

Darwin Initiative Main and Post Project Annual Report

To be completed with reference to the “Writing a Darwin Report” guidance: (<http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms>). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Submission Deadline: 30th April 2020

Darwin Project Information

Project reference	25-020
Project title	Supply and Demand: Restoration in Uganda for People and Biodiversity
Country/ies	Uganda
Lead organisation	Botanic Gardens Conservation International (BGCI)
Partner institution(s)	Tooro Botanical Gardens (TBG) International Union for Conservation of Nature (IUCN)
Darwin grant value	£318,076
Start/end dates of project	01/07/2018 – 31/03/2021
Reporting period (e.g. Apr 2019 – Mar 2020) and number (e.g. Annual Report 1, 2, 3)	April 2019 – March 2020 Annual Report 2
Project Leader name	Kirsty Shaw
Project website/blog/social media	https://www.bgci.org/our-work/projects-and-case-studies/supply-and-demand-restoration-in-uganda-for-people-and-biodiversity/
Report author(s) and date	Kirsty Shaw, Alex Hudson (BGCI) and Said Mutegeki, Godfrey Ruyonga (TBG)

1. Project summary

The Uganda Forest Landscape Restoration (FLR) Opportunity Assessment, published by the Ugandan government and IUCN (2016), states that 17% of Uganda’s land is severely degraded, 30% highly degraded and 31% moderately degraded. This has serious implications for Uganda’s long-term development and causes the loss of 4-12% of Uganda’s GDP annually (Bolwig, 2002). Average monthly household income in rural Uganda is US\$45 (UBOS, 2014). There is limited job creation for the poorest households, and employment opportunities for women are particularly restricted (World Bank, 2016).

Under the Bonn Challenge, Uganda has pledged to restore 2.5 million ha of land by 2020. The Uganda FLR report aims to plant 200 million trees in priority areas to improve human well-being and ecological productivity.

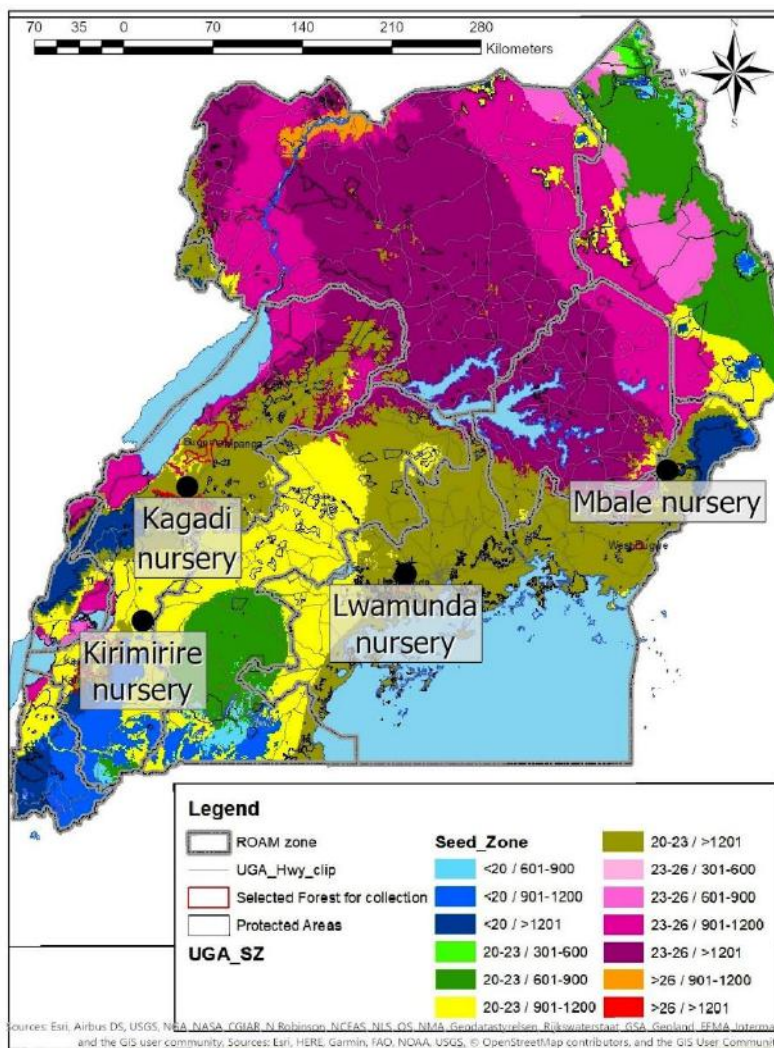
This pledge represents a huge opportunity for delivering species conservation, increasing biodiversity on farms, and delivering genetically and taxonomically diverse ecological restoration that benefits people and wildlife. Uganda has 849 native tree species; 30 are globally threatened. However, currently there is:

