

GREEN – TOP TREE PLANTING PROJECT (GTTPP)



Project Promoters

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Project Partners:

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Theme: Adapting to climatic change and Tree planting Initiative in Uganda

Project duration: 7 years

Introduction

There are 4.9 million hectares of natural forests and woodlands in Uganda, covering 24% of the land area. 81% of this forest area is woodland, 19% tropical high forest and less than 1% under plantations. The distribution of these resources in Uganda varies greatly by region. The Northern region is dominated by woodland, while the western and central regions have both woodlands and tropical high forests. The eastern region has very few woodlands and tropical high forests.

Much of the land (over 41%) is under subsistence farming. This holds 24% of national biomass, in the form of scattered trees, forest patches and agro-forestry trees included within farming systems. There is thus almost as much forest biomass on-farm as in the country's natural woodlands. Together with the existing natural forests on private land and in government reserves, these on-farm forest resources are a major focus of the National Forestry Authority (NFA), with particular reference to decentralization and the development of farmer-driven advisory services and agro-forestry.

Other land use activities take up 28% of the land area.

Drastic changes in the forest cover have taken place in Uganda during the past century. FAO estimated the forest cover to have reduced from as much as 10.8 million ha (52%) in 1890, to only 5 million ha (24%) today. FAO (2000) estimated the deforestation rate in Uganda to be 55,000 ha per year based on the change in the amount of bush land and woodlands from 1990 to 1995. Also MFPED (1994) estimates the rate of land clearance in the range of 70,000ha to 200,000ha, indicating deforestation rates of between 0.9% and 3.15%.

Rationale

Deforestation has caused a reduced supply of wood and non-wood Forestry products, reduced environmental services such as watershed and soil protection, and reduced biodiversity. There is a growing demand for forest products, and a growing shortfall in supply, based on current investment levels. Due to deforestation there are increased fuel wood costs, both in terms of money and productive time, wasted in Fuel wood collection.

UMYA and HEAR Uganda will thus develop a 'Green Uganda' project, to go out to the people, sensitize, train, and facilitate them to plant and grow trees and shrubs in their homes, gardens, and fields.

Vision of the project:

An environmentally friendly, ecologically stable, and economically flourishing Uganda for the benefit of the people of Uganda.

Project Goal:

To distribute, and aid to plant and grow 2,500,000 tree seedlings for fruit, amenity, and agro-forestry purposes to the public of Uganda with particular attention to the Muslim community, in a period of 7 years.

Goal of UMYA AND HEAR UGANDA

To sensitize Ugandans and Muslims in particular about environmental conservation and tree planting, clean environment, and to establish tree nurseries in various parts of the country, that will enable the public to acquire free seedlings for fruits, amenity and Agro-forestry.

Significance of the project:

The project will contribute to improvement of livelihood and resilience to climatic change of Ugandans through:

- Increasing on the number of barriers to wind, which in turn reduce soil erosion, and destruction of crops and property by wind.
- Improved livelihood through sale of wood products such as timber (round wood), peeler logs (for production of veneers used in plywood manufacture), firewood etc.
- Improved livelihood through sale of fruits like Mangoes, Oranges, etc
- Reducing on the cost of energy for cooking through promotion of planting short rotation trees or shrubs that can provide fuel wood.
- Reduction of current pressure on protected areas such as Central Forest Reserves, Game reserves and Wetlands which are cleared for mainly fuel-wood products
- Contributing to climate stabilization thus reducing on the negative effects of climate change that are culminating into global warming.
- Increasing the number of shade trees especially in gazetted urban resting places such as green parks and recreation centers.
- Improving community knowledge and awareness of climatic change issues and supporting demonstration and adaptation practices that reduce the impact of climatic change on peoples livelihoods such as best practices in water protection and preservation, soil fertility conservation, best energy production and conservation among others.

Project area

The project will cover an equivalent of 5000ha in various areas of Uganda owned by schools, mosques, local communities, City / Urban Authorities, Uganda National Roads Authority, National Environment Management Authority, National Forestry Authority etc. within a period of 7 years from the date of commencement of the project.

