

TREES FOR FOOD SECURITY- 2 PROJECT

Overview and Progress



Project Title	Developing integrated options and accelerating scaling up of agroforestry for improved food security and resilient livelihoods in Eastern Africa - Trees for Food Security - 2
Where	Rwanda, Ethiopia and Uganda
Budget	AU\$ 5.01M
Duration	Four years, January 2017 – January 2021
Lead Institution	World Agroforestry Centre (ICRAF)
Key Partners	Rwanda Agricultural Board (RAB), University of Rwanda, IMBARAGA Farmer Organization in Rwanda, Ethiopian Environment and Forest Research Institute (EEFRI), Mekelle University in Ethiopia, National Forestry Resources Research Institute (NaFORRI) in Uganda, Makerere University, Mount Elgon Tree Growing Enterprise Ltd (METGE), African Network for Agriculture, Agroforestry and Natural Resources Education (ANAFE), Commonwealth Scientific and Industrial Research Organization (CSIRO), and World Vision Rwanda, Ethiopia and Uganda.

Aims and objectives

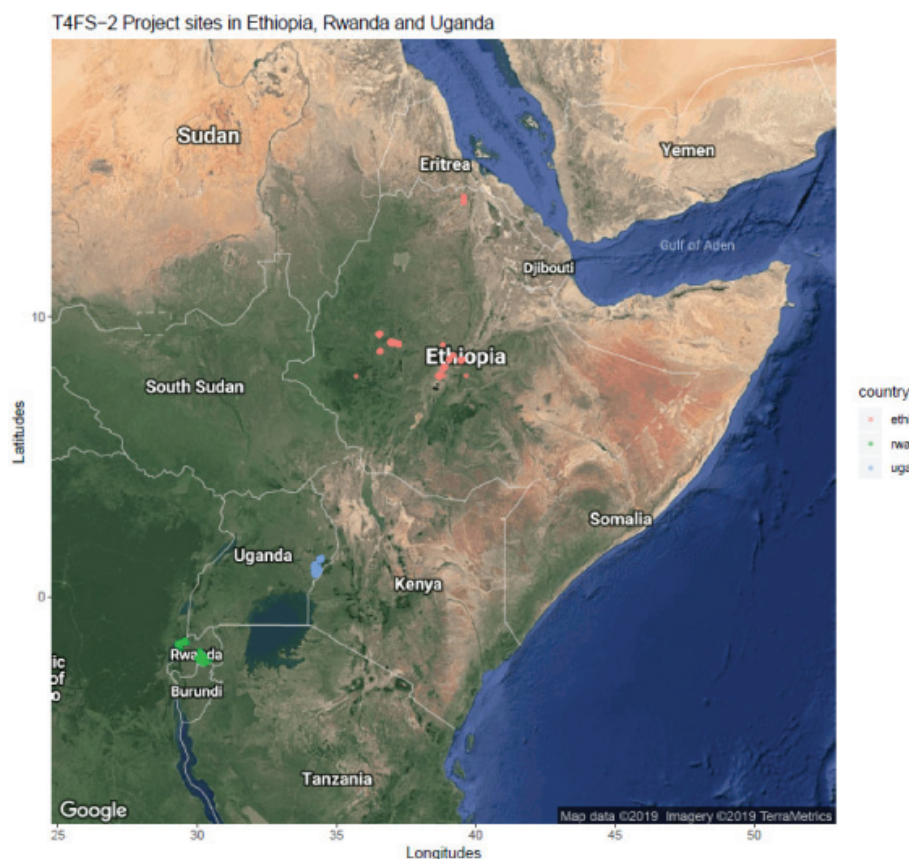
The project aims to improve food security and smallholder livelihoods through the widespread adoption of appropriate locally adapted agroforestry practices in key agricultural landscapes in Ethiopia, Rwanda and Uganda. It has five objectives.

1. To enhance knowledge of the impact of tree cover change on crop productivity, water, nutrients and livelihoods.
2. To integrate appropriate water management technologies and sustainable grazing options with promotion of agroforestry.
3. To establish communities of practice in the promotion of locally adaptable agroforestry options supported by appropriate inputs systems.
4. To strengthen smallholders and other market actor's ability to participate effectively and profitably in tree product value chains.
5. To strengthen capacity of academic institutions in developing and implementing innovative agroforestry curricula.



Project Sites

The project sites include: three districts in Rwanda (Bugesera, Nyabihu and Rubavu); seven districts in Ethiopia, (six districts in Oromia region (East and West Shewa, East Wollega) and one district in Tigray region); and three districts in Uganda (Manafwa, Bududa and Mbale).



1. Project Achievements

Through the various T4FS-2 project activities implemented so far, a total of **12,615** households are directly participating in the project as indicated in the table below. Overall, the project has reached 19,522 people in Uganda 13,425 in Rwanda and 2,187 in Ethiopia.