- i) Little understanding of the benefits of delivering genetically biodiverse FLR (and the risks of not doing so)
- ii) High demand for, and availability of, exotic tree species
- iii) Limited availability of native seeds and seedlings due to a lack of knowledge about how to propagate native species among community nurseries, farmers and government
- iv) No up-to-date forest policy, and hence, no mandate for planting indigenous species.

As a result, there is a risk that exotic species from government nurseries will be planted instead, delivering species-poor FLR that misses biodiversity conservation and employment opportunities for rural people.

This risk was identified by project partners who have extensive knowledge and experience from working on forest conservation and restoration projects in Uganda.

To overcome this risk, the project has set up four nurseries next to areas identified as priorities for forest restoration in the FLR Opportunity Assessment. Locations of the nurseries are given below. This project is supporting the delivery of biodiversity conservation and creating opportunities for livelihood improvement by employing people from rural areas to collect seed and cultivate native seedlings in the four nurseries. The nurseries have produced a diverse mix of indigenous seedlings. Outreach activities aim to drive demand for native species, with the aim to make the nurseries self-sustainable by the end of the project.



Map showing nursery sites and seed collecting zones delineated by the project

2. Project partnerships

This project is co-led by Botanic Gardens Conservation International (BGCI), Tooro Botanical Gardens (TBG) and the International Union for Conservation of Nature (IUCN). Additional project partners include the National Forestry Authority (NFA), the Ministry of Water and Environment (MWE) and the National Environment Management Authority (NEMA). Representatives from all partner organisations sit on the project Steering Committee and help with project planning and monitoring and evaluation.

BGCI and TBG have worked together on forest restoration projects in Uganda since 2012 and both parties have been involved in all project activities in years 1 and 2. IUCN and MWE were brought into the project as they produced the FLR Opportunities Assessment for Uganda and are therefore key implementing partners. In Year 1, IUCN and MWE helped with selection of sites for nursery establishment and in Year 2 they have been involved in project meetings and regional events to promote the sale of native seedlings, as part of the National Water and Environment week in Uganda. Unfortunately, the national event for the Water and Environment week was cancelled due to COVID-19. NEMA was also due to be involved in this event and has indicated their continued commitment to be involved when it is rescheduled.

TBG is situated on land owned by NFA and has a close working relationship with them. In Year 1, NFA helped with selection of sites for nursery establishment; delivering training on seed collection, propagation and nursery management; and supported the delineation of seed collection zones in Year 1. In Year 2, NFA officers local to each nursery have supported nursery operations and seed collection groups have collected seed from NFA forest reserves, with forest guards often joining the collecting groups.

In Year 2, TBG also sought permission from the Uganda Wildlife Authority (UWA) to collect seed from National Parks close to the nursery sites. The project team is working with the park management at Kibale National Park and Mount Elgon National Park, and seed is collected from these parks to supply the nurseries.

3. Project progress

3.1 Progress in carrying out project Activities

Progress made to date is outlined for activities supporting each project Output and evidence is provided in accompanying annexes.

Output 1: Improved information generated on more than 150 native tree species, including improved information on distribution, wild populations and seed availability and propagation protocols improved / developed.

A steering committee meeting was held in July 2019 (Activity 1.1) with the project team from TBG, BGCI, IUCN, representatives from District Local Governments, Makerere University, the Forestry Department of the Ministry of Water and Environment (MWE), the National Environment Management Authority (NEMA), the National Forestry Authority (NFA) and the project's local marketing consultant (Alex Kaahwa). The meeting demonstrated the continued strong support from MWE, NEMA and NFA for the overall project aim of increasing the number of indigenous tree species being planted in Uganda. The main focus of the meeting was to monitor progress of the project so far, and to plan the public outreach components of the project. The steering committee decided that regional and national events for the project should coincide with the regional and national events that would take place as part of the National Water and Environment week in March 2020 (see steering committee minutes in Annex 4). Another steering committee meeting was planned for March 2020, but was postponed due to COVID-19. This will be rescheduled in Year 3.