Target planting

2500,000 seedlings will be planted over approximately 6250ha considering a spacing of 5m x 5m. These will include fruit species, ornamentals, agro-forestry species etc.

Mid-term Review, Project Evaluation and Closure

This project will be implemented over a period of Seven (7) years from the date of commencement of activities. Mid-term review will be conducted after 4 years of operation to ascertain whether the project is being run in the desired direction. Internal Audit mechanisms will be put in place to ensure close monitoring and evaluation of project performance on a quarterly basis (i.e. every after three months). This will help to streamline management to required standards. The project is expected to wind up by the 7th Year of its operation after which it will be subjected to a full audit examination of its contribution to the target community in light of its preconceived management objectives.

Depending on trade-offs justified by new opportunities/successes created by the former project, recommendations will be made for either a completely new project that will seek to address fresh challenges or extension of the operational tenure of the former project to sustain similar benefits/opportunities to a wider target community.

THE DEVELOPMENT OBJECTIVE of UMYA and HEAR Uganda

To generate, establish and maintain an efficient mechanism for sustainable environmental and natural resources management at the National, District and community levels.

Methodology

Implementation of the project will take course through a number of phased stages designed to ensure acceptance and effective implementation by the target community. These are summarized in the following account.

Community Sensitization:

Project Extension workers will meet members of the target community in their homes, public places, and in village council meetings, where they will be sensitized on the importance of growing trees. They will also collect information from the target community regarding the tree varieties of interest that better suit the project's planting program.

Tree Nursery Establishment

Tree nurseries will be established in the five regions of Uganda in which the project will be operating. In addition to soil conditions, seedlings to be raised by the Project will depend on the choice of preferred

varieties as assessed from people's responses during the sensitization programs. Tree Nurseries will be strategically located in areas of utmost convenience and accessibility to the target community.

Distribution of Seedlings

Establishment of the tree nurseries will be made in advance of a target planting season so that seedlings are ready by the onset of a particular rainy season. Applications for seedlings will be invited from members of the target community with number of seedlings dependent of available plantable area under one's application in hectares or acres. The following simple formula will be used as a guide during distribution of seedlings.

No. of seedlings per hectare at a 5m x 5m spacing = 400

No. of seedlings per acre at a 5m x 5m spacing = 160 i.e. (400/2.5)

Total number of seedlings per individual with X hectares of land =400X

Total number of seedlings per individual with Y acres of land =160Y

NB: The Project Field Team will help members of the target community to determine the size of their land in scenarios of lack of the know-how, using basic survey equipment such as Global Positioning System (GPS).

Delivery of the Seedlings to the planting sites

Applications for seedlings will include site sketch maps for locations where planting is meant to take place. This will help the project field team in ensuring effective delivery of seedlings to planting sites of successful applicants. Seedlings will be entirely cost free and upon their receipt, members of the target community will ensure that seedlings are safe and well protected from excessive sunshine and domestic animals such as cows and goats.

Site Preparation and Planting:

The project field/extension staff will guide the target community on requirements for site preparation such as lining out, pitting and planting. The costs involved in all this will be met by the project beneficiary. In addition he/she will ensure that seedlings planted are well maintained through regular weeding and where applicable will be carried out so that pests and diseases on planted seedlings especially fruits are completely controlled to avoid possible damage.

The following species of seedlings will be provided by the project to members of the target community and will define the species sample space from which choice for planting shall depend.

Table 1: Seedling varieties targeted for Green- Top Tree planting project

Common name	Botanical name	Economic value	Remarks
Musizi	Maesopsis eminii	Timber, firewood	Good agroforestry tree
Mango	Mangifera indica	Fruits	
Mvule	Milicia excelsa	Timber	
muwafu	Canarium shweinfurthii	Fruits, timber	Good agroforestry tree
Podo	Podocarpus usambarensis	Timber	
Pine	<i>Pinus caribaea, Pinus oocapa, Pinus patula</i>	Timber	
Eucalyptus	<i>Eucalyptus grandis, Eucalyptus camaldurensis, Eucalyptus hybrid (cloned varieties)</i>	Timber, Electric transmission poles, firewood	
Avocado	Parsea americana	Fruits	Good agroforestry tree
Guava	Psidium guajava	Fruits	Good agroforestry tree
Jack fruit	Atocarpus heterophyllus	Fruits	Good agroforestry tree
Cyprus	Cupressus lusitanica	Timber	
Grevellia	Grevellia robusta	Timber	Good agroforestry tree
Umbrella tree	Terminalia superba	Peeler logs (plywood manufacture)	

