.

Firstly, I will elaborate on the 7 documents used for the analytical section 'State of the institutional mandate' (see Annex 1). The majority of the information from the documents is derived from UN reports, which lends it a certain degree of credibility. UN reports are typically regarded as credible and reliable sources of information due to their rigorous research methodologies and peer-reviewed content. Furthermore, the UN has access to a wealth of resources and experts, which enhances the quality of this analytical section as these statements are widely agreed upon among experts and professionals. Furthermore, documents from the MWE and the National Development Plan (NDP) from Uganda have been utilized, which contextualize the ministry's specific mandate and corroborate the findings presented in the UN reports. The documents contain concrete facts and descriptions of the ministry's mandate and the state of land degradation. Both objective sources, understood as non MWE related, and more directly involved sources have been utilized, which adds necessary nuance to the analysis in terms of credibility and information. Moreover, the majority of the documents are relatively new, which also ensures that an explanation of the research question becomes more precise in terms of being as contemporary as possible.

Secondly I will elaborate on the 25 documents used for the analytical section 'Implementation and adaptability' (see Annex 2). The majority of information is derived from ministerial documents, which provides a robust basis for answering the research question. Given that the research is specifically focused on the MWE, it is of particular importance to have documents from this ministry, as this gives a good and solid insight into their work and what they do to combat land degradation in relation to the theoretical capacity indicators. Furthermore, national, and local development plans have been employed, affording a comprehensive understanding of the ministry's institutional capacity and its implications across the different levels of society. Moreover, the incorporation of a multitude of sources, including news articles, UN reports, and research studies, ensures a diverse range of perspectives and insights into various aspects of the ministry's operations. Having multiple sources of information is critical to gaining a well-rounded perspective. By incorporating different points of view in the data collection, information can be cross-checked, reducing the risk of bias and inaccuracy of the analysis. This has particularly been thought of in relation to the usage of ministerial documents. These are typically authored by officials or spokespersons for the ministry, and thereby potentially biased, which could potentially impact the objectivity and reliability of the information provided, if used singlehandedly. In addition, the incorporation of news articles and research provides a contemporary perspective to the analysis, potentially highlighting recent developments, challenges, or controversies surrounding the ministry. This real-time information serves to complement the more formalized data obtained

from governmental documents, thereby contributing to a broader understanding of the ministry's capacity and public perception of it. This approach is highly essential and has been thought of during the data collection, in relation to gaining an as broad and nuanced understanding of the complex issues at hand.

As the preceding discussion regarding the variation in documents is largely similar across the remaining analytical sections, these will not be elaborated further (for a comprehensive overview of the documents for these sections, please see Annex 3, 4 and 5). Furthermore, many of the documents utilized are repeated across the different analytical sections. This is not considered a weakness, but rather an indication of the substantial and informative nature of many of the documents utilized in this study, as a significant proportion of the documents utilized are several hundred pages.

6.4 Analytical strategy

In terms of my analytical strategy, I adhere to the deductive methodology chosen for this research, whereby I move from theory to empiric in order to explain my research question. My initial step is to derive insights from the theoretical standpoint. I then proceed to explain how this can be observed and deduced from my empirical foundation to analyze and answer my research question. This is achieved by incorporating as much relevant data as possible in order to answer the research question. The analysis does not entail an examination of each individual source in terms of how it individually explains the institutional capacity of the MWE. Instead, I integrate all the documents found, to provide as much information as possible within the relevant sections and indicators. The practical approach to the analytical strategy has been to look through all the processed documents to see how they fit with my theoretical framework and the associated capability indicators. Furthermore, the structure of the analysis is guided by the theoretical sections and indicators that are to be investigated and addressed, thus ensuring a coherent analysis. This is evident in the structure of the analysis, which follows the same sequence as presented in Table 1 (See page 16-17).

6.5 Strengths and weaknesses of the method and methodology

A strength when doing document analysis is that it can provide an in-depth understanding of a topic by granting access to a wide range of information stored in documents. This can be useful for studying complex phenomena where quantitative methods may be too limited (Brinkmann & Tanggaard, 2015). Document analysis provides access to a vast amount of data, often overlooked by other research methods, which can be helpful in identifying new patterns and trends. A weakness of document analysis, however, is that the more personal descriptions and experiences are not enabled and captured by the method in the same way. Document analysis cannot capture the subtle nuances and emotional dimensions that are often present in personal accounts. Ethnographic methods and interviews can provide a deeper insight into people's experiences and perspectives that written documents often cannot (Brinkmann & Tanggaard, 2015). This is

seen as a clear weakness of the method but also in combination with the theoretical framework, as the framework contains aspects that can be said to be equally as much related to ethnographic methods and interviews. However, this will be further discussed in the overall discussion of the research once the analysis of the research question has been completed.

The following section contains the analysis regarding the explanation of the research question: *"How does the institutional capacity of the Ministry of Water and Environment affect land degradation in Uganda?"*. The analytical outcomes are based on the choices made in relation to the earlier described theoretical framework, the philosophy of science, the research design, and the methodology and methodic choices.

7. Analysis

As stated in the theoretical framework, The OCAT approach will be used in order to rate and discuss how the institutional capacity affects land degradation (Virgin & Bhagavan, 2004). At the end of each theoretical section, a score will be given on a scale from 1 to 6. This is done to give an indication of the immediate level of institutional capacity and its affect on land degradation. At the end of the analysis, the overall level of institutional capacity of the MWE in relation to how it affects land degradation will be further summarized. This is done by taking the average of all scores for the different indicator sections.

As mentioned in the theoretical framework, the OCAT indicator scale is structured as follows: 1 = Needs urgent attention and improvement; 2 = Needs attention; 3 = Needs improvement; 4 = Needs improvement in limited aspects, but not major or urgent; 5 = Room for some improvement; 6 = No need for immediate improvement (Virgin & Bhagavan, 2004).

The analysis begins with a presentation of the section 'State of the institutional mandate'. This section includes the associated capacity indicator 'The state of the institution's mandated fields'. The section is based on an understanding and explanation of the MWE's mandated fields, as well as the status of the MWE's mandated fields in relation to the extent of land degradation in Uganda.

7.1 State of the institutional mandate

The institutional capacity framework is defined as the ability of the institution to identify and solve development problems over time. In this specific study, these developmental issues and desired outcomes are understood as those surrounding land degradation. The problem is land degradation, and the institution is tasked with combating it within its mandate (UNCCD, 2018). The mandate of the MWE is: *"To develop and manage water resources of Uganda as well as promote an integrated and sustainable use of environment resources for socio-economic development"* (Ministry of Public Service [MPS], 2020). The MWE's vision is said to be: *"Sound management and sustainable utilisation of water and environmental resources for the betterment of the population of*

Uganda" (MPS, 2020), and their regulatory framework is within environmental protection, where they play a crucial role in shaping the behaviour of stakeholders, managing risks, and safeguarding the public interest (United Nations Convention to Combat Desertification [UNCCD], 2022; National Planning Authority [NPA], 2020).

Uganda has ratified the three Rio Conventions at the 1992 Rio Earth Summit, where the focus on the United Nations Convention to Combat Desertification (United Nations Convention to Combat Desertification [UNCCD], n.d) provides information on the land degradation targets that Uganda is set to achieve. It is said that: *"The UNCCD focuses on coordinated actions to put the world on a path to land degradation and carbon neutrality"* (UNCCD, n.d). The specific land degradation goals that Uganda works to achieve are: Land Degradation Neutral in 2030 compared to 2015 baseline, 21% tree or forest cover by 2030 (in line with Vision 2040 and NDC), 12 % wetland cover by 2030 (in line with Vision 2040 and NDC), areas of declining or stressed land productivity reduced by 50% by 2030, and the level of soil organic carbon at country level maintained or improved by 2030 compared to 2015 baseline (UNCCD, 2022). In the PRAIS4 report made by Uganda for the UNCCD, it is possible to follow the progress of their land degradation goals, and thereby possible to investigate the state of the MWE's mandated fields. The PRAIS4 combines cutting-edge geospatial information, technology that makes it possible to track the land degradation progress (UNCCD, 2022). In the report an increase in degraded land has occurred when comparing the baseline to the reporting period. The total increase of degraded land in this period amounts to 21.838 km² (UNCCD, 2022). The proportion of degraded land in Uganda is estimated to be 11.61% of the total land area, which equates to 2.37 million ha (United Nations Convention to Combat Desertification [UNCCD], 2019). Furthermore, 8.28 million people are exposed to land degradation which represents 20.28% of the Ugandan population (UNCCD, 2019). As stated by the United Nations Environment Programme (United Nations Environment Programme, 2010): *"Land degradation is highlighted as the greatest contributor to the annual cost of environmental degradation (…) Scientific studies indicate that Uganda loses about 11 percent of its Gross National Income per annum as a result of excessive soil erosion alone"*. All of the above mentioned aspects indicates that the MWE has a massive task in trying to reverse this trend.

This section will not be assigned an OCAT indicator score, as it is not analytical in nature but rather descriptive. It has provided an in-depth overview of the MWE's mandated fields and their current state, which is essential for conducting the analysis of the remaining capacity indicators.

The following section on 'Implementation and adaptability' seeks to investigate how the MWE implement their mandate and how they adapt to the problems within their mandate of combatting land degradation.