In Year 2, Alex Kaahwa, the marketing and business skills consultant contracted at the start of the project (A1.1) worked with the project team to carry out the following activities; development of a marketing tool to promote seedling sales (Annex 5), development of marketing materials (see Annex 6), capacity building of nursery managers, nursery operators and demonstration plot managers in marketing and business skills and, identification, and profiling and engaging key institutional stakeholders to buy seedlings. A report on activities undertaken is provided in Annex 7.

The project team submitted a change request for BGCI to carry out the activities originally intended to be done by a public outreach expert from BGCI's network. The request was approved and BGCI's Biodiversity Education Officer, supported by BGCI's Head of Education and Vocational Training, worked with TBG and the local marketing and business skills consultant to develop public outreach materials and plan events.

The seed collection zone maps produced in Year 1 (A1.2) were used to guide seed collecting activities in Year 2 (A1.3). Provenance of propagation material is tracked by nursery teams to give advice on seedlings of suitable provenance when making sales. Seed surveys were carried out in the following forest areas; Lwamunda Forest Reserve (FR), Busanyi Community FR, West Bugwe-Busitema FR, Mabira FR, Mount Elgon National Park, Kibale National Park, Itwara FR, Ibanda Hill FR, Kashyooha-kitoomi FR, Kagombe FR, and Budongo FR and TBG arboretum FR, and additional small community forests. During Year 2, 100 species were monitored for seed set, from which 79 species were collected and are being propagated across nursery sites (this includes 9 species in the germination beds). The additional 21 species were still being monitored until the COVID-19 restrictions were put in place, which have halted seed monitoring and collection.

A list of target species was developed in Year 1 (A1.3), including species known to be used for medicine, and framework species that grow fast, create canopy cover quickly that shade out weeds, and produce fruit early to bring in birds and encourage the natural spread of other species in restoration plots. Existing propagation information was gathered by the TBG team for all target species in Year 1 (A1.5) and shared with nursery groups to guide their work in Year 2. All four nurseries record when seed is planted, when seeds germinate, germination rate, and maintain notes on propagation techniques including soil medium used, amount of shade, etc. This information will be used to improve propagation protocols, ready for publication in Year 3 (A1.5).

Output 2: Genetically diverse seedlings of 150 native tree species available for purchase from nurseries established in high priority restoration areas

Suitable sites for nurseries were selected (A2.1) and four nursery infrastructures established in Year 1 (A2.2). The nurseries became fully operational in Year 2. A Memorandum of Understanding (MoU) has been signed with the District Local Government in Ibanda for the Kimirire nursery and restoration plot (see Annex 8). Draft MoUs for other districts are currently with the NFA legal team and hope to be signed soon.

In response to the Year 1 annual report feedback, the project team were requested to adjust their seedling production targets for Year 2. The targets included in the initial proposal were to have 300,000 seedlings of 100 species available from nurseries by the end of Year 2. In the half-year report for Year 2, we adjusted our targets, anticipating that 200,000 seedlings of 80 species would be available from nurseries by the end of Year 2.

At the end of Year 2, 195,142 seedlings of 70 species were available in nurseries (A2.3, A2.4), including 8 threatened species (*Prunus africana* – VU, *Milicia excelsa* – EN in Uganda, *Khaya anthotheca* – VU, *Olea welwitschii* – VU in Uganda, *Fagaropsis angolensis* – VU in Uganda, *Warburgia ugandensis* – VU, *Cordia mellinii* – VU, and *Turraenthus africana* – VU). Two additional threatened species were collected and brought to nurseries, but seedlings have not yet been successfully propagated (*Beilschmeidia ugandensis* – VU and *Khaya senegalensis* – VU). An additional ten species have been collected and are in germination beds, some of which also need to be identified.

A list of species propagated and number of seedlings at each nursery is provided in Annex 9. Compared to government and other commercial nurseries that typically sell non-native Pines, Eucalyptus and Grevillea, this project is dramatically increasing the supply of appropriate planting material for degraded areas of Uganda.

