



## Scaling up Agricultural Carbon Activities in Mbale Region, Uganda

### Background

Agriculture is central to the economy of Uganda; it employs about 82% of the national workforce and is responsible for generating over 20% of Uganda's GDP (Oling, Rwabizambuga, and Warren-rodriguez 2014). Over 800,000 smallholder farmers in the Mbale, Manafwa and Bududa Districts (Mbale region, total area 137,128 ha) depend on agriculture as their main source of livelihood (Mbogga 2013). Farmers in these districts mainly produce bananas and maize, which are consumed locally and exported to neighboring countries like Kenya, as well as annual horticultural crops, such as carrots, Irish potatoes, onions, passion fruit and tomatoes. The Mbale region is also among the major coffee growing areas in Uganda, which is a major source of income for many farmers in the region. Additionally, most farmers also own livestock, which are usually kept in zero grazing systems or in combination with partial grazing (The Republic of Uganda 2013).

However, the fertile land has also resulted in a high rate of population growth and land fragmentation. The Mbale region has a high population density of about 1000 people per square kilometer, which means that the average size of land holding is small, between about 1 and 2 acres, forcing farmers to till the land intensively throughout the year (The Republic of Uganda 2013). In addition to making the soils less fertile and productive, these unsustainable farming practices also contribute to soil erosion. Furthermore, there has been significant forest degradation in the Mbale region (Banana et al. 2014). Because the region is mountainous, these unsustainable practices can easily lead to mudslides when the soil is exposed to large amounts of rainfall. For these reasons, the Mt. Elgon region is one of the most vulnerable areas in Uganda to climate change, which was exemplified in the tragic landslide in Bududa and Manafwa Districts in March 2010 (Masiga 2013).

### Agroforestry for climate change adaptation, mitigation and livelihoods

Agroforestry is one solution to these complex challenges as it serves to mitigate climate change by sequestering carbon in trees, while helping to prevent soil erosion and improving soil fertility. Since October 2012, Environmental Conservation Trust (ECOTRUST) has been implementing an agroforestry-focused carbon project under the Trees for Global Benefits (TGB) program in the Mbale, Manafwa and Bududa Districts. This project was introduced to provide smallholder farmers incentives to participate in climate change mitigation activities, while accentuating soil and water conservation and exploiting the benefits of enhanced productivity for banana and coffee crops under an agroforestry system (van Asten et al. 2011). While the TGB program is driven by the voluntary carbon market and provides a minimal payment to farmers in proportion to their mitigation effort, the incentive is usually quite small, only about USD 175-235 per 0.5 ha over a 10-year payment period.

To minimise transaction costs, maximize the carbon mitigation incentive that reaches farmers, and ensure the long-term sustainability of the initiative, ECOTRUST has been working on steps to scale up and build local institutional capacity to manage carbon project activities through a project with the Climate Change Agriculture and Food Security (CCAFS) and Ecoagriculture Partners. To do this, ECOTRUST has been focusing on building the training and recruitment capacities of community-based trainers (called ToTs) with the help of a new 2-day training program focused on the key aspects of the carbon project. The ToTs, who were composed of both elected farmer coordinators and government extension officials based at the sub-county level, receive additional training and support from ECOTRUST. Once trained, they are responsible for facilitating group training sessions for interested farmers in their communities using the developed curriculum and providing informal support to individual farmers, such as answering questions about the carbon payment schedule.



*A mosaic of small farms, forest plots, woodlots, and villages comprises the sloping landscape of Mbale, Uganda. Photo credit : Seth Shames, EcoAgriculture Partners.*

In addition to developing the capacities of ToTs, ECOTRUST has used its new training program to build the capacities of about 300 farmers and over 50 local government officials in the Mbale, Manafwa and Budduda Districts. Thus far about 400 farmers are participating in the TGB programme in the Mbale region and have planted about 35,000 trees. 70 of these farmers have already received their first and second carbon payments of about USD75-100, and another 150 are awaiting their first carbon payment of about USD40-60. The total carbon expected to be sequestered over the agreement period is about 25,000 tons CO<sub>2</sub>.

While there has been much success with this initial pilot project, scaling up the number of farmers who are participating in agriculture carbon activities in the Mbale District, will require more active engagement and commitment of the district local governments and national government, as well as other development partners.

## Current Policy Context

At the national level, Uganda's National Climate Change Policy prioritizes mitigation actions in the land use, land use change and forestry (LULUCF), energy utilisation, transport, waste management and industrial sectors. Agricultural mitigation actions, under the TGB implemented in Mbale, Bududa and Manafwa Districts, fall under the forestry and agricultural components of LULUCF (The Republic of Uganda 2012).