Calliandra	<i>Calliandra carothyrtus</i>	Fodder, Bee forage	Good agroforestry tree
Luceana	<i>Luceana leucocephala</i> <i>Luceana diversifolia</i>	Fodder, Bee forage	Good agroforestry tree
Araucaria (monkey puzzle)	<i>Araucaria cunninghamii</i>	Timber	
Sour sop Tree (Kitafferri)	<i>Anona muricata</i>	Fruit	Good agroforestry tree
Citrus fruits	<i>Citrus lemona, Citrus spp</i>	Fruits	Good agroforestry tree
Mukebu	<i>Cordia millenii</i>	Timber	Making of boats
Neem tree	<i>Azadirachta indica</i>	Timber, Herbal medicine	Good agroforestry tree
Exotic Mvule	<i>Bathdevia spp</i>	Timber	
musambya	<i>Makhamia lutea</i>	Timber	
Mugavu	<i>Albizia coriaria</i>	Timber, firewood	Good agroforestry tree
Mutuba	<i>Ficus natalensis</i>	Firewood, fodder to browsers	Good agroforestry tree
Kirundu	<i>Antiaris toxicaria</i>	Timber	

With the project target of 2,500,000 seedlings in 7 years, **5 regional** Tree Nurseries will be established in the following regions:

Kampala Region
Northern Uganda
Central (Buganda)
Eastern Uganda
Western Uganda

Note: **Two (2)** regional Tree Nurseries will be considered for Central Uganda as it represents a vast area with high indexes of population density.

The following table gives vital information on prospects of seedling production from project Nurseries over the course of 7years.

Table 2: Seedling production, Location and Distribution over a Period of 7 Years (2012 - 2018)

Region	Nursery Location	Type of seedlings	Time (Rain season)	Nursery Capacity (per season)	Quantity /acre	No. of acres plantable / season
Project performance in Year 1 (2012)						
Northern Uganda	Gulu	All species as indicated in Table 1 above.	March to June season	35,714	160	238
	Gulu	All species as indicated in Table 1 above.	Sept to Nov Season	35,714	160	238
Buganda Region	Masaka (Nursery1)	All species as indicated in Table 1 above.	March to June season	35,714	160	238
	Masaka (Nursery1)	All species as	Sept to Nov	35,714	160	238

		indicated in Table 1 above.	Season			
	Luwero (Nursery2)	All species as indicated in Table 1 above.	March to June Season	35,714	160	238
	Luwero (Nursery2)	All species as indicated in Table 1 above.	Sept to Nov season	35,714	160	238
Eastern Region	Mbale	All species as indicated in Table 1 above.	March to June Season	35,714	160	238
	Mbale	All species as indicated in Table 1 above.	Sept to Nov season	35,714	160	238
Western Region	Mbarara	All species as	March to June	35,714	160	238

		indicated in Table 1 above.	Season			
	Mbarara	All species as indicated in Table 1 above.	Sept to Nov season	35,714	160	238
Subtotals for Year 1 (2012)				357,140		2380 acres
Project performance in Year 2 (2013)						
Northern Uganda	Gulu	All species as indicated in Table 1 above.	March to June season	35,714	160	238
	Gulu	All species as indicated in Table 1 above.	Sept to Nov Season	35,714	160	238
Buganda Region	Masaka (Nursery1)	All species as indicated in Table	March to June season	35,714	160	238

		1 above.				
	Masaka (Nursery1)	All species as indicated in Table 1 above.	Sept to Nov Season	35,714	160	238
	Luwero (Nursery2)	All species as indicated in Table 1 above.	March to June Season	35,714	160	238
	Luwero (Nursery2)	All species as indicated in Table 1 above.	Sept to Nov season	35,714	160	238
Eastern Region	Mbale	All species as indicated in Table 1 above.	March to June Season	35,714	160	238
	Mbale	All species as indicated in Table	Sept to Nov season	35,714	160	238