7.2 Implementation and adaptability

In order to investigate how the institutional capacity of the MWE affects land degradation in relation to implementation and adaptability, the following institutional capacity indicators are investigated: 'Policies, strategies, and regulatory regimes developed and implemented', 'Decisions taken and implemented to achieve specific aims, objectives and targets', 'Targeted standards of performance: timeliness, responsiveness, accuracy, efficiency, and effectiveness', and 'Transparency and accountability' (Virgin & Bhagavan, 2004).

The following two capacity indicators will be analyzed in the subsection below: 'Policies, strategies, and regulatory regimes developed and implemented' and 'Decisions taken and implemented to achieve specific aims, objectives, and targets' (Virgin & Bhagavan, 2004).

7.2.1 Policies, strategies, and regulatory regimes implemented to achieve specific aims, objectives, and targets

For over a decade, the Government of Uganda has implemented reforms with the objective of ensuring integrated and sustainable management and development (Ministry of Finance, Planning, and Economic Development [MFPED], n.d). The MWE has developed and participated in numerous policy regimes to regulate and influence land degradation and environmental impacts. These include the National Wetlands Policy, Environmental Impact Assessment Resolutions, National Environment Management Policy, National Environment Statute, National Environment Act, National Land Policy, National Land Use Policy, Climate Change Policy, National Adaptation Plan, Uganda Strategic Investment Framework for Sustainable Land Management, and the Uganda Forestry Policy (Rwakakamba, 2009 & UNCCD, 2018). It is evident that the MWE is currently engaged in numerous policy initiatives, which may initially appear to be a strength in terms of affecting land degradation, as there is a high level of awareness and countless policy initiatives in the area. However, upon closer examination, this perspective is subject to change. The alarming rate at which natural resources are being depleted is indicative of the ineffectiveness of the laws and policies in place. The study on the effectiveness of Uganda's environmental policies by Rwakakamba (2009) revealed a significant discrepancy between the existence of laws and policies on the one hand, and their actual implementation on the ground. The study demonstrates that, despite the fact that Uganda has a number of laws and policies aimed at conserving the environment, natural resources and water catchments continue to be encroached upon (Rwakakamba, 2009). As further stated by the NEMA (National Environment Management Authority [NEMA], 2024), there is a need to: *"Strengthen prosecution of environmental crime"* as there is *"Weak enforcement of the environment laws and regulations"* (NEMA, 2024). This can be seen as a sign of low institutional capacity within the MWE as their policies and regulatory framework is indicated to be weak and insufficient in combatting land degradation. This is seen as affecting land degradation in Uganda negatively, as weak

environmental laws and policies immediately leads to insufficient protection of natural resources, resulting in overexploitation of resources and habitat destruction, which is a direct explanation for land degradation.

A contemporary example of this is seen in the newly adopted act where the Minister of the MWE banned charcoal business to protect forests (Wokorach, 2023 & MFPED, n.d). This is a clear sign of how the MWE with its mandate can affect land degradation positively, as charcoal production accelerates land degradation. The reality is though the opposite when the case is investigated further, as the proposal is good on paper, but the execution lags behind (Ministry of Finance, Planning, and Economic Development [MFPED], 2023). There is a clear lack of capacity from the MWE to come up with charcoal alternatives that supports the livelihoods of the population. The aim is to raise 20.300ha of fuel wood plantations within the fiscal year, but the MWE has only raised 1291ha, which means that there is no current alternative to stop the population's land degrading practices (MFPED, 2023). The same situation is seen in the MWE's response plan for refugees and host communities (Ministry of Water and Environment [MWE, 2019). By the end of 2019, Uganda has been hosting 1.3 million refugees who are primarily dependent on natural resources (Ministry of Water and Environment [MWE], 2019a). The MWE's objective is to plant six million trees to provide construction materials and firewood for refugees in relation to prevent land degradation. Again, the MWE has a good plan on paper, but the reality is that: *"Government agencies such as NEMA, NFA and Local Government Districts face challenges in implementing their roles and mandates due to lack of fund, resources, and logistics. This has increasingly led to unchecked degradation of forest cover, wetlands, and other natural resources"* (MWE, 2019). The policies and plans are in place, but the implementation does not match the level of ambition, which leads to the fact that MWE's institutional capacity affects land degradation in an insufficient manner, as the conducive land degradation actions seems to continue. In one of Ugandas big national programmes (Ministry of Finance, Planning, and Economic Development [MFPED], 2023a) it is stated that the MWE must work with: *"Land laws, policies, standards and guidelines formulated and reviewed"* (MFPED, 2023a), in relation to the NDP III objective to: *"Fast-track the formulation, review, harmonization, and implementation of land laws, policies regulations, standards and guidelines"* (National Planning Authority [NPA], 2020). The MWE is aware that there is a need to focus on their policies and regulations in order to affect land degradation in a positive direction, but it does not seem like they have the intended capacity.

To further demonstrate this point, the UNCCD (2018) has made a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis on the policy and legislative frameworks within the MWE mandate. They come to the same findings as this study, that the immediate strength of the MWE is that they have the necessary policies and frameworks in place, but that they have: *"Poor environment governance"* and *"Poor enforcement policies"* (UNCCD, 2018) to mention a few. Furthermore, in the PRAIS4 report (UNCCD, 2022) for Uganda, the following is stated: *"(…) has your country established policies and enabling environments to promote*

and/or implement solutions to combat desertification/land degradation (…)?" which was answered *"Yes"*. After this question, it was asked: *"Do you consider these policies to be successful in promoting or implementing solutions to address DLDD (Desertification, Land Degradation, and Drought) (…)?"* which was answered *"No"* (UNCCD, 2022). Once more it is clear that the MWE seems to affect land degradation in an immediately insufficient way, as the institutional capacity, from the above analyzed, suggests that the MWE lacks capacity in relation to the policies, strategies, and regulatory regimes developed and implemented in order to combat land degradation.

The following subsection analyzes the indicator related to: 'Targeted standards of performance: timeliness, responsiveness, accuracy, efficiency, and effectiveness'. This is done in order to explain the MWE's capacity in relation to their standards of performance in relation to the subsection above.

7.2.2 Targeted standards of performance

A number of ongoing projects offer potential for transformative change, with the possibility of the MWE to affect land degradation positively. These projects are designed to address land degradation directly and are implemented in accordance with Uganda's Vision 2040 goals (UNCCD, 2018), which include the following objectives: i) the protection, restoration, and maintenance of degraded fragile ecosystems; ii) the increase of sustainable use of the environment and natural resources iii) Increase the national forest cover and economic productivity of forests; iv) Increase the national wetland coverage; v) Increase the functionality and usage of meteorological information systems; and vi) Increase the country's resilience to the impacts of climate change (UNCCD, 2018). These initiatives and projects reflect the decisions taken and implemented to achieve specific aims, objectives, and targets. At the same time, it can be inferred that the MWE has the capacity to achieve these goals in measurable outcomes. The MWE has supported and rehabilitated 1400ha of vulnerable forest land, restored 600ha of degraded wetlands, protected and restored 120km of riverbanks, and 2000ha of degraded landscape in one of their projects (MFPED, 2023a). In another project, a total of 4389ha of degraded land has been restored through afforestation, 9000ha of new irrigated area has been created, 1000ha of reserve forest area has been created, and 7584 farmers have been organized in functional farmer organizations in different locations in order to reverse their degrading practices (MFPED, n.d). The MWE further addressed forest enroachment in various locations by freeing 3154ha and restoring 2946ha of degraded central forest reserves, supplied 863kg of seedlings which contributed to a total of 10 million seedlings supplied nationwide, and constructed 10km of soil and water management structures (MFPED, n.d; NEMA, 2024). 82.5 million of the NDP III 200 million assorted seedlings were supplied and planted in order to combat land degradation in the fiscal year 2022/2023 (National Forest Authority [NFA], n.d). In relation to the targeted standards of performance, it can be said that the capacity of MWE immediately affects land degradation in a positive direction, as the MWE is taking, and succeeding in taking, many of the necessary actions. This positive

capacity affect is seen, as the above mentioned accomplishments helps to prevent soil erosion, improve soil fertility, improve soil productivity, climate regulate, etc., which is immediately seen as a high institutional capacity. Although the institutional capacity of the MWE, in this regard, is seen as affecting land degradation positively, the capacity is immediately not high enough in relation to Uganda reaching their PRAIS 4 and NDP III related land degradation goals. The NDP III goals are set for 2025, and the MWE has used 4 of the total 6 years to not even reach their halfway benchmarks (NFA, n.d; MFPED, n.d; NEMA, 2024; Ministry of Finance, Planning, and Economic Development [MFPED], 2019).

In 2019, the overall performance of the Water and Environment sector was perceived as good, with a 73.4% performance score, although only 33% of the overall outcome were achieved (MFPED, 2019). Furthermore, it was concluded that 'Water Resources Management' and 'Natural Resources Management' as single sectors scored 58,2% and 35,4% respectively. These were the two lowest scores given with remarks of "Fair" and "Poor" performances (MFPED, 2019). This trend is also seen in the following, self-made, table, made up from several documents, all showing that the MWE are not reaching many of their initial land degradation goals. This is perceived as an immediate sign of a low institutional capacity of the MWE. Even though they are affecting land degradation in a positive way on many occasions, 33% of the outcomes achieved is perceived as showing a low institutional capacity in relation to their immediate influence on land degradation.