	Ibanda Nursery	Kagadi Nursery	Lwamunda Nursery	Mbale Nursery
Number of seedlings	59,003	38,091	31,319	66,729
Number of species	43	34	42	44

Table 1: Number of seedlings and number of species available from each nursery



Ibanda Nursery



Public outreach event at Kagadi Nursery

As a result, of COVID-19, a nationwide lockdown has been enforced in Uganda. Seed collecting groups are currently not working to minimise movement around the country.

Following national government guidance, the nurseries are closed to the public. Each nursery has installed a washing station, nursery staff are able to continue maintaining seedlings with reduced numbers of people working at a time, observing social distancing measures and regularly disinfecting tools. There is a lot to do as there are high numbers of seedlings in the nurseries, seed currently in the germination beds, and rains have not yet arrived, so the full team of 40 nursery workers (ten per nursery) continue to work at the moment, but split into two shifts; five at each nursery on a morning shift and five at each nursery on an afternoon shift. Continued employment for as many people as is safely possible is helpful as there is no provision for non-operational workers to claim money from the government during the pandemic.

Output 3: Increased demand for genetically and species diverse seedlings

In preparation to launch a national campaign to promote the planting of a diverse range of native species (A3.3), an analysis was carried out of key audiences in each region and at the national level. This focused on groups with potential interest in purchasing seedlings from nurseries, and included NGOs, farmer associations, church and other community groups and

companies. Key messages and a marketing tool were developed to guide the campaign, and a range of outreach events, materials and media programmes were designed to drive demand for indigenous seedlings.

Examples of the outreach materials developed in Year 2 are provided in Annex 6. This included sharing information on the values of individual native species, including their medicinal values, whether they produce fruit or timber, as well as their growth rates and care guidelines, to encourage and facilitate the planting of native species. Outreach materials were developed by TBG, BGCI and the local marketing consultant.

Bukedde TV was contracted to create film content from the project for airing on the Omulimisa/Agri-business show, but airing of the programme is on hold due to COVID-19, as nurseries are currently closed for business. The filming covered all four nurseries and interviews with nursery workers and TBG explaining the project objectives, the value of planting native tree species, how the project is supporting local communities and the relevance of purchasing seedlings from the nurseries for project sustainability and benefits to biodiversity.

Standard content was developed for radio programmes, which was then adjusted for each district, including inputs from youth community groups, farmers, local council representatives, community farmer cooperatives. Programmes were recorded and are being aired in local languages. Estimated listenership figures are as follows; Lwamunda, Bukedde FM, 1 programme: 6 million people; Mbale, Elgon FM, 1 programme: 4 million people; Kagadi, Kagadi-Kibale Community Radio, 2 programmes: 3 million people; Ibanda, Voice of Kamwenge, 2 programmes: 2.8 million people and Voice of Tooro, 1 programme: 2.5 million people.

Regional and national events were planned as part of the National Water and Environment week in March 2020, and TBG worked with the MWE and BGCI to plan event format and content. Four regional workshops were held, one close to each nursery site (A3.2). A total of 286 people participated in the regional events, 60 people at the Lwamunda event, 50 at the Mbale event, 100 at the Kagadi event and 76 at the Ibanda event. Unfortunately, the national event (A3.1) was cancelled due to COVID-19.

A change request was submitted and approved to carry forwards public outreach funds to Year 3, supporting the visit of BGCI's Biodiversity Education Officer and IUCN's participation in the events (scheduled for March 2020 but postponed due to COVID-19).

Four forest restoration demonstration plots have been set up, one per nursery (A3.4). The sites were demarcated and prepared for planting by restoration plot managers, one appointed for each site. The site sizes are; Mbale Namatale - 2 ha; Ibanda- 5 ha; Lwamunda- 5 ha; Kagadi- 10 ha. The project aims to plant 2ha of each plot and raise matched funding to plant the remaining areas of Ibanda, Lwamunda and Kagadi. During Year 2, the plots were cleared and primary tillage took place. A planned secondary tillage did not take place, as it was not required. Despite nationwide lockdown measures, it is hoped that the demonstration plots will still be able to be planted by observing social distancing measures.

A request for funding was submitted to WWF Reforestation Grants for £11,000 to go to TBG and nursery groups to purchase seedlings, plant the demonstration sites, and provide training in planting and management. The application was successful, but the funding has not yet come through.