Summary of people participating in the project

Activity	Number of Farmers directly participating in the project			Total
	Rwanda	Uganda	Ethiopia	
Tree planting and Participatory trials	2053	3256	850	6159
Capacity development e.g. trainings, extension and demonstrations, RRCs	495	1344	485	2324
Umuganda	3117	-	-	3117
Other activities: sensitization meetings, farmer exchange visits etc	-	1008	-	1008
Post graduate students	4	1	2	7
Total	5,669	5,609	1,337	12,615

Government support and commitment

There is high government support and commitment to project activities in all countries. In Ethiopia, Dr. Eyasu Abraha, the Minister for Minister of Agriculture and Natural Resources emphasised that the ministry is committed to developing 30,000 RRCs, based on the T4FS model and redesigning state nurseries. In Rwanda, Dr. Patrick Karangwa, on behalf of the Director General of RAB guaranteed that RAB will adopt the RRC approach and plans are underway to establish seven more RRCs. In Uganda the Director Agricultural Extension Services, Ministry of Agriculture Animal Industry and Fisheries (MAAIF), Ms. Beatrice Byarugaba, assured government's support and commitment to enable the project to achieve its aim of supporting small holder farmers to improve their household annual incomes.

Project contribution to policy influence

The project has contributed to policy influence through engagement in policy formulation in all the countries. In Rwanda, ICRAF was engaged by FAO in the development of a Rwandan National agroforestry policy. In Ethiopia, a national agroforestry platform was formed under the chairmanship of Ministry of Agriculture and natural resources (MoANR) with ICRAF as co-chair. The platform contributes to fulfilment of Ethiopia's agricultural transformation agenda was formed. In Uganda, fifteen parliamentarians set up a task force to scale up agroforestry nationally. Uganda National Farmers Federation coordinates it, with ICRAF providing technical support.



Policy engagement in Ethiopia

Project recognition and visibility

In Uganda, the project was accredited to the Queen's Commonwealth Canopy (QCC) initiative. The title of the project is 'The Mount Elgon Trees for Food Security Project' under this initiative. This has provided great opportunity, visibility and profile to project activities in Uganda.

Rural Resource Centers

Five RRCs have been established under the project through which training and demonstration on improved agroforestry technologies has taken place. In addition, there has been production of quality germplasm from both the RRC and satellite nurseries. Five satellite nurseries have been established across the project sites. A total 199,005; 177,407 and 101,295 seedlings have been produced in Uganda, Rwanda and Ethiopia respectively.



Tree nursery activities at the Bako RRC photo



Catherine Muthuri Satellite nursery in Nyundo Rwanda Photo Ruth Kinuthia



Capacity development

A total of 965, 480 and 448 community members have been supported through training and demonstration activities at the RRCs and other capacity development initiatives in Uganda, Rwanda and Ethiopia respectively. The project is currently supporting 6 PhD and 1 MSc students.

Curriculum review and assessment

An assessment of agroforestry curricula and extension training involving Universities/Colleges, Integrated Polytechnic and Technical and Vocational Education and Training (TVET) institutions offering forestry and/or agroforestry courses was done in all countries. Validation workshops were held and skill gaps on pertinent agroforestry components identified. These will act as entry points for incorporation of agroforestry aspects in the institutions' curriculum.

2. Project Activities

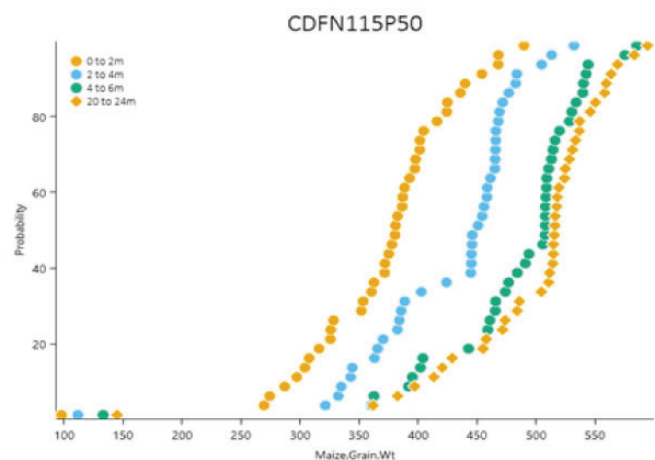
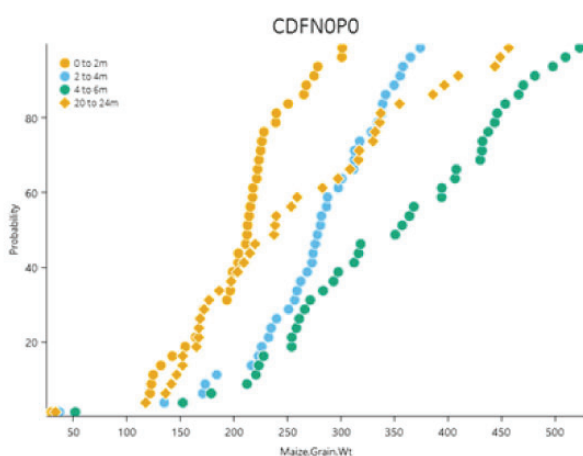
Participatory and long-term trials

1. The project has established 1307 participatory trials in Rwanda, 516 in Uganda and 985 in Ethiopia.
2. One long-term trial has been established in Uganda while management of long-term trials in Ethiopia and Rwanda is ongoing. Data collection and analysis is ongoing in all countries.