The following table is seen in the light of the theoretical indicator: 'Targeted standards of performance: timeliness, responsiveness, accuracy, efficiency, and effectiveness'. The table provides an overview of a thorough investigation of different MWE involved outputs and their performance.

Table 2: Targeted standards of performance

Objective:	Output:			Explanation of gap:
To enhance the process of acquisition of land titles, leases, and extensions.	0.2% of the total budget was released.			Weak administration.
Increase forest cover and restore degraded wetlands.	Did not achieve desired levels.			Poor road network; low levels of technology; pests and disease; population growth; increasing demand for wood; Illiteracy; underfunding.
Restore degraded land.	Did not achieve desired levels			Budget shortfalls; hiked prices; noncompliance to environmental laws; inadequate planning; late procurements.
Proportion of green jobs to total jobs	Baseline: 25%	Target: 36%	Performance: 31%	No explanation.
Percentage area of degraded catchment areas protected.	Baseline: 30%	Target: 43%	Performance: 0%	No explanation.
Percentage of titled land.	Baseline: 21%	Target: 35%	Performance: 30%	No explanation.
Trends in fragile ecosystems protected and restored (hectares)	Baseline: 0	Target: 6500	Performance: 0	No explanation.
Area of wetland restored and maintained (hectares)	Baseline: 10500	Target: 22000	Performance: 394	No explanation.
Forestry area under approved management plans (%)	Baseline: 36%	Target: 55%	Performance: 55%	No explanation.
Land area covered by forests %	Baseline: 12.4%	Target: 13.9%	Performance: 12.2%	No explanation.
Land area covered by wetlands %	Baseline: 8.9%	Target: 9%	Performance: 9.3%	No explanation.
Survival rate of tree seedlings beyond 3 years %	Baseline: 76%	Target: 83%	Performance: 75%	No explanation.
No. of irrigation schemes established	Target: 15	Performance: 0		No explanation.
Kilometers of farm roads developed	Target: 100	Performance: 0		No explanation.
No of operational solar powered water supply and small-scale irrigation systems developed	Target: 126	Performance: 0		No explanation.
Number of strategic fragile ecosystems protected	Target: 1	Performance 0		No explanation.
Climate change and disaster risk reduction integration guidelines in place	Target: 1	Performance: 0		No explanation.
Number of hectares restored	Target: 75	Performance: 0		No explanation.
Number of hectares restored	Target: 900	Performance: 0		No explanation.
Area (ha) of degraded riverbanks and lakeshores restored and maintained	Target: 100	Performance: 0		No explanation.
Number of strategic fragile ecosystems protected	Target: 8	Performance: 1		No explanation.
No. of hectares of fuelwood plantations planted and established	Target 20300	Performance: 700		No explanation.
No. of regulations reviewed and passed	Target: 16	Performance: 0		No explanation.
Strengthen the agricultural extension system	Did not achieve desired levels			Supplier not yet sourced; limited funds; meetings not conducted; equipment not provided;
Increase access and use of water for agricultural production	Did not achieve desired levels			Irrigated agronomy training not undertaken; Monthly site inspections not conducted; land for infrastructure not acquired; stakeholder supervision not conducted; limited resources released; supervision visits not conducted.
Strengthen conservation, restoration of forests, wetlands, and water catchments and hilly and mountainous areas	Did not achieve desired levels			Baseline studies were not undertaken; budgetary constraints; training and monitoring not conducted; local governments were not supported in environmental planning.
Mentoring of staff in identified areas of the skills and knowledge gaps.	Activity was not done during the quarter			No funds released for this activity.
Land and water improvement	Did not achieve desired levels			Lack of adequate staff; lack of grants and funding; donor fatigue; inadequate capacity in proposal writing; low morale among civil servants; lack of awareness among the communities

Note: Table is made by the author of this study.
Sources: Amuria District Local Government, 2015; Kamuli District Local Government, 2020; MFPED, 2023; Ministry of Water and Environment [MWE], n.d; NFA, n.d; Amuru District Local Government, 2020

As mentioned, the MWE is making a fair progress in many of their objectives set forth in relation to land degradation, but the institutional capacity is not high enough to achieve the majority of desired land

degradation outcomes, as per the explanation of the gap between objective and outputs in Table 2. The 33% achievement rate as mentioned above is also the immediate tendency found in the deep dive of the MWE plans and reports illustrated in Table 2. It is only a snippet, but illustrates the prevailing condition encountered throughout the empirical data collection, namely, that the vast majority of land degradation outcomes lag behind. Therefore, in this regard, the institutional capacity of the MWE is said to affect land degradation in an insufficient way, as the capacity is immediately insufficient to reach the necessary national goals. As stated by the MWE: *"We shall endeavor to use optimally the available resources at our disposal, including time to provide the required services to clients while providing the desired quality and quantity of services"* (Ministry of Water and Environment [MWE], 2018). Based on the above analysis, this is only something the MWE partially lives up to.

7.2.3 Transparency and accountability

Another indicator regarding the institution's capacity is 'Transparency and Accountability'. As stated by Morgan & Qualman (1996), an important aspect of the institutional capacity indicator is to foster transparency and accountability. In conjunction with the other indicators of 'Implementation and adaptability', this capacity indicator seeks to investigate and explain how the MWE's transparency and accountability can be seen as affecting land degradation. Transparency is described by the MWE as follows: *"We shall be as open as possible in all decisions and actions taken and shall at all times be ready to give reasons for decisions and actions taken"* (MWE, 2018). In relation to MWE's transparency, this indicator is immediately seen as being high. This is evident in the fact that all their plans, projects, and initiatives are documented and available to the public. This is evidenced by the NDP III (NPA, 2020), the NDC (Ministry of Water and Environment [MWE], 2022), and the NAP (Government of Uganda [GOU], 2021), as well as the aforementioned projects and strategies. In the NAP it is explicitly stated that: *"The NAP provides a detailed budget for each strategic objective, breaks down the budget for the outputs determined, and indicates which actor will be responsible for using that budget. The NAP also sets specific output and outcome indicators to implement the NAP"* (GOU, 2021). This is a recurring theme in relation to the plans put in place to combat land degradation. Moreover, the public and other stakeholders have access to the ministry's policies and the various district development plans.

The government also employs a highly decentralized governance system (Ministry of Local Government, 2014), with a strong emphasis on local governance. Consequently, the MWE thereby engage with a wide range of relevant stakeholders in their work, which helps to ensure that decisions and actions are not solely driven by the ministry's perspective on land degradation, fostering high transparency. A high degree of transparency fosters trust and credibility in the MWE's work, thereby contributing to public confidence. It enables more effective public scrutiny and evaluation of the ministry's performance. Overall, high transparency can be seen as promoting effectiveness and efficiency in relation to land degradation, as there are clear goals and standards

within the MWE's work and mandate. The transparency in plans and policies within the MWE enables the public and stakeholders to more effectively monitor and evaluate the government's and other actors' efforts against land degradation. This creates incentives to achieve better land degradation results and ensures that resources are used effectively towards the MWE's mandate to combat land degradation, which is seen as affecting land degradation positively.

Although the MWE's transparency indicator is considered to be high, which is indicated to have a positive influence on land degradation, accountability, which is an equally important factor in relation to transparency, is significantly less developed. Accountability is described by the MWE as follows: *"We shall be aware that we hold office in public trust and shall personally be responsible for our actions or inactions"* (MWE, 2018). Although regulations and responsibility allocation within the ministry appear to be well-documented, disparities between stakeholders are present within the MWE. This is evident, for example, in the: *"Unregulated licensing of wood-based industries in Kyenjojo, Iganga, Mityana, Wakiso, Mubende, Kiboga, Mpigi, Bugweri, and Mayuge"* (NFA, n.d), where local authorities do not adhere to MWE's policies. The NEMA also experiences disruption in their work and lacks political support from the population. It is stated that*: "Every time we go and chase away people from the wetlands, in a few days, they come back because they are promised backup from local leadership (…) Because some of these people sit in councils and know that we don't have enough manpower to keep enforcement on the ground due to limited budget"* (Ayoreka, 2023). This indicates that accountability within MWE's mandate is not in place, causing the MWE to lack the necessary capacity to combat land degradation, as there is no further agreement and support among key stakeholders in relation to their accountability.