		1 above.				
Western Region	Mbarara	All species as indicated in Table 1 above.	March to June Season	35,714	160	238
	Mbarara	All species as indicated in Table 1 above.	Sept to Nov season	35,714	160	238
Subtotals for Year 2 (2013)				357140	1600	2380 acres
Project performance in Year 3 (2014)						
Northern Uganda	Gulu	All species as indicated in Table 1 above.	March to June season	35714	160	238
	Gulu	All species as indicated in Table 1 above.	Sept to Nov Season	35714	160	238

Buganda Region	Masaka (Nursery1)	All species as indicated in Table 1 above.	March to June season	35714	160	238
	Masaka (Nursery1)	All species as indicated in Table 1 above.	Sept to Nov Season	35714	160	238
	Luwero (Nursery2)	All species as indicated in Table 1 above.	March to June Season	35714	160	238
	Luwero (Nursery2)	All species as indicated in Table 1 above.	Sept to Nov season	35714	160	238
Eastern Region	Mbale	All species as indicated in Table 1 above.	March to June Season	35714	160	238

	Mbale	All species as indicated in Table 1 above.	Sept to Nov season	35714	160	238
Western Region	Mbarara	All species as indicated in Table 1 above.	March to June Season	35714	160	238
	Mbarara	All species as indicated in Table 1 above.	Sept to Nov season	35714	160	238
Subtotals for Year 3 (2014)				357,140		2380 acres
Project performance in Year 4 (2015)						
Northern Uganda	Gulu	All species as indicated in Table 1 above.	March to June season	35714	160	238

	Gulu	All species as indicated in Table 1 above.	Sept to Nov Season	35714	160	238
Buganda Region	Masaka (Nursery1)	All species as indicated in Table 1 above.	March to June season	35714	160	238
	Masaka (Nursery1)	All species as indicated in Table 1 above.	Sept to Nov Season	35714	160	238
	Luwero (Nursery2)	All species as indicated in Table 1 above.	March to June Season	35714	160	238
	Luwero (Nursery2)	All species as indicated in Table 1 above.	Sept to Nov season	35714	160	238

Eastern Region	Mbale	All species as indicated in Table 1 above.	March to June Season	35714	160	238
	Mbale	All species as indicated in Table 1 above.	Sept to Nov season	35714	160	238
Western Region	Mbarara	All species as indicated in Table 1 above.	March to June Season	35714	160	238
	Mbarara	All species as indicated in Table 1 above.	Sept to Nov season	35714	160	238
Subtotals for Year 4 (2015)				357,140	1600	2380 acres
Project performance in Year 5 (2016)						
Northern Uganda	Gulu	All species	March to June	35714	160	238

		as indicated in Table 1 above.	season			
	Gulu	All species as indicated in Table 1 above.	Sept to Nov Season	35714	160	238
Buganda Region	Masaka (Nursery1)	All species as indicated in Table 1 above.	March to June season	35714	160	238
	Masaka (Nursery1)	All species as indicated in Table 1 above.	Sept to Nov Season	35714	160	238
	Luwero (Nursery2)	All species as indicated in Table 1 above.	March to June Season	35714	160	238
	Luwero	All species	Sept to Nov	35714	160	238

	(Nursery2)	as indicated in Table 1 above.	season			
Eastern Region	Mbale	All species as indicated in Table 1 above.	March to June Season	35714	160	238
	Mbale	All species as indicated in Table 1 above.	Sept to Nov season	35714	160	238
Western Region	Mbarara	All species as indicated in Table 1 above.	March to June Season	35714	160	238
	Mbarara	All species as indicated in Table 1 above.	Sept to Nov season	35714	160	238
Subtotals for Year 5 (2016)				357,140		2380 acres