Prior to nursery closures, some orders for seedlings had been placed, equating to 7,856,000 Ugandan Shillings (just over 2,000 USD). These are summarised in the table 2 below. In addition, TBG is in negotiations with the local leader of the Operation Wealth Creation Team (a government parastatal in charge of sustainable food production) in Ibanda to supply agroforestry tree species to their farmers. An additional 22 corporate companies were in the process of placing orders with some at the final procurement stage before nursery closure. It is not clear if these sales will be able to go ahead with COVID-19 restrictions in place.

Output 4: 104 people have increased capacity and improved livelihoods.

Training of seed collectors and nursery groups was a big focus in Year 1 (A4.1, A4.3, A4.6). 60 contracts were subsequently signed by seed monitors and collectors, including 24 women (A4.2). They do not have set days to work each week. They are paid 120,000 Ugandan

Shillings per month as a basic rate. Example contracts are provided in Annex 10. Since October 2019, payments have been made to additional people to support expansion of seed collection to new areas. This includes payments to field assistants and patrol staff in National Parks. Seed collection is currently suspended due to COVID-19. Individuals will continue to collect seed if they come across it and there is no health risk during collection. Seed will then either be stored, or transported to the nurseries by motorbike, and a record of collections kept so that payments can be made.

Name of Nursery	Category	No. of orders	Quantity of seedlings	Rate (UG shillings)	Total cost (UG shillings)
Lwamunda	Farmers	19	1,009		
	District leaders	4	518		
	Cooperate	2	1,250		
Kagadi	Farmers	22	1,018		
	Cooperate	3	800		
Ibanda	Farmers	31	2,360		
	Cooperate	2	900		
Mbale	Farmers	14	760		
	Cooperate	1	250		
Total		98	8,865		

Table 2: Seedling orders per nursery

40 nursery staff, including 21 women, signed contracts to work Monday to Friday at the nurseries (A4.5). The nursery staff were initially paid 158,000 Ugandan Shillings (c.44 USD) per month, which was subsequently increased to 166,333 Ugandan shillings (c.46 USD) per month. Payments are planned as normal in April 2020, despite COVID-19.

Top up training in propagation and nursery management was delivered in November 2019, by Herbert Ongubo, the nursery manager at Brackenhurst Botanic Garden in Kenya.

Four demonstration plot managers were appointed and are paid 158,000 Ugandan Shillings per month (c.44 USD) (A4.7). Payments are planned as normal in April 2020.

Project payments per person per month for full time posts (nursery workers and demonstration plot managers) equate to the average rural income per household per month. The aim is for their wage incomes to be supplemented by seedling sales, but sales are currently delayed while nurseries are closed to the public. Nursery groups will be supported to develop 10-year business plans in Year 3, to support the nurseries to be sustainable when the project ends.

In Year 3, the socio-economic survey will be repeated to measure the impact from employment opportunities created through the project.

3.2 Progress towards project Outputs

Overall progress made to date is outlined for each project Output and evidence is provided in accompanying annexes.

Output 1: Improved information generated on more than 150 native tree species, including improved information on distribution, wild populations and seed availability and propagation protocols improved / developed.

Following mapping of seed collection zones in Year 1, seed collecting groups have monitored and gathered information on seed set for 100 species from 12 Forest Reserves, as well as small community forests and privately owned sites. In Year 1, existing propagation information for native species was collected, and in Year 2 nursery groups are recording additional information on propagation techniques, germination rates, etc. This is generating important information on Ugandan native tree species, which are not well documented, and will facilitate expansion of native seedling propagation and the scaling up of forest restoration that utilises a wide mix of native species and from an appropriate source of planting material.

Output 2: Genetically diverse seedlings of 150 native tree species available for purchase from nurseries established in high priority restoration areas

The four nurseries established in Year 1 close to high priority areas for restoration are fully operational in Year 2. At the end of Year 2, 195,142 seedlings of 70 species were available in nurseries, including 8 threatened species (as listed above in section 3.1). An additional 9 species were collected and are in germination beds, some of which need to be identified. Seedlings are managed in the nurseries per collection, i.e. their genetic provenance is tracked so that advice can be given to purchasers on the most appropriately sourced material for their planting site.