In addition to this, the overarching phenomenon concerning accountability and transparency, within the MWE's mandate, is seen as corruption. Corruption in Uganda is said to account for 1/5 of government expenditure (Saxton, 2022). Rwakakamba (2009) states that the majority of respondents in his research pointed to corruption as the most outstanding problem affecting environmental conservation and land degradation. As stated by Fazekas et al. (2021): *"Fully eradicating corruption in Uganda is estimated to result in total societal savings of at least UGX 9.1 trillion which is equivalent to 44% of total government revenue in 2019"*. Furthermore, they explain that: *"The highest total cost of corruption was estimated for the environmental protection sector – about UGX 2.8 trillion per year"* (Fazekas et al., 2021). It is evident that this particular institutional capacity indicator within the MWE is affecting land degradation in a non-sustainable way, as significant amounts of funds allocated for environmental and sustainable land management are not being used in accordance with their intended purpose. This happens even though the MWE itself states*: "We shall pursue a policy of zero tolerance to corruption in execution of all our duties"* (MWE, 2018). It is found that corruption and the likelihood of bribery within police, judiciary, land services, and local authorities were 67%; 66%; 60%; and 47% respectively (Saxton, 2022). This points to the fact that the MWE is particularly affected in terms of their

institutional capacity, as the four pivotal areas within corruption are four crucial areas directly impacting land degradation efforts in a negative direction. The police, legislative institutions, land services, and local authorities are particularly important cooperative elements for the MWE in enforcing their mandate and goals to combat land degradation. Corruption within these areas can be said to be a dangerous cocktail in terms of affecting land degradation, as it undermines land degradation efforts, and at the same time, it does not seem that the MWE has the capacity to combat corruption, even though they are well aware of it (MWE, 2019a). Much of the responsibility for environmental conservation and land degradation lies on the shoulders of these four areas, but it does not seem that they are fulfilling their task and responsibility. Furthermore, Fazekas et al. (2021) points to the fact that fair competition in recruitment is also undermined by political interference. Politicians, especially on the local level, hires relatives or connected individuals. The nepotism within the local governance system leads to the loss of the quality of service provision for its users. It restricts the most qualified candidates from getting a job, and lets unqualified candidates without documentary evidence of their qualifications get positions. This is a clear lack of accountability and transparency within the MWE and a clear sign of a low institutional capacity that affects land degradation negatively, as the necessary expertise for task execution does not necessarily align.

The preceding analysis leads to the conclusion that the institutional capacity within this specific section is particularly constrained in its ability to positively affect land degradation. Despite identifying positive transparency aspects, the capacity is considered to be extremely low. The OCAT score for this section is rated as 1, indicating that the capacity is very low and requires urgent attention and improvement in order to positively affect land degradation.

The following section on 'Technical and financial resources' seeks to investigate the possibilities and difficulties of the MWE in relation to their technical and financial resources.

7.3 Technical and financial resources

In order to investigate how the MWE affects land degradation in relation to its technical and financial resources, the following institutional capacity indicators are investigated: 'Essential equipment and expendable supplies, servicing, repair, and maintenance' and 'Resources mobilized (internal and external to the institution)' (Virgin & Bhagavan, 2004). The capacity indicator 'Essential equipment and expendable supplies, servicing, repair, and maintenance' will be analyzed in the subsection below (Virgin & Bhagavan, 2004).

7.3.1 Technical resources

As stated by Morgan & Qualman (1996), institutional capacity is highly affected by an institution's resources. The institutional capacity of the MWE in this regard is highly challenged, as insufficient resources seems to

be an overarching theme. This trend can also be seen in terms of the capacity indicator 'Essential equipment and expendable supplies, servicing, repair, and maintenance' (Virgin & Bhagavan, 2004).

It is stated by the MWE (2019) that degradation has been exacerbated by lack of essential equipment in terms of monitoring and regulation. Where efforts have been made to demarcate degraded land in e.g. refugee settlements, no restoration have been enforced. The NEMA is lacking what is referred to as technical resources (NEMA, 2024; National Environment Management Authority [NEMA], 2021), as they do not have the necessary environmental equipment and a functional fleet to respond to the issues unfolding within environmental conservation and land degradation. Only 33% of the reported complaints on this matter was responded to (NEMA, 2024; NEMA, 2021). This is highly due to an aging fleet leading to increased expenditure since the majority were bought more than ten years ago. Maintenance is becoming more expensive, with a lower budget (NEMA, 2021). Lacking data is an overarching issue found within this analytical section, thereby making the indicator hard to further analyze.

7.3.2 Financial resources

Another highly relevant indicator within this section is 'Resources mobilized (internal and external to the institution)'. This indicator is very important, as the theoretical framework particularly states that the institutional capacity to solve development problems over time is highly dependent on the associated resource allocation (Virgin & Bhagavan, 2004).

The budget allocated to the Water & Environment sector is far lower than desired by the MWE. The permanent secretary in the MWE: *"(...) has decried government's poor funding to water and environment resources, a sector said to be key for social economic development and improvement of quality of lives of Ugandans"* (Nasasira, 2023). Funding for the sector has been lower than expected for many years. The total budget for the sector compared to Uganda's other sectors was 4.5% in 2020/2021, which subsequently fell to 3.3% in 2022/2023, and down to 2,2% in the current fiscal year 2023/2024. The current budget requirements for the sector to achieve their SDGs are UGX 7.6 billion, whereas the current fiscal year is budgeted at UGX 1.6 billion. So, only 21% in relation to the sector's annual requirements (Nasasira, 2023; United Nations Children's Fund, 2019; Ministry of Finance, Planning and Economic Development, n.d.a.). This low institutional capacity of the MWE clearly demonstrates the significant challenges that the MWE faces in affecting land degradation in a positive way. The ministry does not immediately have the necessary resources required to achieve their desired goals. At least not in relation to the plans they consider necessary to positively influence environmental conservation and land degradation.

It is stated that underfunding remains a major challenge in relation to land degradation as the budget allocation is far below the required achievement outcomes in relation to the NDP III (MFPED, 2023). This is also evident

in a ministerial statement (Ministry of Water and Environment, 2019b) saying that there is a low expenditure celling compared to the performance targets set by the MWE. It appears that the MWE is aware that this budget allocation is too low, as various agencies under the MWE have called for adequate funding in the financial year 2024/2025 to enable them to achieve key planned outputs in the next budget cycle (Parliament of the Republic of Uganda, 2024). However, it seems that the low institutional capacity in relation to this indicator persists, as a greater influence on budgeting appears to be beyond the ministry's control. This is considered a low institutional capacity of the MWE in terms of affecting land degradation, as the immediate low budget cannot combat land degradation as desired. Another example of this is seen within the NEMA, where the recent budget cuts left the NEMA with an allocation of UGX 13 billion, of which UGX 10 billion was allocated towards salaries and statutory obligations (NEMA, 2021). The inter-ministerial institution had an operational budget of UGX 3 billion for the financial year of 2021 amidst increasing demands in the environment sector. As stated by NEMA (2021): *"With such meagre financial resources, it is not possible for NEMA to effectively respond to all the Country's environmental needs"* and *"Low funding for overall Environment management at NEMA, in Local governments and other lead agencies leading to weak enforcement"* (NEMA, 2024).

The same aspects can be found within the 'National Forestry Authority' (NFA) and the Ugandan Land Commission (ULC), ULC although not directly within the MWE sector, but a highly relevant cooperating partner as they are mandated to document, verify, preserve, and maintain the huge amount of land owned by the government (Uganda Land Commission [ULC], n.d). Budget enhancement is expressed as a crucial need within the NFA in relation to their land degradation efforts (NFA, n.d) as they state that they are heavily underfunded. The same is seen within the ULC as their budget is said to be inadequate and hence affecting the implementation of its mandate and targets in affecting land degradation (ULC, n.d). It is said, in relation to enhancing this capacity indicator's affect on land degradation, that the MWE should prioritize allocation of funds to critical outputs that leads to direct measurable outcomes. This enables the sector to achieve urgent outcome indicator targets (MFPED, 2019).

The overall picture of the financial landscape within the MWE is well expressed in their 'Vote Performance Report' (MWE, n.d). The overall picture of the performance shortcuts expressed is pervasive across the majority of their projects and programmes. The following statements are expressed as the reason for the majority of the variation in performance: *"Implementation of planned activities affected by no funds released"*, "*Funds for implementation of planned activities were not released except for payment of contract staff salaries", "Fund were not released for implementation of planned activities", "Implementation of planned activities affected by no funds released", "Funds released were not enough to undertake the planned activities", "Insufficient funds released", "No funds released for the activity", "Output not achieved due to inadequate funds"* etc. (MWE, n.d). This clearly indicates that the institutional capacity of the MWE in relation to financial resources is lacking, which is seen as affecting

their land degradation efforts negatively, as they do not have sufficient capital to exercise their mandate. As further stated in the District Development Plan III of Kamuli: *"In order to improve on the Performance of the Plan there is a need to base on funded and a realistic unfunded budget instead of a wish list where a significant amount of needed resources were not realized and resulting in low performance"* (Kamuli District Local Government, 2020).

Another highly relevant aspect of the capacity indicator is seen in relation to the MWE's capacity of financial absorption. After an in-depth review of countless relevant documents, the financial absorption rate for MWE does not appear to be particularly high. This is well exemplified in one of their major programs (MFPED, 2023a). For this specific program, UGX 212 billion (49.8%) had been released, with UGX 129 billion (60.6%) spent. Overall, this represented a low performance in terms of both release and expenditure. Additionally, particularly poor expenditure was found within NEMA, with only UGX 8 billion (38.5%) spent (MFPED, 2023a). In relation to the above mentioned, NEMA stated that they were in need of a bigger budget in relation to their specific tasks, but it seems like their financial absorption is equally a major concern. One of the key components of the MWE, namely NEMA, express a low institutional capacity in this regard, as a low financial absorption is seen as a clear institutional capacity weaking factor in terms of land degradation affect, as the budget allocations needs to be absorbed way better in order to make better land degradation progress. The low budgetary absorption is also evident in the African Development Bank Group 'Efficiency of Revenue Mobilization' indicator (African Development Bank Group [AfDB], n.d.a.). This indicator shows the ability of a country to carry out its development initiatives and achieve desired goals effectively (AfDB, n.d.a.). Uganda is ranked 19th out of 35 African countries, showing that the financial absorption in the country is relatively weak. This performance from the MWE is although not something that has gone unnoticed, as officials from the MWE have been put on the spot by the 'Committee on Environment and Natural Resources' for failure to exhaust the funds that were allocated to them (Parliament of the Republic of Uganda [PRU], 2023). This is seen as a low institutional capacity in relation to how the MWE affects land degradation, as there are plenty of projects that can be undertaken to combat land degradation. As stated by a county member of the parliament: *(…) the money may be lying in the ministry's bank accounts accumulating interest instead of being spent"* (PRU, 2023).