Project performance in Year 6 (2017)						
Northern Uganda	Gulu	All species as indicated in Table 1 above.	March to June season	35714	160	238
	Gulu	All species as indicated in Table 1 above.	Sept to Nov Season	35714	160	238
Buganda Region	Masaka (Nursery1)	All species as indicated in Table 1 above.	March to June season	35714	160	238
	Masaka (Nursery1)	All species as indicated in Table 1 above.	Sept to Nov Season	35714	160	238
	Luwero (Nursery2)	All species as indicated	March to June Season	35714	160	238

		in Table 1 above.				
	Luwero (Nursery2)	All species as indicated in Table 1 above.	Sept to Nov season	35714	160	238
Eastern Region	Mbale	All species as indicated in Table 1 above.	March to June Season	35714	160	238
	Mbale	All species as indicated in Table 1 above.	Sept to Nov season	35714	160	238
Western Region	Mbarara	All species as indicated in Table 1 above.	March to June Season	35714	160	238
	Mbarara	All species as indicated	Sept to Nov season	35714	160	238

		in Table 1 above.				
Subtotals for Year 6 (2017)				357,140		2380 acres
Project performance in Year 7 (2018)						
Northern Uganda	Gulu	All species as indicated in Table 1 above.	March to June season	35714	160	238
	Gulu	All species as indicated in Table 1 above.	Sept to Nov Season	35714	160	238
Buganda Region	Masaka (Nursery1)	All species as indicated in Table 1 above.	March to June season	35714	160	238
	Masaka (Nursery1)	All species as indicated in Table 1 above.	Sept to Nov Season	35714	160	238

	Luwero (Nursery2)	All species as indicated in Table 1 above.	March to June Season	35714	160	238
	Luwero (Nursery2)	All species as indicated in Table 1 above.	Sept to Nov season	35714	160	238
Eastern Region	Mbale	All species as indicated in Table 1 above.	March to June Season	35714	160	238
	Mbale	All species as indicated in Table 1 above.	Sept to Nov season	35714	160	238
Western Region	Mbarara	All species as indicated in Table 1 above.	March to June Season	35714	160	238

	Mbarara	All species as indicated in Table 1 above.	Sept to Nov season	35714	160	238
Subtotals for Year 7 (2018)				357,140		2380 acres
Grand Totals (after 7 years)				2,500,000		15,625 acres (6,250ha)

Costing of the Tree Nursery process

Assumptions

30% of the expected seedlings will be fruit varieties. This gives a production target of 750,000 over a period of 7 years.

20% of the expected seedlings will be Eucalyptus varieties, which gives a production target of 500,000 over a course of 7 years

10% of the expected seedlings will be pines with a production target of 250,000 seedlings

10% of the expected seedlings will be ornamentals / shade tree varieties with a production target of 250,000 seedlings

30% of the expected seedlings will be indigenous varieties / multi-purpose Agro-forestry species which give a production target of 750,000 seedlings over a period of 7 Years.

Tree seed:

Seeds will be sourced from the National Tree Seed Center, Namanve with quantity dependent on the production target envisaged in the proposed assumptions enlisted above. The project will therefore incur the following expense on tree seed.

Table 3: Cost of Seed / planting material for species identified in the project planting program

Costed item	unit	Quantity	Unit cost	Total cost	Remarks
Fruit Tree seed	kg	150			Assorted fruit varieties
Eucalyptus seed	kg	1			Seed from approved local sources.
Pine seed	kg	10			Imported / exotic pine varieties
Seed for ornamentals	kg	10			
Suckers / root cuttings for ornamentals	Numbers	50,000			
Seed for indigenous species / Agro-forestry species	kg	500			Mainly indigenous Timber varieties
Totals					

Other Expenses
These are summarized in the following Table

Table 4: Expenses for establishment of Project Regional Tree Nurseries.

Cost item	unit	Unit cost	Quantity	Cost/ season	Cost/yr (2seasons)	Cost/ 7yrs
Renting Nursery grounds	month		5 nursery sites			

Polythene tubes	Roll		5Rolls/season			
Mychorrhizal soils (for pines)	Lorryfuls (Elf)		10			
Black soils (forest soils)	Lorryfuls (Elf)		40			
Composite manure / cow dung	Lorryfuls (elf)		5			
Nursery workers (permanent)	wage		15			
Lake sand	Lorryfuls (elf)		10			
Watering cans	numbers		15			
Drums / water containers	numbers		10			
Constructing nursery beds	Wooden Beds		50			

Climatic Change (CC), Education and Awareness and Support of Demonstration and Adaptation of Best Practices.