Output 3: Increased demand for genetically and species diverse seedlings

In Year 2, there was a strong focus on public outreach to drive demand for native tree seedlings. This included production of public outreach materials (see Annex 6), TV and radio programmes and events that formed part of the National Water and Environment week. Each nursery has been requested to record how purchasers of seedlings found out about the nurseries to measure the impact of these outreach activities, however, nurseries are currently closed for sales due to COVID-19, but orders equivalent of 7,856,000 Ugandan Shillings (just over 2,000 USD) across the four nurseries were placed prior to the closure. A successful application was submitted to WWF Reforestation Grants, raising £11,000 for seedling purchase, planting restoration plots and associated training activities that will hopefully generate increased demand for native species.

Output 4: 104 people have increased capacity and improved livelihoods.

Following training of 60 seed collectors, 40 nursery workers and 4 demonstration plot managers in Year 1, 104 people living close to nursery sites have been employed and are receiving regular payments through this project (see Annex 10 for sample contracts). A socio-economic study was carried out in Year 1 and will be repeated in Year 3 to measure the impact of the project on people's livelihoods.

3.3 Progress towards the project Outcome

Good progress has been made towards the project Outcome: *Supply and demand for genetically and species diverse planting material is increased through nurseries and seed collecting networks that employ >100 people, for biodiverse Forest Landscape Restoration in Uganda.*

A supply of genetically diverse seedlings from 70 native species were available for purchase from four nurseries close to high priority restoration areas by the end of Year 2. Information has been collated and improved information is being generated by seed collecting and nursery groups on seed set and propagation techniques of native tree species (i0.1) to facilitate expansion of seed collection and propagation efforts to support biodiverse Forest Landscape Restoration across Uganda.

A suite of public outreach materials and activities were designed to drive demand for native seedlings, but it is not yet possible to measure the success of these efforts as nurseries are currently closed for seedling sales.

104 people have been trained and employed in nurseries and seed collecting networks, creating a model that can be expanded across Uganda. As well as working with the IUCN Uganda office through this project, BGCI and our network are providing information and support to the IUCN Global Forests Programme to facilitate a shift towards wider planting of native species as part of Bonn Challenge pledges. This has included raising awareness of the risks of displacing native biodiversity by mass planting of non-native species, provision of guidance and tools to support native forest restoration and promoting this project as an example of best practice.

COVID-19 has impacted Uganda right at the time when the first seedling sales were expected from this project to align with planting in the April – May 2020 rainy season. Year 3 activities are delayed as a result. Despite great progress so far in this project, the scale and timeframe of impact of COVID-19 in Uganda will determine whether the Outcome can be achieved within the original project timeframe.

3.4 Monitoring of assumptions

Assumption 1: Technical challenges can be overcome for difficult species

Additional training was delivered in Year 2 by the nursery manager from Brackenhurst Botanic Garden in Kenya, part of the BGCI network. This helped to overcome propagation issues for species such as *Podocarpus latifolius* and *Olea welwitschii*. The nursery groups continue to contact TBG, BGCI and experts from our network with propagation difficulties, which still persist for some species. It is still assumed that additional challenges will be overcome and documented before the end of the project.

Assumption 2: Employment opportunities (seed monitors, seed collectors and nursery workers) are appealing to communities.

104 people have received employment through the project. Whilst it was not difficult to appoint people to these positions, the seed collecting opportunities have turned out to be less appealing compared to the nursery jobs. This is because seed collection requires travel and is a part-time job so receives a lower salary, whereas nursery work is full-time and does not require travel. To make seed collecting activities more appealing, in Year 2 groups were offered additional opportunities to collect outside of their local areas for additional payments. In Year 3, seed collectors will also be involved in planting activities funded by the WWF grant.

Assumption 3: Sustainable sources of wild seed can be identified for all target species.

By working in close collaboration with NFA and with some private land owners, sustainable seed sources have been identified for 100 target species so far. Seed monitoring and collecting activities are currently on hold due to COVID-19, so it is not yet certain the extent to which this will impact identification of additional seed sources in Year 3.

Assumption 4: Propagation information can be obtained or new protocols developed for species that do not have protocols (up to half of target species).

Existing propagation information was collated in Year 1 and this is being supplemented by record keeping of propagation techniques in nurseries to enable new protocols to be published in Year 3.