Furthermore, a substantial body of evidence indicates that high-level corruption and a low financial absorption capacity have a negative impact on inward foreign direct investments. Foreign investors are dissuaded from countries with high corruption and low financial absorption due to the associated risks and costs (Fazekas et al., 2021). In this regard, the institutional capacity of the MWE is seen as low, since both corruption and financial absorption are issues that Uganda grapples with, which are likely to affect MWE's mandate in combating land degradation as even fewer resources come to the country because of this. This issue is evidenced by the fact that affluent countries have pledged $100 billion in annual aid to assist

developing countries in adapting to climate change, highly related to land degradation. However, they have persistently failed to fulfil their obligations as outlined by the MWE (2022). This has resulted in countries such as Uganda being severely underfunded in terms of climate finance (Mwijuke, 2023). This interpretation of underfunding is also found in Uganda's NDC where the total cost of implementing climate adaptation, mitigation, coordination, and monitoring, highly relevant for land degradation, is estimated at USD 28 billion. Of the USD 28 billion, Uganda only covers 15% of this amount, and the rest must come from foreign funding. Again, it is possible to see that Uganda is stuck in a bind as they cannot attract sufficient external funding, yet extremely dependent on it. This can also help to explain why the MWE's institutional capacity can be said to be low, thus affecting land degradation below desired levels (MWE, 2022).

The significance of external funding for the MWE is evident in numerous sections of the MWE's programme achievement descriptions (MWE Vote 019). These often indicate that: *"Activities were implemented during off-budget support"* or *"Planned activities were implemented using off-budget support"* (MWE, n.d). Consequently, external funding is of paramount importance to the MWE and its mandate to combat land degradation, as it appears that the national budget allocated to the MWE has a limited impact. Nevertheless, as previously stated, securing external funding is a challenging endeavor for the MWE, which represents a significant obstacle for the institution in relation to their desired influence on land degradation.

The institutional capacity within this specific section is particularly constrained in its ability to positively affect land degradation. The OCAT score for this section is rated as 1, indicating that the capacity is very low and requires urgent attention and improvement in order to positively affect land degradation.

The following section on 'Cooperation, coordination, and communication' seeks to investigate how the MWE collaborates with both internal and external partners in relation to their capacity and its affect on land degradation.

7.4 Cooperation, coordination, and communication

In order to investigate how the institutional capacity of the MWE affects land degradation in relation to the more collaborative aspects, the following institutional capacity indicators are investigated: 'Channels of communication established and utilized between relevant institutions, actors, and stakeholder', 'Actions coordinated involving relevant institutions, actors, and stakeholders' and 'Intra- and inter-institutional consensus achieved on matters at hand' (Virgin & Bhagavan, 2004). As stated by Virgin & Bhagavan (2004), an important aspect of the theoretical framework is to emphasize the governance oriented approach, which encompasses the international organizations and civil society organizations. These furthermore includes nongovernmental and community based organizations, covering the rural communities and their anticipation in the institutional capacity (Virgin & Bhagavan, 2004). This approach combines a focus on individual

institutions with broader considerations of institutional clusters or networks. Institutional capacity thereby emphasizes the focus and implementation of various problems and solutions to be clustered within a given context, but with a focus and involvement of different structures and institutions (Virgin & Bhagavan, 2004). This theoretical interpretation will be analyzed in the section below, in order to examine how the capacity indicators can be said to affect land degradation in Uganda. The theoretical framework has been divided into two subsections, namely internal cooperation, coordination, and communication and external cooperation, coordination, and communication that investigates the same indicators.

7.4.1 Internal cooperation, coordination, and communication

In relation to the internal communication, coordination, and cooperation, it can be said that collaboration mechanisms have been established between the MWE and various highly relevant internal collaborating partners. The MWE works together with the Ministry of Agriculture, Animal Industry, and Fisheries, Uganda National Meteorological Authority, Ministry of Health, Ministry of Finance, Planning, and Economic Development, and the Ministry of Local Government in relation to combatting land degradation in the 'National Climate Change Strategy' (MFPED, n.d; Ministry of Water and Environment, 2018a). This is also evident in their collaborative 'Land Degradation Management Project' (MFPED, 2023a). Another example of these institutional clusters is seen in the 'Inter-Ministerial Cooperation Agreement' (Ministry of Water and Environment [MWE], 2020), where the MWE is collaborating with nine national ministries in relation to: *"(…) strengthen cooperation ties between the Parties for purposes of developing the National GHG Inventory, improve UNFCCC reporting and support national policy making and implementation processes"* (MWE, 2020). It is clear that the MWE affects land degradation in a positive way in this context, as the MWE works with other highly relevant ministries to affect land degradation practices. Inter-ministerial cooperation contributes to greater vigilance, greater expertise, and more resources to combat land degradation. In this context, this is seen as beneficial, as several parties work together to develop the most rewarding national policies, but also the development of the National GHG Inventory can be said to be a collaborative gain for the MWE in relation to affecting land degradation in a positive direction. This demonstrates a high level of institutional capacity in relation to a positive affect on land degradation by the MWE.

Moreover, the MWE is working together with relevant actors on the ground. It is stated in the institutional capacity framework that: *"There is a strong need for all involved to feel that they own the process and its outcomes, as they are the ones who have the ability to change circumstances for both them and the greater good*" (Virgin & Bhagavan, 2004). The MWE works closely with local communities and indigenous people, recognizing that local collaboration is highly relevant and effective. Local people live in the practice areas and can contribute to the overall effort against land degradation (MFPED, 2023a). The way the MWE works with local institutions

is, that they together identify what the specific gaps and needs are in relation to land degradation practices. At the same time, the MWE clarifies the role and mandate of local governments in the sector and how their support and resource allocation is expected to be used based on the identified needs (MWE, n.d). This is clearly described in relation to various local development plans, where it is stated that e.g. restoration of degraded wetlands and forest reserves is necessary in combatting land degradation (Amuria District Local Government, 2015; Kamuli District Local Government, 2020; Amuru District Local Government, 2020). It is evident that the collaborative approach seems to bear fruit, as both the MWE and local governments appear to be satisfied with the assistance they receive in relation to collaboration efforts. The MWE states that there is a need for local actors and the private sector to be engaged to achieve impacts on the ground, and this necessity seems to be fulfilled in relation to the capacity of affecting land degradation in a more positive direction (Amuria District Local Government, 2015; United Nations Convention to Combat Desertification, 2023). In addition, the MWE, the NEMA and the NFA are also collaborating with schools, urban authorities, civil societies, faith based institutions, and rural communities in promoting public land degradation awareness initiatives, good environmental practices, and restoration of degraded ecosystems (NEMA, 2024; NFA, n.d; MWE, n.d).

Other highly relevant collaboration partnerships is seen as the MWE collaborates closely with various ministries, departments, and institutions to combat land degradation, primarily through NEMA (GOU, 2021). The collaboration involves a 'Multi-Sectoral National Steering Committee' overseeing the highly relevant NAP-implementation. This committee includes representatives from key sectors like agriculture, environment, finance, and academia (GOU, 2021). At the grassroots level, district steering committees guide the NAP activities in pilot districts, comprising councilors, technical heads, NGOs, and community-based organizations. The strategy emphasizes stakeholder participation, focusing on awareness, consultation, and capacity-building at local levels. While engagement of the private sector and private donors are found to be rather limited, active involvement of communities, civil leaders, governments, and NGOs underscores the well-organized collaborative approach to combat land degradation in this regard (GOU, 2021). This multisectoral approach to land degradation is considered a high institutional capacity of the MWE, as they can be said to collaborate at many different levels in relation to influencing land degradation. It is safe to say that the MWE is doing what they can within the collaborative options available.

Although MWE is collaborative in their plans, programs, and objectives, one of the major problems is still, in relation to the cooperation section, that there is a clear lack of funding for all the cooperating partners. Corruption is also seen as a factor in relation to the fact that cooperation may be weakened more than what is immediately expressed. This is also inferred by the MWE, as: *"Noncooperation from masses demonstrated by*

high cases of vandalism of stations rendering the stations non-operational and lead to data gaps" (NEMA, 2024) and *"(…) communities are reluctant to provide land for the irrigation systems thinking government wants to take their land"* (NEMA, 2024) and *"Unwillingness by farmers to make contributions towards scheme maintenance"* (NEMA, 2024).

The institutional capacity for internal cooperation among ministries, civil society, local authorities, etc. can be said to be high, thus positively affecting land degradation. This is seen as it is evident through the above analysis that there is a strong focus on inter-ministerial collaboration to affect land degradation. At the same time, there is a significant emphasis on involving the local population and local institutions, as the MWE is well aware that these actors are crucial in influencing land degradation in the desired direction. Although some weaknesses have been identified in the cross-sectoral collaboration, the overall institutional capacity for internal cooperation is considered high.