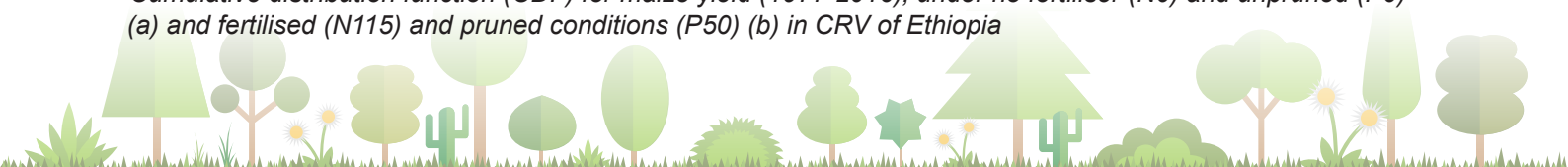


Melkassa long term trial

3. An APSIM Eucalyptus tree model was developed and validated which with minor recalibration will be used for monocultures or agroforestry mixtures in Uganda, Rwanda and Ethiopia. An APSIM model evaluation of *Gliricidia sepium* and maize system has been done in Rwanda, while one simulating *Faidherbia albida*-maize has been done in Ethiopia.



Cumulative distribution function (CDF) for maize yield (1977-2016), under no fertilizer (N0) and unpruned (P0) (a) and fertilized (N115) and pruned conditions (P50) (b) in CRV of Ethiopia





Sap flow data collection in Uganda

4. Installation of Sap flow meters and training was undertaken in all the three project countries to enhance collection of data that promotes understanding of water requirements of different tree species as interacting components in agroforestry systems

Assessment of appropriate water management and sustainable grazing options

1. Mapping of contextually appropriate water management technology options has been completed in all countries and Training of Trainers on the identified technologies has been conducted in Uganda and Ethiopia
2. Review of grazing policies in Ethiopia was done in collaboration with government ministries and other stakeholders. Report and policy briefs on existing policies, strategies and institutions on sustainable grazing developed. Suitable species and two implementation sites for sustainable grazing management have been selected.



Training on water management technologies in Uganda. Photo Charles Galabuzi

Scaling up and out of project technologies

1. The project has successfully scaled out tested agroforestry-based technologies as follows; introduction of tree tomatoes and stakes for climbing beans in Bugesera, Rwanda; apple production in Tigray, Ethiopia and fodder production in Manafwa, Uganda.



Successful Apple introduction in Tigray, Ethiopia (left). Photo Ruth Kinuthia; and successful introduction of climbing beans in Bugesera, Rwanda (Right): Photo John Nyaga



2. More farmers who have been trained on tree nursery establishment and management by the T4FS-2 project are establishing their own private nurseries, whereby they derive income which improves their livelihoods.
3. Key tree product value chains on which the formation and strengthening of farmer business schools need to be based have been identified, and guidelines for forming the business schools drafted in all countries. Options for financing fruit tree value chains have been identified through literature review and validated



Mr. Evariste Habiymbere, a tree tomato farmer in Kadahenda, Rwanda. Photo Anne Kuria

4. Development of web-based tools 'Interactive Suitable Tree Species Selection and Management Tool for East Africa' for Rwanda <http://www.worldagroforestry.org/suitable-tree/rwanda> Ethiopia <http://www.worldagroforestry.org/suitable-tree/ethiopia>. Plans are underway to expand the tool to Uganda and new sites such as Tigray in Ethiopia.
5. A Monitoring and Evaluation (M&E) strategy aligned to ACIAR food security indicators was developed and approved.
6. A project communication strategy has been developed.

Other project highlights

1. Visit by ACIAR CEO Prof. Andrew Campbell in Ethiopia and ACIAR Director regional programs – Dr Peter Horne and ICRAF Director General Dr. Tony Simons to the project sites in Bugesera-Rwanda
2. Successful application of the ACIAR Launch Fund to support four participants from T4FS-2 project to participate in the world congress on Agroforestry in Montpellier, France in 2019



*Project visit to a tree tomato farmer in Bugesera, Rwanda
Photo Alis Okonji*



Way forward

- The project will continue building on the existing government support and commitment to scale appropriate agroforestry options across the countries.
- Country specific scaling up and out strategies will continue to be used to reach more farmers across different contexts.
- Data collection and analysis.
- Dissemination of project findings to the different audiences. Also, key is packaging of project activity findings and information and disseminating to all stakeholders and beneficiaries.
- Capacity building and implementation of the reviewed curriculum in the various institutions
- Tracking of project outputs and outcomes is planned to continue across all countries.

Important resources

Project Website:

<http://www.worldagroforestry.org/project/trees-food-security-2-developing-integrated-options-and-accelerating-scaling-agroforestry>

Project Dataverse:

<https://dataverse.harvard.edu/dataverse/T4FS>

Contributors

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