The Role of Policy in Facilitating Adoption of Climate-Smart Agriculture in Uganda

Project Report

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Abstract

This study aimed at understanding the influence of policy frameworks on climate change adaptation in Uganda. It combined literature review on existing natural resource management policies, focus group discussions with farming communities and interviews with key informants across various policy implementation levels. Findings reveal that even when farmers are exposed to appropriate adaptation practices, adoption is still constrained by limited enforcement of policies and regulations. Various reasons constrain enforcement; policies are formulated through top–down approaches, NGOs and local governments are minimally involved while local communities are largely excluded. There is either lack of or existence of non-functional implementation structures prescribed by the policies. Coupled with unclear roles among actors, weak links between different administration levels, limited human and financial resources and political interference, the ability of smallholders to adopt climate-smart agriculture (CSA) is thus constrained. Due to lack of knowledge of what the policies provide for, smallholders are not able to demand their rights. There is need for more focused follow-up research on specific issues raised in this report.

Keywords

Climate change; smallholder adaptation; policy frameworks; climate-smart agriculture.

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Table of contents

1. Background

The report reviews literature on the importance of public policy in climate change adaptation, highlights current efforts in Uganda and identifies the constraints to policy implementation globally and those specific to the Uganda.

1.1 Public policy and climate change adaptation

There is increased acknowledgement of the need to adapt to climate change. For some groups, especially the farming communities, adaptation seems to be the best option to counter the effects of climate change as they are highly vulnerable and thus need to adapt their livelihood systems to changing climatic conditions (Ngigi 2009). While farmers are able to manage risks in their everyday lives, including those related to climate, they also need to adapt in order to reduce the negative impacts of climate change (Okonya 2013). However, for adaptation activities and efforts to be well directed, they must be guided and supported by policies and strategies (Burton et al. 2006). Identifying policy options available to address the adverse effects of climate change is seen as one of the first steps in responding to climate change (Smith and Lenhart 1996). This is in agreement with Hassan and Nhemachena (2008), who emphasize that the coping strategies of farmers need to be supported by appropriate public policy and investment and collective actions to help increase the adoption of adaptation measures. In addition, they point out that the most relevant policies are those that target climate sensitive sectors such as agriculture, forests, ecosystems and water resources.

Consequently, many governments around the world have recognized the need to facilitate climate change adaptation with a broad range of public policies (Clar et al. 2013). At the international level, Burton et al. (2006) puts across three complementary approaches to future adaptation efforts that include initiating new steps under the United Nations Framework Convention on Climate Change (UNFCCC) to facilitate comprehensive national adaptation strategies and to provide reliable assistance for high priority implementation projects. Second, international responses seek to integrate adaptation across the full range of development and committing stable funding for an international response. Third, the Organisation for Economic Co-operation and Development (OECD) and European Union (EU) countries are also concerned about climate change adaptation (Bauer et al. 2011, Biesbroek et al. 2010).

The parties under UNFCCC have developed National Adaptation Programmes of Action (NAPA). NAPAs provide a process for Least Developed Countries to identify priority activities that respond to their urgent and immediate needs to adapt to climate change (Orindi 2013). The strategies under NAPAs are similar to the policy strategies of the other climate change and natural resource policies. As a result, implementation of the strategies results into NAPAs being implemented.

Adaptation actions are needed at all levels of decision making such as local, regional, national and international levels (Adger et al. 2005, Climato and Mullan 2010). Policy is an important aspect of the wider context in which adaptive decisions are made (Climato and Mullan 2010, Urwin and Jordan 2008) since the policy context may have constraining effects to the implementation of adaptation responses (Burton et al. 2002, Madzwamuse 2010). The policy context has two main elements: existing policies and new policies (Urwin and Jordan 2008). With the existing policies, there are policies or strategies that impact positively on the scope of pursuing adaptation at lower levels even when they do not mention climate change. On the other hand, new policies, both climatic and non-climatic, need to be designed in ways that facilitate adaptive decisions (Urwin and Jordan 2008).

With regard to adaptation, public policies are concerned with raising awareness, building adequate capacities and helping to put capacities into action (Adger et al. 2005). In addition, public policies do play a role in resolving conflicts of interest, reducing external effects that are triggered or reinforced by climate change, and ensuring that public infrastructure withstands future climate impacts (Bauer et al. 2011). In order to realize significant adaptation impacts, economic space and capacity for diversification is needed, as well as policies that can enable evolution of local level innovations and responses (Thomas and Twyan 2005). Thus, the policy environment should not only be conducive for adaptation but should also serve to facilitate appropriate innovations for creative adaptation.