7.4.2 External cooperation, coordination, and communication

By shifting the focus to external collaboration, it is evident that the MWE has strong support within this institutional capacity section. The MWE collaborates with, among others, Djibouti, Kenya, and Sudan on a 'Drought Management Project' aimed at addressing land degradation in the East African region (MFPED, n.d). This allows the MWE to draw on a broad expertise in combating land degradation, while also further enhancing collaboration in terms of internal collaboration, as there are now even greater opportunities for knowledge sharing and best practice sharing. Another example of the MWE's external collaboration in influencing land degradation can be seen in their 'Refugee Response Plan' (MWE, 2019). Here, the MWE works to ensure that refugees can continue to benefit from the land, but at the same time, they collaborate with organizations such as the World Bank, Food and Agriculture Organization, Danida, United Nations Capital Development Fund, Green Climate Fund, Global Environment Facility, United Nations Development Programme, and the African Development Bank on development programs aimed at addressing the issues that refugees bring in terms of land degradation and environmental conservation (MWE, 2019). This is considered a high institutional capacity, as it involves working with international organizations that are highly influential in expertise and funding related to combatting land degradation. Furthermore, the MWE works closely with the UNCCD, Food and Agriculture Organization, and the United Nations Development Programme in relation to climate-smart agriculture programs, where the objective is to prevent, reduce and restore degraded land (UNCCD, 2018). Other collaborative MWE external partner-projects includes a World Wide Fund for Nature, Wildlife Conservation Society, and World Bank project on 'Investing in Forests and Protected Areas for Climate Smart Development' in relation to combatting land degradation and enhancing environmental conservation practices (NFA, n.d).

The MWE's institutional capacity in the area of collaboration is considered to be high, as the MWE is able to work with key ministries, local governments, and stakeholders, as well as major international organisations

that have the necessary knowledge and capacity in terms of funding and expertise. This is seen as a positive factor in terms of how the MWE affects land degradation. The preceding analysis leads to the fact that the institutional capacity within this specific section is affecting land degradation very positively. The OCAT score for this section is rated as 6, indicating that the capacity is high and requires no need for immediate improvement.

The following analytical section investigates the institutional capacity of the MWE in relation to their human resources, and how this can be seen as affecting land degradation.

7.5 Human resources

This analytical section delves into the 'Human resources' section of the institutional capacity of the MWE. As stated in the theoretical framework, institutional capacity focuses on enhancing an institution's operational efficiency through training, technical assistance, and internal development (Morgan & Qualman, 1996), and on the other hand, the human resources they need to that end, emphasizing the importance of having the ability to fulfill the core functions or duties assigned to an institution (Virgin & Bhagavan, 2004). As stated by Virgin & Bhagavan (2004), institutional capacity encompasses, on the one hand, the functions (tasks) that institutions should have the competence (ability) to perform, which mean they should have the skills and capability to perform these tasks well. The section seeks to analyze these theoretical outlays, and focuses on the following related institutional indicators: 'Conducting training and education courses (both in-house and external) in the institution's mandated fields', 'Quantitative and qualitative levels of in-house expertise and skills that are essential for performing the institution's mandated tasks', and 'Available knowledge and skills, recruitment procedures, and training' (Virgin & Bhagavan, 2004).

Looking at the staffing within the MWE it is possible to see in the 'Public Investment Plan' (MFPED, n.d), that the MWE has fully fledged staff almost all over their programmes in relation to land degradation (MFPED, n.d). It is stated that the MWE has: *"(…) fully fledged staff including Engineers, Sociologists, Accountant, Surveyor and Environmentalist to ensure that planned activities are well implemented"* (MFPED, n.d). This description is pervasive in their programs, indicating that they have full control of the situation with sufficient personnel for their work. However, something suggests that this is a simple 'copy-paste' action at play, as a deep dive into other documents leaves one with a somewhat different impression regarding the quantity of personnel and in-house expertise. This also indicates, in relation to the previously analyzed transparency and accountability, that the ministry in this regard is not very accountable, as it initially appears to be more or less fabrication.

The approved establishment is 700 posts for the MWE, 304 posts for the NFA, and 99 posts for the NEMA (Water and Environment Sector [WES], 2020). It is evident that the announced amount of positions in respectively MWE, NFA and NEMA are not filled. For the NFA it can be seen that they lack a big amount of

staff in relation to the desired amount, where they even have 8 different positions that are completely empty, although in 2020 (WES, 2020). The same is seen within the NEMA where many of their positions are no way near filled. Some positions have 85 and 30 approved posts respectively, where only 12 and 12 of those are filled (NEMA, 2024). The MWE faces the same difficulty, where it is said that their performance is weak due to insufficient staffing (MFPED, 2019). As stated by the NEMA, they are challenged with increasing degradation incidences that require more enforcement capacities, which are lacking due to no recruitment of the 'Environment Protection Force' (NEMA, 2024; NEMA, 2021). The NFA states something similar, as they indicate that forestry management to combat land degradation requires adequate skilled personnel. Currently, their programs are understaffed, ill-equipped, and inadequately funded to sustainably manage the environment and land degradation (NFA, n.d; MFPED, 2023). The same story goes for the ULC, as they suffer from severe understaffing, where only 49% of the approved staff structure is filled, thereby making land degradation activities and impact difficult (ULC, n.d). Initially, it can be inferred that understaffing to such an extent cannot avoid affecting MWE's mandate and efficacy in an insufficient manner, as low staffing and inadequate skilled personnel affects outcomes and performances in relation to land degradation. It is not possible for the MWE to reach their targets as they do not have the quantity of staff needed In addition, it is stated by the International Labour Organization in 2010, that: *"(…) half of the respondents or institutions (50,4%) do not have sufficient human resource capacity. Furthermore, among the institutions with insufficient human resource capacity, the results indicate that lack of knowledge and skills are the predominant capacity gaps (75% of respondents or institutions)"* (Ministry of Water and Environment [MWE], 2013). The International Labour Organization indicates that the institutional capacity gap not only consists of insufficient staffing, but also highly consists of the staff lacking knowledge and skills (MWE, 2013). This supports the above statement regarding MWE's immediate inadequate impact in combating land degradation, in relation to the 'Human Resources' capacity.

To further demonstrate this low institutional capacity of the MWE, it can be seen that the resources allocated for staff training in various project budget estimates are very low. For a land degradation related project, USD 400.000 is allocated to consultancies, where only around USD 80 is allocated to staff training (NEMA, 2024). Another example of this is seen in another related project where USD 60 are allocated to staff training and USD 900.000 is allocated to consultancies (NEMA, 2024). Furthermore, as seen in the 'Half-Year Central Government Expenditure' (MFPED, 2023), the category of 'Special Meals and Drinks' has a higher budget than 'Staff Training' and 'Workshops, meeting, and seminars' combined. This is the overall picture for the government expenditure, but it gives an indication, that increasing internal ministerial knowledge and training is not something that is highly focused in Uganda, which immediately weakens the institutional capacity in solving its problems, in this regard the capacity of the MWE to affect land degradation in a sufficient way.

The preceding analysis leads to the immediate fact that the institutional capacity within this specific section is particularly constrained in its ability to sufficiently affect land degradation positively. The capacity is considered to be very low. The OCAT score for this section is rated as 1, indicating that the capacity is very low and requires urgent attention and improvement in order to positively affect land degradation.

7.6 Evaluation and conclusion on the overall institutional capacity of the MWE

The overall score of the institutional capacity of the MWE, in relation to how it affects land degradation in Uganda, will be evaluated and concluded on in this section. This is done by taking the average of the scores for the different analytical sections (Virgin & Bhagavan, 2004). The overall institutional capacity score for the MWE is calculated as follows:

$$\frac{1+1+1+6}{4} = 2.25$$

In order to align this score with the institutional capacity framework, it is necessary to round down the score to 2,0. This score indicates that the institutional capacity for the MWE requires attention, as per the OCAT indicator scale (Virgin & Bhagavan, 2004). This score is considered to be relatively low, indicating that the institutional capacity for the MWE is insufficient and highly challenged in relation to affecting and combatting land degradation, in accordance with the ministry's mandate and desire to do so (UNCCD, 2018). The score summarizes the above analysis, which indicated that the MWE does not immediately affect land degradation in Uganda in a sufficient manner. As previously stated, land degradation is a widespread and increasing problem. The analysis thus leads to the conclusion that the MWE lacks the requisite institutional capacity to effectively affect land degradation, particularly in the context of combating this pervasive and growing problem.

This is seen in the light of the different analytical sections. Although the MWE has initially implemented effective policies, strategies, and plans, it is particularly challenged in terms of enforcement. In particular, the ministry's plans and related work in the form of objectives and initial performance can be seen as weak, as evidenced by the analysis which indicates that they only achieve around 33% of their objectives. While it can be reasonably concluded that achieving 33% of their objectives is an accomplishment, the remaining 67% of their objectives that were not met is perceived as a significant shortcoming. A review of the ministry's transparency and accountability in addressing land degradation reveals a mixed record. The ministry is notably transparent regarding its operations, partners, and initiatives at the local, regional, national, and international levels. Nevertheless, the overarching issue in this context is their accountability regarding corruption. Corruption is pervasive within the ministry's mandate and operations, exerting a profoundly negative influence on the institution's capacity to influence land degradation. The misappropriation of funds intended for land degradation initiatives has the immediate effect of eroding public trust in the institution's

operations. At the same time, many of the resources that should go into combating land degradation are not going to its original purpose. In terms of the MWE's capacity, this can be said to have a significantly negative impact on land degradation. Moreover, the ministry lacks both the financial resources and the financial absorption capacity to effectively influence land degradation in the desired direction set by the ministry itself. Although a lot of the analytical work found that the MWE affects in an immediately negative and insufficient manner, one of the most encouraging aspects of the ministry's institutional capacity is the high level of cooperation it enjoys with relevant internal and external stakeholders. This results in increasing expertise, funding and further division of labor being in place, which can be said to result in a positive impact from the ministry's side in relation to land degradation issues.