At the local level, the Integrated Territorial Climate Plan (ITCP), which was developed through the Mbale Territorial Approach to Climate Change (TACC) project, identifies agroforestry as one of the most important investment options for sustainable, climate friendly and resilient development in the Mbale Region (The Republic of Uganda 2013). Furthermore, the development of district-level policies to promote the development of agriculture carbon project activities

are in line with several of the objectives of the ITCP, including: 1) mainstreaming climate change issues in policies, plans and budgets; 2) developing training materials on climate change mitigation and adaptation and building the capacity of extension officers and community extension workers; 3) developing climate change mitigation projects; and 4) strengthening of climate smart agricultural practices through on-farm tree planting.

## Recommended policy priorities for the promotion of agriculture carbon activities

While the TGB program implemented by ECOTRUST provides a good entry point into carbon programs for smallholder farmers, the scale of the challenge is much larger and requires public intervention. The Mbale, Manafwa and Bududa District Local Governments, as well as the National Government and external partners could build on the work of ECOTRUST to scale up agriculture carbon activities in the Mbale region and beyond. To achieve this, we make the following recommendations:

### ***Increase direct support to the ECOTRUST project to allow it to scale up.***

The Mbale, Manafwa and Bududa District Local Governments could build on what ECOTRUST has been able to achieve by playing a more significant role in the project model. The district local governments could increase support for extension-related components of the project, which would allow the agriculture carbon activities to expand to more farmers in the region and possibly to other land management types. ECOTRUST could continue to manage the more technical components of the project, including carbon payment processing, monitoring and liaising with carbon buyers, until the local governments have built sufficient capacity in these areas. The district local governments could start by looking for ongoing governmental



programs (in the agriculture or forestry sectors) to host these expanded activities, as well as devoting specific budgetary support to these activities, which are well aligned with the district local governments' obligations under the Integrated Territorial Climate Plan (ITCP).

### ***Integrate existing agricultural carbon activities into Nationally Appropriate Mitigation Actions (NAMAs).***

The national government could work to expand the current agriculture carbon project activities into a larger scale carbon sequestration program in the Mbale region by integrating them into the design of Nationally Appropriate Mitigation Activities (NAMAs). In addition to just focusing on agroforestry activities, the National Government could also use the knowledge and institutions developed in the ECOTRUST project to expand to additional, complimentary carbon mitigation activities, such as rural energy generation through biogas production. The management of a large scale carbon sequestration program would require a significant investment to build necessary capacities, make required institutional changes, and implement appropriate government oversight. Additional resources devoted to the implementation of NAMAs could help the government to effectively manage and implement such a program.

### ***Integrate existing agricultural carbon activities into a national or sub-national REDD+ program.***

The national government could expand on the current agriculture carbon project by integrating it into a REDD+ program. In addition to providing a means of scaling up tree planting, the REDD+ program could build on the knowledge and institutions already developed in the TGB project to better implement afforestation and reforestation activities with smallholder farmers in the region.

### ***Implement complementary actions that link carbon finance to broader integrated landscape management programs.***

The district local governments could also implement complementary projects and programs that would help link the agricultural carbon activities to broader landscape management objectives. These could include activities that do not directly relate to carbon emission reduction sales, such as providing support to farmers to reduce deforestation by promoting the adoption of energy saving stoves. Similarly, the district local governments could help link smallholder farmers to commercial opportunities so that they can access premiums associated with sustainable agricultural production.

## **Conclusion**

Scaling up agriculture carbon activities would help to support smallholder farmers improve their productivity, ensure the long-term sustainability of the land resource base, improve their resilience to climate change, as well as contribute to a low carbon, green economy. By expanding on the model piloted by ECOTRUST, the district local governments in the Mbale region and national government would be making significant strides towards achieving several of their development priorities related to food security, environmental protection, and livelihoods improvement in a cost-effective and sustainable way.



*A classroom full of farmers receives training on agriculture carbon practices in Mbale, Uganda. Photo credit : Seth Shames, EcoAgriculture Partners.*

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This work was undertaken as part of the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), which is a strategic partnership of CGIAR and Future Earth. This research was carried out with funding by the European Union (EU) and with technical support from the International Fund for Agricultural Development (IFAD). The views expressed in the document cannot be taken to reflect the official opinions of CGIAR, Future Earth, or donors.



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