



Kabarole

Research & Resource Centre

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Heights for Progress



Supporting smallholder Farmers to adapt to climate change Vagaries.

Key messages:

- **Smallholder Farmers in Uganda are particularly vulnerable to climate change.**
- **The ability for Small Holder Farmers in the Rwenzori region to cope with this change is undermined by a lack of knowledge, unsustainable farming practices and limited government funding support.**
- **The Local and the central government, and the civil society must invest in raising awareness of the causes and impacts of climate change and supporting adaptation practices such as better water management, livestock technologies, renewable energy sources and high-yielding and drought resistant crop varieties.**
- **Both government and the private sector should invest in micro and macro-irrigation systems to help farmers cope with increasing rainfall variability and drought.**

Coping with Climate Change

Climate change has become the world's most pressing development challenge; it is threatening mankind and his surroundings. In Africa, scientists have estimated between 75 and 250 million people being vulnerable and are projected to be exposed to increase in water stress, rain fed agriculture is likely to reduce by 50% in some regions and access to food may be severely compromised by 2020. Climate change will further, disrupt: human and animal health, access to water, food security, fisheries and tourism. In many parts of the continent, small holder farmers are already experiencing prolonged droughts and or floods-and struggling to cope.

Coping with the effects of climate change-before or after they occur - is generally known as 'adaptation'. Global efforts towards averting climate change impact at the level of the United nations have since witnessed the establishment of policy frameworks to curb Green House Gas emissions (emissions from industries and other sources to the atmosphere). The Kyoto protocol and most recently, the COP protocol are some of the

international efforts to reduce green house gas emissions into the atmosphere both in the developed, and developing countries. The Cancun agreement particularly agreed that enhanced action on adaptation is a priority and must be integrated in country driven approaches to address the challenge.

Uganda has ratified both regional and international policies on climate change, including the United Nations Framework convention, and the Cancun agreement on adaptation. But still, Uganda does not have a single national policy on climate change—although climate change issues are integrated in many national policies to address poverty reduction and environmental protection(ACCRA 2010:P.20). The poverty Eradication Action Plan, later transformed into the National Development Plan, provides for adaptation measures focusing on technological solutions that require high technological capital and investments, which investments may be constrained by unavailability of resources especially at Small holder Farmer level



What are the problems?

A recent study by our Think Tank on knowledge and adaptation in Uganda's Rwenzori region (2010) found a number of key obstacles to effective adaptation by smallholder Farmers.

- In the Rwenzori region, farmers still ignorantly engage in wide-scale tree felling to create farmland and fuel wood. Any chance of them planting trees, are affected by land shortage and a growing population. On the one hand, commercial pine and eucalyptus tree plantations have been found to exhaust soil fertility that also threatens food security and degradation of wetlands.
- Limited uptake of soil management technologies. A number of soil management technologies have been introduced in the region, including agro-forestry and mulching. But these are not being taken up by smallholder farmers and are still practicing rudimentary methods of farming. Partly, this is because small holder farmers lack knowledge on, or awareness of, climate change (its causes, effects, and how to adapt). Their adaptation responses are largely informed by myths and superstitions.
- Unenforced government policies. Central and local governments have made some policy effort to address possible causes of climate change. For example, government of Uganda has put in place a national wetlands policy and the Uganda forest policy of 2001. However, these are constantly violated by Small holder farmers because they are not strictly enforced by government. In the search for productive land that can withstand the vagaries of climate change, many smallholders are reclaiming wetlands and clearing virgin tropical forests.
- Inadequate resources. Government structures responsible for implementing environment policies, including adaptation technologies, are under resourced and therefore unlikely to respond to vagaries of climate change.

Adapting in Africa

Effective adaptation reduces present and future vulnerability to climate change. It includes implementing coping strategies or changing practices and processes. Achieving this is crucial-particularly for the large proportion (80 per cent of Ugandans according to Uganda Bureau of Statistics) - that rely on smallholder agriculture for their livelihoods. For many of these small-scale farmers, and according to the IPCC, climate change will likely reduce their productivity to 50% by 2020. Some of the small holder farmers already adapting by mixed cropping systems as a form of insurance against increasing rainfall variability and the more frequent pest outbreaks. In the worst case scenarios, people have left their land and are taking up alternative income-generating activities, such as brick-making and petty businesses (Victor. A. Orindi, pp.8-10).

Policy recommendations

- **Water management.** The regional local governments must implement better water management strategies, and promote affordable and appropriate energy saving and renewable energy technologies.
- **Raise awareness.** Both government and civil society organisations must establish wide-scale awareness campaigns to improve local people's knowledge of the causes and effects and adaptation strategies to climate change. Some of the awareness activities might include activities such as debates and dialogues with smallholders and local leaders.
- **Invest in irrigation.** Both government and the private sector should invest in micro- and macro- irrigation systems to help farmers cope with increasing rainfall variability and drought. Such systems would be very effective as we found that those small-scale farmers that were able to irrigate their crops were less affected by climate change, and had higher yields, of better quality and had more planting seasons. Because most irrigation technologies are expensive, government will have to play a direct role in soliciting and provide for such funds and making it available to smallholder farmers through existing programmes, such as National Agricultural Advisory Services (NAADS).
- **Improve access to high-yielding and drought resistant crop varieties.** The government, and its poverty reduction programmes, need to make high-yielding and drought resistant varieties of crops more accessible to smallholder farmers to increase their adaptive capacity.

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P. O. Box 782, Fort Portal, Uganda; Email:krc@iwayafrica.com; Telephone:+256 382 274438 with financial support from Hivos*

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