Based on what the study has contained and addressed, the next section will discuss and reflect on some of the results that have been found. Furthermore, the intention of the following section is to discuss and reflect on potential shortcomings and food for thought in relation to an overall assessment of the study' unfolding.

8. Discussion and reflection

The start of this section discusses and reflects on the theoretical approach in relation to the research question. In retrospect, it is questionable whether the theoretical framework was as useful to the study as it was intended to be. The theoretical framework may not have been as strong as I had thought in terms of its broad and generic view of an institution's capacity, although the intention of the study was to have a broad approach to explaining the research question, which the theory can be said to have. This is particularly true in relation to other frameworks of institutional capacity, as these have tended to focus on individual aspects of the institution, e.g. the 'Institutional Modernization Theory' (Berkeley Law, n.d). In the following, it will be discussed how a combination of theories would contribute to a more in-depth framework. Very briefly, the 'Institutional Modernization Theory' states that technological progress and population growth naturally lead to increased wealth and democratization. Industrialization and urbanization foster a larger middle class, which is more tolerant, more accepting of diverse political perspectives, and more willing to compromise (Berkeley Law, n.d). Prosperity and democracy are produced by technological change and population growth. Population growth occurs naturally, and technological change will take place, especially if there is sufficient capital. Poorer countries do not have the capital that would enable them to invest in their own national economies (Berkeley Law, n.d). If these investments can be provided through foreign aid, economic growth will take place. If there is economic growth, there will be a larger middle class. If there is a larger middle class, there will be democracy (Berkeley Law, n.d). These characteristics are said to equip developing countries to easier combat their development problems (Berkeley Law, n.d), which land degradation can be said to be. Combining this, very briefly explained, theory with the existing framework could, for example, go deeper into explaining why

sufficient resources are so important for developing countries to solve their problems, including land degradation. Thus, more in-depth theoretical combinations could investigate and try to explain the ministry's affect more in depth.

In this regard it can be debated whether it would have been worthwhile to combine several capacity theories in my theoretical framework, so that I had the opportunity to move very broadly in the form of a holistic approach, but at the same time more in-depth in relation to the different capacity sections. It is debatable whether the framework is simply too general and lacks a bit more theoretical depth in terms of being particularly explanatory. I go very broad with many different relevant indicators, but it is debatable whether the theoretical framework has its strength in relation to more superficial explanations rather than in-depth ones. Especially when the framework is the only theoretical input. The great strength of the framework can also be said to be its greatest weakness. So, the discussion is based on whether the theoretical angle could have met in the middle in terms of being a little less broad and a little deeper in terms of providing more theoretical explanations. Nevertheless, it is essential to acknowledge that the fundamental premise of the study is that a significant proportion of existing research examines indicators such as corruption and resource allocation in isolation. In contrast, the more comprehensive theoretical framework adopted in this study aims to encompass a multitude of crucial dimensions pertaining to the institutional capacity of the MWE.

Moreover, it is up for discussion whether the researcher is prone to too much interpretation of the different theoretical indicators. It is debatable whether it is rewarding that some of the derived indicators have not been thoroughly described in relation to what they specifically investigate and say theoretically. Parts of the theoretical framework have therefore been open to interpretation, which has led to some indicators overlapping and investigating much of the same. This can also be discussed in relation to whether I respond sufficiently to the theory's starting point, as I as a researcher have not been completely sure of all the theoretical indicators' original intentions. This has also meant that some indicators have not been used in the research as they were too imprecise in their immediate explanation. It is debatable whether this is seen as a clear weakness or more a consequence of theories not being tailored to specific problems and cases.

Another aspect of the theoretical framework that can be discussed is the involvement of the methodological choices. As described in my theoretical section, the framework also consists of what is called informal norms, communication, motivation, and values specifically in relation to the 'Human Resources' and ‘Cooperation, coordination, and communication section’. Here it can be said that the theory and the methodological choices do not benefit each other, as norms, communication and values are difficult to capture in a document analysis, and easier to capture through interviews. This also speaks particularly into the discussion of the choice to have only one method, as this method has proved unable to capture all necessary aspects of my theoretical framework, including the more personal descriptions and experiences. The theoretical framework is very

divided in the way that some questions fosters a document analysis, while other questions lean more towards ethnographic studies and interviews. Reflexively, it can be argued that combination of methods in future research would be more beneficial to create a more in-depth analysis. However, this aspect was something that had already been considered from the start, as I had tried to get in touch with relevant Danish researchers, NGOs, and the MWE in connection with this research.

In this context, it is also worth discussing how much I can actually be said to be theory testing. I am theory testing and deductive, but the degree of theory testing should be discussed and reflected upon. When I am partially limited in terms of how much I can actually apply from my theoretical framework to my case, it is debatable whether I am theory testing or partially theory testing. To put it bluntly, I am only testing parts of the framework. However, it should be pointed out that the chosen theoretical aspects still cover the majority of the framework, so it's not completely off the mark. It is just an important reflection in relation to what I can deduce in relation to the MWE's capacity in relation to land degradation. As mentioned earlier, the analysis is not stronger than what the theoretical framework and my methodology allow, which is extremely important to keep in mind. It is not a flaw or shortcoming as such, but rather a limitation that is important to reflect on and discuss. In addition, it can also be discussed that the theoretical framework and method used has provided certain analytical obstacles. This is particular evidenced when I am using existing political analyses and research in my own analysis. Incorporating existing research into the analysis is not much analytical work on my part. However, it turned out to be one of the only things that could be found in terms of useful data for parts of my case that fit my theoretical angle. Thus, a weakness of the combination of method and theoretical framework is that I am so dependent on what empirical data can be found.

In relation to the design aspects of the study, it is debatable whether the size of the case has hindered a sufficiently rich analysis. An entire ministry as a single case has proven to be a very large task in terms of capturing all the available empirical data, when the theoretical framework is also very broad. It is debatable whether it would have been more rewarding for such a short study, as a study can be said to be in this particular context, if the institutional capacity framework had focused on fewer aspects. This would have provided a greater empirical depth. However, this is also somewhat contrary to what the theoretical framework says, namely that few aspects cannot explain capacity. However, the question is whether the analysis has proved to go deep enough into the many different indicators to explain how MWE's institutional capacity affects land degradation. Therefore, it is relevant to reflect on, and critically consider, whether the theoretical framework and such large case as a ministry is a good match. If, on the other hand, a smaller case such as the NFA or the NEMA had been chosen, the case might have been more manageable in the sense that it would have been easier to encapsulate the case in relation to its immediate smaller dimensions. However, this would probably have proved difficult in relation to the methodological possibilities for the study, as the positive thing about

having chosen an entire ministry have also been that it provides a large data basis for my document analysis. A smaller case would probably have required a more ethnographic approach, as a smaller case also immediately derives less empirical data in form of documents. This is not a criticism as such, but more a discussion and reflection on the possibilities and limitations of the case study I have conducted. Nevertheless, it is evident that the considerable time invested in data collection has yielded fruitful results, as the analysis is deemed satisfactory in the majority of time, in relation to the research question.

In continuation of this, it is relevant to discuss, in terms of the overall results, how much the research conducted actually answers the given research question. In terms of the design, theory and method applied, the study can be said to answer the research question, as it is thoroughly explained how the institutional capacity affects land degradation in Uganda. One thing that is important to discuss and keep in mind, however, is that this research is grounded in a specific theoretical framework, specific data, and specific methodic and methodological choices and considerations. This research has found that the institutional capacity of the MWE does affect land degradation, but it does not say more about other relevant implications, or the extent of the institutional capacity's affect compared to these. It is therefore important to debate and have in mind whether these findings are crucial and telling for land degradation, or whether it is only my theory, data, and analysis that gives that impression. The post-positivist philosophy of science approach to the research together with my theory-testing deductive and qualitative approach justifies that I can explain how institutional capacity affects land degradation, but it is not possible for me to say that there are no other indicators that can explain the poor state of land degradation in Uganda equally as good or even better. Again, this was not the intention of the research and its approach, but an important reflection to make in relation to what my results can actually say, and also an implication for further research.

Last but not least, it is important to reflect on an assessment of the results I have arrived at in relation to the existing research presented at the beginning of the study. My results can be said to be supported by, as well as support, the existing research, as I essentially find many of the same findings. This supports the results and approach of this study in relation to MWE's institutional capacity in relation to land degradation. It can be discussed whether this particular study can be said to speak to a greater generalizability, even though it is done on a specific ministry within very specific national and geographical characteristics. Since I find much of the same things that are also found in existing research, even though this study only deals with a specific ministry compared to existing research, it can be deduced that the case results can be generalized at least within Uganda. Furthermore, it can be discussed whether the test of the theoretical framework, and thereby the results themselves, will not be generalizable to larger contexts, i.e. similar nations with the same challenges and characteristics, as the theoretical framework has been shown to explain correlations between the capacity of the institution and its affect on land degradation. Since this has been found in similar studies, and since the

theoretical framework together with the empirical basis has been shown to explain an influence on land degradation, it can be discussed whether the generalizability of this relationship cannot be considered high.