1.2 Policy and climate change adaptation in Uganda

Comprehensive climate change adaptation measures in Uganda focus on addressing current sources of vulnerability (Orindi and Ericksen 2005). Existing policies that directly or indirectly address climate change include the National Environment Management Policy, Forestry Policy, and National Policy for the Conservation and Management of Wetland Resources among others, with the main objective of achieving poverty reduction through

environmentally sustainable development as enshrined in the country Vision for 2025 (Twinomugisha 2005).

Several interventions have been successful, for example, the Plan for Modernization of Agriculture (PMA) and its successor the Agricultural Sector Development Strategy and Investment Plan (DSIP) are an important adaptation element which ensures development of drought resistant cultivars, provision of water for production, agricultural information dissemination, training and research among others (Twinomugisha 2005). Regarding the agriculture policy, there have been efforts to increase incomes of farming households from crops, livestock, fisheries and all other agricultural related activities. Various institutions such as the National Agricultural Advisory Services (NAADS) have been central in achieving the objectives of the policy, for example, farming communities have been provided with crop and livestock varieties/breeds that are high yielding, disease resistant and/or tolerant, and drought tolerant. In addition, climate change has been integrated into agricultural planning frameworks (Hepworth 2010). Agricultural policies have incorporated adaptation measures such as control of flooding, control of water logging, control of water scarcity for animals, soil and water conservation practices, and preservation of fish species and use of local indigenous knowledge among others. The National Development Plan also adequately addresses climate change adaptation.

Other than the sector specific policies in place, there is a new climate change policy that has not been fully implemented. Uganda also developed the NAPA that came into force in 2008, and is regarded as the first climate change policy in Uganda (Friis-Hansen et al. 2013). NAPA provides a working framework for adaptation (Hepworth 2010), directly addresses the challenges posed by climate change and sets priorities for supporting adaptation efforts (Friis-Hansen et al. 2013). Indeed some interventions have been piloted in some districts, for example, construction of water harvesting roofs in Rakai district (Bambaiha 2009), and soil and water conservation practices and making of energy saving stoves in Bundibugyo district. However, the NAPA is not expected to address fully the comprehensive adaptation needs as it is a short term intervention (MWE 2010). Some interventions have also been implemented as projects (Friis-Hansen et al. 2013); therefore some have tended to phase out with the project closure. However, the beneficial outcome has been that the content or issues outlined in the NAPA have been part of the other sector interventions. For example, Orindi (2013) highlights

that NAPA has achieved its objectives by default as many sectors including agriculture have more or less addressed what is outlined in the NAPA without knowing that they were actually contributing to NAPA implementation.

1.3 Constraints to climate change adaptation

The process of adaptation faces various constraints. One of such constraints is the resource constraint that limits the adaptive capacity (NDP 2010). Poorer countries require resources to improve capacity, undertake specific adaptation measures, and cope with climate change impacts as they occur (Burton et al. 2006). Uganda is no exception, for instance, government agencies responsible for implementing environment policies, including adaptation interventions are under resourced. Expanding the budget allocations would be key in the process.

For the farming communities, access to adequate cropland presents a barrier to adapting to climate change (Juana et al. 2013). As a result some communities resort to encroachment on protected areas such as swamps to increase crop land and to grow crops suited to swamp conditions in case of increased incidence of drought conditions and moisture stress (Bagamba et al. 2012). However, the authors also note that swamp encroachment may not translate into economic gains as the acreage under swamps is too small to cause any significant economic impact. Moreover, the resources are being shifted from a higher to a low value crop. In addition, the public and even decision makers often do not understand climate variability and the potential risks of climate change (Hepworth 2010, Twinomugisha 2005, UCSD 2013).

Lack of access to early warning information and unreliability of seasonal forecast limits adaptation to climate change (Juana et al. 2013). There is continuous need for information flow and promoting awareness of climatic variability and change in the process of adaptation. It is also reported that there has been limited discussion of the content of and driving forces behind climate change adaptation in national policies (Friis-Hansen et al. 2013). As a result, the supportive policies have not prioritized adaptation. Climate change adaptation needs to be integrated in all the supportive policies.

Regardless of what is in place, Twinomugisha (2005) highlights a number of factors which contribute to Uganda's low capacity to cope with the impact of adverse effects of climate change. These include low level of income reflected in per capita income and revenue/GDP

ratio; heavy dependency on rain-fed agriculture and natural resources; inadequate human resources capacity for the enhancement of climate management systems; low levels of awareness on climate change issues; insufficient information dissemination on the existing indigenous adaptation knowledge/options; and a lack of integrated vulnerability and adaptation assessment. Another constraint is that other policies linked to the climate change policy are not designed to address climate change issues, thus climate change issues remain down played (Twinomugisha 2005).