Table 5: Demonstration and adaptation of best practices

Cost item		unit	Unit cost	Quantity		
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water conservation and preservation - rain water harvesting in arid areas	target 50 schools, 50 mosques and 50 households - system, container and labor	harvesting system		150		
	protecting 50 shallow wells	planting trees stone laying and drainage		50		
Demonstration farm plots best practice adaptation soil and water conservation, contour farming	water and soil preservation techniques, including terracing and crop spacing	demo plot		100		
livestock adaptation - hay harvesting and preservation	demonstrating hay harvesting storage and preservation for livestock	store, equipment and labor		50		
Improved Energy production and use stoves	training and making energy saving stoves permanent and mobile	stoves and trained teams		100		
Solar and wind energy introduction	demonstrating solar and wind energy technologies	equipment - energy centers		10		
Environmental Award scheme	making award celebration per in 2 districts	Awards and celebration cost		14		
Total in UG sh.						

STAKE HOLDERS TO WORK WITH:

Our leading partner shall be Uganda Muslim Teachers association (UMTA). Others include, Student groups, Women groups, specialized organizations, NFA, District forestry services, Muslim community leaders, UMEA etc.

Other cross-cutting issues:

HIV/AIDS: HIV/AIDS will be taken as a cross cutting issues and will be internally and externally mainstreamed into the project. HIV Preventive Messages and education materials will be delivered at all sensitization meetings.

Gender Issues: Gender will be taken into considerations, all events, meetings, beneficiaries' selection, trainings will consider gender. Men and women will be given equal opportunity.

Technology: Technology will be used, all project data, and reports will be computerized. There will be use of information technology to allocate resources like use of GIS and also to monitor activities in the field. All project activities sites will be geo-referenced using GPS technology and photographed and mapped.

Resource Leveraging: UMYA and HEAR Uganda are currently doing some environmental sensitization and have initiated some tree planting activities.

They are already working with government partners and these resources will go along to leverage the projects resources in some area.

Monitoring and evaluation and reporting:

The project will employ an M&E officer who will compile a report on quarterly basis and data on project indicators. These will be submitted to stakeholders and donor. 2 midterm evaluations will be done in the 2nd and 5th year and one final evaluation done in the 7 year.

Project indicators will include:

- ✚ Number of hectares under forest cover per year
- ✚ No of people with increased economic benefit/ year (men / women)
- ✚ Number of people trained (men/women)
- ✚ Number of trees planted and survived in the 1st year

Project management and administration

The Project will be run by a Project Manager assisted by regional managers charged with direct administration of Project activities at field levels. The table below gives detail of the proposed Project staffing who will be recruited according to the qualifications hitherto indicated:

Table 6: Project Staffing

Title	Qualification	Number required	Scope of Responsibility	Remuneration
Project Manager	Degree in Natural Sciences	01	Overall administration of Project	
Regional Project Managers	Diploma in Forestry	05	Management and Administration of Regional Project activities	
Project Accountant	Degree in Financial / Management Accounting	01	Overall management of Project Financial System	
Accounts Assistants	Diploma in Financial / Management Accounting	05	Managing Project Books of Account at Regional level	
Permanent Nursery workers	Certificate in Forestry / Tree Nursery Management	15	Attached to regional Tree Nurseries	
Monitoring & Evaluation	Degree in Monitoring & Evaluation	01	Checks and balances in Project systems in pursuit of Core Objectives	
Drivers	Uganda Certificate of Education	02	Movement of Project staff to duty locations	

Much as we indicate the staff required at the technical level we shall mostly rely on volunteers from the community members and the organizations.

Kampala: At UMYA Headquarters.

Vehicles: 2

Motorcycles : 5

Bicycles

Bank Accounts will be provided when required.