9. Conclusion

Based on the analysis of this study, it is possible to draw an overall conclusion of the research question: *"How does the institutional capacity of the Ministry of Water and Environment affect land degradation in Uganda?"*

Despite the many initiatives and efforts of the Ministry of Water and Environment to address land degradation, it has been demonstrated that the ministry lacks the requisite institutional capacity to effectively address land degradation within its ministerial mandate. It can be concluded that the institutional capacity of the Ministry of Water and Environment is low, thereby seen as inadequate, when it comes to combatting land degradation and meeting the targets set from a national perspective. This is despite the ministry's implementation of good policies, plans, and strategies. The analysis indicates that the ministry's performance in relation to its objectives is weak, with only one-third of the land degradation objectives being met. This is largely due to the ministry's institutional capacity, which includes lack of financial resources, lack of accountability, and lack of human resources. Lack of resources affects land degradation, as it makes it challenging for the ministry to fulfill its mandate and the associated plans and strategies. Moreover, the financial absorption of the ministry is another financial factor affecting land degradation. Based on the analysis, it can be concluded that although the ministry does not receive the resources they need to combat land degradation, they also lack the financial absorption in terms of spending the resources allocated to them. This further affects land degradation, as even less resources are allocated to combatting land degradation. Lack of accountability is further affecting land degradation, as corruption is seen as impeding the progress of the ministry in combatting land degradation. This is evidenced by the fact that a significant proportion of the allocated resources is not directed towards the intended goals, and also make external donors more careful with their funding. Furthermore, this lack of accountability has an adverse affect on public trust in the ministry, making it more challenging for them to work towards a shared goal. In addition, lack of human resources is also concluded to be a factor affecting land degradation. The ministry is unable to fulfill its mandate of combatting land degradation due to a shortage of staff. Furthermore, the ministry also lacks personnel with the requisite knowledge and skills in land degradation practices. Both of these institutional factors result in a low capacity, as insufficient staff and lack of expertise make intentional land degradation goals and desires difficult to achieve. Although national and international cooperation is highlighted as being well-organized and effective, which in turn affects the way that shared goals, shared responsibilities, and expertise is present, it can be concluded that this single aspect of the institutional capacity is not sufficient alone to affect land degradation to such an extent that it is combatted.

It can be concluded that the holistic approach to this study has provided many important aspects in explaining how the institutional capacity of the Ministry of Water and Environment affects land degradation. Furthermore, it can be concluded that the findings of this study are very much in line with previous research findings on the overall institutional capacity in Uganda in relation to land degradation. This is considered to be further supportive of the study's conclusion on the research question.

Based on the discussions, and reflections of the theoretical, methodical, methodological, and design choices, it can be said that the study has presented a solid foundation to answer the research question in an adequate way. Although there have been problems and shortcomings in the study, as per the previous discussions and reflections on the study execution, these are not considered problematic enough to cast doubt on the study's overall conclusion.

Annexes

Annex 1 Documents used for the analytical section 'State of the institutional mandate'

Sender	Year	Type of document
United Nations Convention to Combat Desertification (UNCCD)	2019	UN Report
United Nations Convention to Combat Desertification (UNCCD)	2018	UN Report
United Nations Convention to Combat Desertification (UNCCD)	N/A	UN Article
United Nations Convention to Combat Desertification (UNCCD)	2022	UN Report
United Nations Environment Programme (UNEP)	2010	UN Report
Ministry of Public Service (MPS)	2020	Ministerial Document
National Planning Authority	2020	National Development Plan

Annex 2 Documents used for the analytical section 'Cooperation, coordination, and communication'

Sender	Year	Type of document
Government of Uganda (GOU)	2021	Government Document
Rwakakamba, T. M. (Mountain Research and Development)	2009	Research
National Environment Management Authority (NEMA)	2024	Ministerial Authority Document
S. Wokorach (theCooperator)	2023	News Article
United Nations Convention to Combat Desertification (UNCCD)	2018	UN Report
Ministry of Finance, Planning, and Economic Development (MFPED)	N/A	Ministerial Document
Ministry of Finance, Planning, and Economic Development (MFPED)	2023	Ministerial Document
Ministry of Water and Environment (MWE)	2019	Ministerial Document
Ministry of Finance, Planning, and Economic Development (MFPED)	2023a	Ministerial Document
National Planning Authority (NPA)	2020	National Development Plan
United Nations Convention to Combat Desertification (UNCCD)	2022	UN Report
National Forestry Authority (NFA)	N/A	Ministerial Authority Document
Ministry of Finance, Planning, and Economic Development (MFPED)	2019	Ministerial Document
Amuria District Local Government	2015	Local Development Plan
Kamuli District Local Government	2020	Local Development Plan
Ministry of Water and Environment (MWE)	N/A	Ministerial Document
Amuru District Local Government	2020	Local Development Plan
Ministry of Water and Environment (MWE)	2018	Ministerial Document
Ministry of Water and Environment (MWE)	2022	Ministerial Document
Ministry of Local Government (MLG)	2014	Ministerial Document
Ayoreka, A. (Newsvision)	2023	News Article
Fazekas, et al. (Government Transparency Institute)	2021	Research
Saxton, J. (Ballardbrief)	2022	Research/Article
Ministry of Water and Environment (MWE)	2009	Ministerial Document
Ministry of Water and Environment (MWE)	2020	Ministerial Document

Annex 3 Documents used for the analytical section 'Implementation and adaptability'

Sender	Year	Type of document
National Environment Management Authority (NEMA)	2024	Ministerial Authority Document
National Environment Management Authority (NEMA)	2021	Ministerial Authority Document
Ministry of Water and Environment (MWE)	2019	Ministerial Document
Ministry of Finance, Planning, and Economic Development (MFPED)	2023	Ministerial Document
Nasaria R.D. (Monitor)	2023	News Article
Ministry of Water and Environment (MWE)	2019b	Ministerial Document
United Nations Children's Fund (UNICEF)	2019	UN Report
Ministry of Finance, Planning, and Economic Development (MFPED)	N/A	Ministerial Document
Parliament of the Republic of Uganda (PRU)	2024	Government Document
National Forestry Authority (NFA)	N/A	Ministerial Authority Document
Uganda Land Commission (ULC)	N/A	Ministerial Authority Document
Ministry of Water and Environment (MWE)	N/A	Ministerial Document
African Development Bank Group (AfDB)	N/A	Development Bank Document
Parliament of the Republic of Uganda (PRU)	2023	Government Document
Fazekas, et al. (Government Transparency Institute)	2021	Research
Mwijuke, G. (Theeastafrican)	2023	News Article
Ministry of Water and Environment (MWE)	2022	Ministerial Document
Ministry of Finance, Planning, and Economic Development (MFPED)	2019	Ministerial Document
Kamuli District Local Government	2020	Local Development Plan
Ministry of Finance, Planning, and Economic Development (MFPED)	2023a	Ministerial Document

Annex 4 Documents used for the analytical section 'Human Resources'

Sender	Year	Type of document
National Environment Management Authority (NEMA)	2024	Ministerial Authority Document
Ministry of Water and Environment (MWE)	2018a	Ministerial Document
Ministry of Finance, Planning, and Economic Development (MFPED)	N/A	Ministerial Document
Ministry of Water and Environment (MWE)	2020	Ministerial Document
Ministry of Finance, Planning, and Economic Development (MFPED)	2023a	Ministerial Document
Ministry of Water and Environment (MWE)	2021	Ministerial Document
Amuria District Local Government	2015	Local Development Plan
Kamuli District Local Government	2020	Local Development Plan
Amuru District Local Government	2020	Local Development Plan
United Nations Convention to Combat Desertification (UNCCD)	2023	UN Report
National Environment Management Authority (NEMA)	2024	Ministerial Authority Document
National Forest Authority (NFA)	N/A	Ministerial Authority Document
Ministry of Water and Environment (MWE)	N/A	Ministerial Document
Ministry of Water and Environment (MWE)	2019	Ministerial Document
United Nations Convention to Combat Desertification (UNCCD)	2018	UN Report
Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)	1999	Ministerial Document

Annex 5 Documents used for the analytical section 'Technical and financial resources'

Sender	Year	Type of document
Ministry of Finance, Planning, and Economic Development (MFPED)	N/A	Ministerial Document
Ministry of Public Service (MPS)	2020	Ministerial Document
Water and Environment Sector (WES)	2020	Ministerial Document
National Environment Management Authority (NEMA)	2024	Ministerial Authority Document
Uganda Land Commission (ULC)	N/A	Ministerial Authority Document
National Forest Authority (NFA)	N/A	Ministerial Authority Document
Ministry of Finance, Planning, and Economic Development (MFPED)	2023	Ministerial Document
Ministry of Finance, Planning, and Economic Development (MFPED)	2019	Ministerial Document
Ministry of Water and Environment (MWE)	2013	Ministerial Document

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