1.4 Constraints to policy implementation in Uganda

Policy implementation in Uganda has faced challenges due to a number of factors. These include inadequate resources in terms of funds and political interference (Clar et al. 2013, Rwakakamba 2009, Sophie 2007, Twinomugisha 2005). Funds are needed for surveillance and monitoring, availing information by printing booklets among other activities and uses. With respect to environment management policies, sometimes politicians have turned a blind eye to violators and even promoted certain damaging activities to the environment out of self-interest (Sophie 2007). With regard to wetland resources, policy implementation is hindered by lack of wetland knowledge (Sophie 2007). Other analysts highlight lack of policy awareness as an important constraint (Clar et al. 2013, Twinomugisha 2005).

There are also cases where the right structures for implementation are not used. For example, climate change policies have been implemented only through central ministries and NGOs using project based parallel structures, yet local government structures are seen as key in creating an enabling environment for supporting rural people to adapt to climate change (Friis-Hansen et al. 2013). This is because adaptation is inherently local and policies and adaptation measures adopted by institutions and decision makers should be coordinated at both national and local levels (Agrawal 2008).

There are also stakeholder challenges such as constraining environment and social factors including high population, shortage of land, environmental degradation and endemic poverty. Stakeholder commitment in implementing the relevant policies is also limited (Sophie 2007).

With respect to the wetland policy, wetland stakeholders have difficulty complying with the policy due to constraining environmental, social factors and a lack of commitment (Sophie 2007). In addition, governments face challenges when developing and implementing

adaptation policies including coping with current and future climate change effects that cut across different policy sectors, cut across different levels of government, and are uncertain and concern a broad range of non-state actors who often lack capacities to adapt (Bauer et al. 2011).

The rest of paper is organized as follows. Section 2 presents practical experiences in policy implementation, including the constraints and challenges encountered using a case from one of the districts in Uganda. Section 3 highlights the implications of the findings to adoption of climate-smart technologies while section 4 presents the study conclusions and recommendations.

2. Methods

In order to understand the policy environment as it relates to smallholders' capacity to adapt to climate change impacts in Uganda, a case study was conducted in Rakai district (see Kyazze and Kristjanson 2011, and Förch et al. 2013 for a detailed description of Rakai district). Previous CCAFS studies of farming communities in Rakai district had revealed that policy issues were likely to continue increasing the vulnerability of smallholder farmers despite agricultural research for development (AR4D) efforts that try to address farmers' vulnerability to climate change. Therefore, there was an apparent need to understand the inter-relationships between policies (and various actors) at national, district and community levels in order to recommend potential solutions that could support/create the enabling environment for the adoption of CSA. Specifically, the objective of the study was to understand why the seemingly well-accepted national policies have not been implemented at community level to the benefit of resource users, and how this impacts adoption of CSA.

The study combines literature review of selected policies related to natural resource management and climate change, focus group discussions with farming communities and key informant interviews. The policies reviewed included the *National Agriculture Policy 2011*; *Uganda Forestry Policy 2001* (and acts and regulations); *Uganda National Climate Change Policy 2012*; *National Adaptation Programmes of Action (NAPA)*; *National Policy for the Conservation and Management of Wetland Resources*; and *Rakai District Environment Management Bill*. In addition, a review of published literature related to implementation of

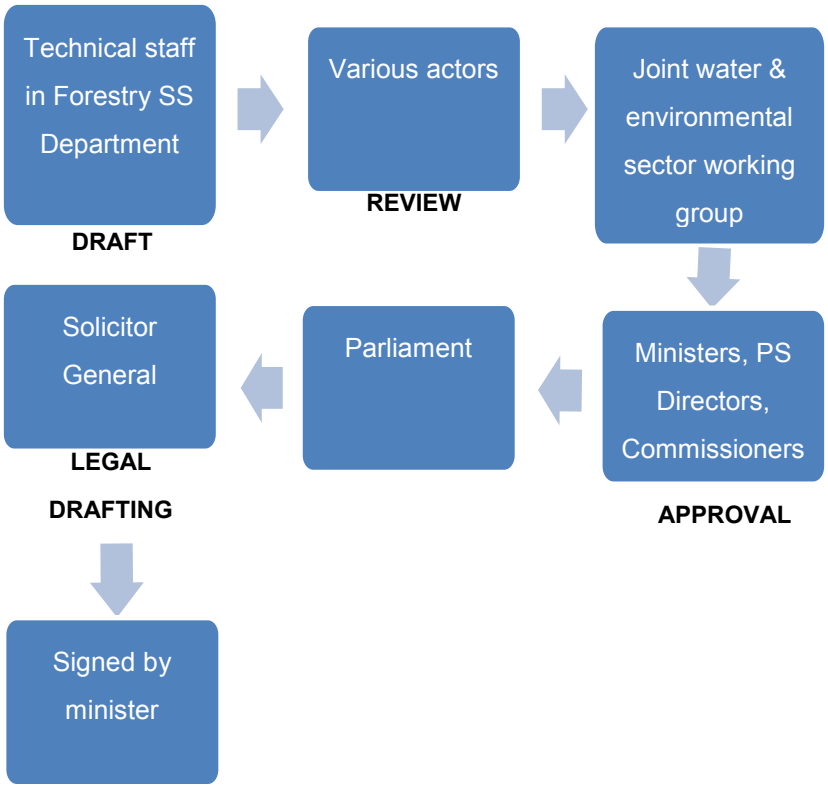
national resource use policies in Uganda was conducted. Fifteen key informant interviews were conducted, selected from different policy implementation levels—national, district, sub-county and community.

3. Policy implementation in Uganda: The case of Rakai district

The results indicate that the policy formulation process, to a large extent is unidirectional and top-down (an example is shown in Figure 1). Policy formulation actors were mainly government agencies such as authorities, ministries, departments, and local governments. The involvement of other actors such as NGOs, private sector and farming communities was very limited, and mainly initiated by the private sector. Reasons for limited private sector involvement pointed to 'competitive' attitudes by government officials and lack of resources at lower levels. In addition, discussions with some of the district officials indicated that there was lack of appreciation regarding the ability of communities to shape effective policy implementation.

The linkages between government ministries, departments and other actors seemed to be largely unstructured and weak. Although some ministries are supposed to be closely working together, for example, the Ministry of Water and Environment (MWE) and the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), this was found not to be true. There was lack of harmonization of roles between MWE and MAAIF ministries and departments such as the Climate Change Department (CCD), the Forestry Sector Support Department (FSSD) and the National Environment Management Authority (NEMA). Lack of harmony and coordination cut across different governance levels, from national to local levels, resulting in duplication of roles and further limiting inadequate resources available for implementation. Similarly, the grass root was not connected to the district. In case of problems or shocks, the communities neither knew who to approach nor any structures in place. A case that describes such a state is illustrated in Box 1.

Figure 1. Forestry policy formulation process



Box 1. Violation of policy is perceived as a norm due to poor linkages across the different levels: A case of Kijumba village, Lwanda Sub-county, Rakai district

In 2009, in Kijumba parish, a community well was destroyed by one rich elite who was transporting the felled trees from his eucalyptus wood lot located in the wetland. The loaded vehicle would pass near the protected well (actually go over the protected area), compacting the space that should be left undisturbed. The compaction interfered with the movement and the filtration of the water that flows into the well. As a result, the water became so dirty that it could not be safely used any more.

Before the trees were felled, the eucalyptus wood lot had resulted in reduction in the amount of water flow in the protected spring. Driving the truck over the protected area worsened the situation by reducing the water quality. The community improvised by digging ponds to trap rain water as well as collect water from the wetland but since these ponds were not protected like the well, they could not get clean water. "We did not report this case because we did not know where to report and whom to report to. We have seen the police release culprits over other civil cases and we felt that reporting would not help us" the village chairman explained. Until the time of the interview, nothing had been done by the community members to solve this problem even though access to safe water still remains a big challenge.

The Kijumba case is reflected in majority of the communities in Rakai district that have not had any previous exposure to policy action interventions. Discussions with the District Environment Officer indicated that there were localized places where his office had intervened to solve policy violation issues, sometimes supported by the District Environmental Police. However, significant effort has been put in places where there was support from Civil Societies Organisations (CSOs) or donor assisted project mode interventions seeking to enforce policies.

3.1 Constraints to policy implementation at the local level

As discussed in previous sections, key implementers are often excluded in the policy formulation process. This often leads to lack of commitment in implementing the laws or guidelines, as implementers do not necessarily agree with the aspirations of the actors involved in the formulation process. In addition, there are structural issues that limit coordination and harmonization, which creates confusion among implementers. For example, the Ministry of Water and Environment theoretically contributes to agricultural production, which is MAAIF's responsibility. Moreover, dependence on donor funding was perceived by actors to limit effective implementation because it promoted 'project mode policy implementation', in which only strategies that fit within the specific project were implemented. The NAPA, for example, was formulated and implemented in project mode (Friis-Hansen et al. 2013) and when funding ran out, implementation was constrained. Other than dependence on donor funding, the Ugandan government allocates insufficient funding, which limits implementation and enforcement of policies. These claims and observations are consistent with findings from other studies including Hepworth (2010) and Rwakakamba (2009).

Political interference is another key constraint to policy implementation, manifested in three different faces: politically driven undertakings (for example projects), conflict of interest where politicians attempt to save votes from the electorate by encouraging destructive activities, and outright corruption. Other studies have also highlighted political interference as a barrier to effective implementation of natural resource use policies (Nsiita 2003, Ogola 2013, Environmental Alert 2009).

Findings from the key informant interviews also highlighted the fact that the benefits of sustainable natural resource use are not normally appreciated by policy implementers because they do not see immediate tangible benefits and the fact that environmental issues were generally treated as cross-cutting issues, and thus not given priority in service delivery, and thus limits implementation. In addition, indicators of performance tended to be sector specific without expressly highlighting environmental issues; and there was limited feedback between implementers at community and district levels. Moreover, environmental issues are not part of performance evaluation for the district actors. For example, projects can be rated with high performance even when they have not considered the environment issues. Also, considering

that environmental resources are not owned by an individual, any issue that comes up falls in nobody's hand. "There is no driver to implicate the culprits of environmental degradation", laments one resource user from Kiyovu parish, Lwanda sub-county.

Lastly, the difficulties of local communities to interpret policies is another constraint to implementation, as policies are neither written in popular languages nor made available to users. Many respondents at the sub-county and lower levels did not even know that the policies existed. The few who were aware live in localized intervention areas. The respondents identified the need to simplify the policy guidelines to the level of local users and the need to disseminate and inform the users about the policies adequately.

3.2 Implications of policy implementation on adoption of climate-smart technologies

Lack of and/or poor implementation of policies at national level, due to the challenges highlighted above, may result into a lack of enabling strategies or by-laws at lower levels because there is no framework to guide local initiatives. This implies that a lack of policy implementation directly or indirectly increases farmer's vulnerability to climate change. For smallholder farmers, different adaptation responses can be undertaken. These responses include diversification (Juana et al. 2013), migration by pastoralists from place to place in response to spatial and temporal variations in rainfall (Morton et al. 2007). Other responses include planting drought resilient crop varieties and expanding irrigation systems (Mitchell and Tanner 2006) and climate forecasting and provision of timely advice to governments, private sector extension services and farmers (Ngigi 2009). All these adaptation responses to climate change can only be effectively implemented in a conducive policy environment.

Smallholders' adaptive capacity is constrained by factors such as lack of water (for livestock and for irrigation), limited access to land resources due to overpopulation, privatization of common access land resources (Ogola 2013), which in turn further increases their vulnerability. Smallholder farmers in Rakai that previously used wetlands as buffer areas may become more vulnerable unless policies or by-laws are put in place and effectively implemented. Poor and lack of policy implementation leaves the smallholder farmers with few viable options to adopt climate-smart technologies.

With effective implementation of policies, accompanying regulations and by-laws, the prevailing circumstances—leasing of protected areas, restricting access to buffer areas, poor farming methods—can change, reducing further farmers' vulnerability and paving way for adoption of climate-smart technologies by the smallholders.

4. Conclusion and recommendations

The findings of the literature review, FGDs and key informant interviews show that climate change adaptation is largely influenced by the policy frameworks in place, even though there are other constraining factors. However, the policies are not adequately implemented to benefit the people for whom they are made, and thus the intended objectives are not achieved. Adoption of climate-smart technologies will thus be hindered by the inadequate, poor or even lack of implementation of the relevant policies.

Various factors limit effective implementation of policies. The key factors include lack of involvement of local level implementers in the formulation process, inadequate knowledge about policies, poor coordination among actors and lack of clarity in roles, limiting resources and political interference, coupled with corruption. To enable effective policy implementation, there is need to revisit policy formulation and implementation processes with intent to address the highlighted challenges. Possible interventions that might improve the policy situation include sensitization of actors about the policies and their roles, policy engagement activities that could involve and improve coordination among actors, dealing with underlying structural issues and engaging with government to allocate more resources. Political interference could also be addressed within engagement activities. There is also need for more focused research to generate more knowledge regarding constraints to policy implementation and enforcement. Identifying the right actors for effective implementation, for instance, would help resolving the redundancy in roles among actors. Overall, there is need for more focused follow-up research on specific issues raised in this report.

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