Assumption 5: Communities are receptive to nursery establishment.

Communities were receptive to nursery establishment and local community members are involved in seed collecting, nursery and planting activities. There has also been good support for nursery establishment from local forest officers and local councils, offering land for nurseries and forest restoration plots, and showing interest in purchasing seedlings for community events.

Assumption 6: Demand can be created, to the extent that all seedlings are sold.

Assumption 7: Seed sales are sufficient to continue employment (see exit strategy and letters of support)

It is too soon to tell if assumption 6 and 7 will hold true. Public outreach efforts to drive demand were carried out in Year 2, but the nurseries are currently closed due to COVID-19 at a time when their first main sales were anticipated.

3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation

At the start of the project, Forest Landscape Restoration (FLR) efforts in Uganda were constrained by limited understanding of the benefits of biodiverse FLR, high demand for exotic species, and limited availability of native seeds/seedlings. This resulted in a very high risk that Ugandan restoration targets would be missed due to the preponderance of exotic species in government nurseries (see photo-reel at www.nfa.org.ug for typical NFA nurseries growing only exotic pine), delivering species-poor FLR that misses biodiversity conservation, ecosystem services and employment opportunities for rural people. This project aims to significantly reduce that risk.

This project has created jobs for 104 people. Seedlings of 70 native tree species were available at the end of Year 2 from four nurseries established close to high priority areas for restoration. This aims to minimise the risk that these areas will be reforested with exotic species.

Increased information is being generated for native tree species, helping to scale up the production of native species and facilitate the adoption of native species restoration across Uganda. The project is working closely with NFA and MWE, to maximise their uptake and promotion of native species, in their own and other planting efforts across Uganda.

This project is having a higher-level impact on biodiversity conservation and poverty alleviation by developing an important example of how landscape-scale restoration can benefit people, by establishing biodiverse FLR nurseries and innovative seed networks. This model is scalable and replicable. BGCI is working with the IUCN Global Forests Programme to promote this project as an example of how countries can meet their Bonn Challenge pledges with a strong focus on native species. With funding from the Rufford Foundation, BGCI is also mapping current native tree propagation and forest restoration efforts of botanic gardens globally, and working with the Ecological Restoration Alliance of Botanic Gardens to develop a set of guiding principles for biodiverse tree planting, which will include this project as an example. We hope that these principles will be adopted by the Bonn Challenge Secretariat, thereby scaling up the positive impact on biodiversity conservation and poverty alleviation in all countries that have made Bonn Challenge pledges.

4. Contribution to the Global Goals for Sustainable Development (SDGs)

The project is contributing to several of the United Nation's Sustainable Development Goals (SDG). The project is contributing to SDG 1 (no poverty) by improving the livelihoods of >100 people. The creation of non-agricultural employment in rural communities is contributing to SDG 8 (decent work and economic growth). The project is contributing to SDG 13 (climate change) through facilitating the creation of more biodiverse landscapes, which will have a greater capacity to adapt to a changing climate. SDG 15 (life on land) is highly relevant to the project and will be addressed through biodiverse planting, which reduces degraded land and biodiversity loss. Women are employed by the project, helping to address SDG 5 (Gender equality).

5. Project support to the Conventions, Treaties or Agreements

The project, with its key objective to increase capacity for biodiverse Forest Landscape Restoration in Uganda, is directly supporting the Convention on Biological Diversity. The project is making good progress towards addressing several Aichi Biodiversity Targets including; Target 5 by producing a supply of seedlings to reverse land degradation and fragmentation; Target 14 by producing seedlings for restoration that will improve landscape resilience to ensure that essential ecosystem services are secured; Target 15 as planted seedlings will increase carbon sequestration; Target 12 by improving the conservation status of threatened species by incorporating them in restoration efforts (*Prunus africana* - VU and nine additional species are currently growing in nurseries); Target 9 by decreasing reliance on exotic species; and Target 1 by demonstrating and promoting the value of the inclusion of native species in FLR.

This project also contributes to the United Nations Framework Convention on Climate Change, by supporting forest restoration efforts under the Bonn Challenge and harmonising them with the aims of the Convention on Biological Diversity.

The CBD national focal point from NEMA provided a support letter during the application phase of this project. NEMA has a representative on the steering committee of this project and the focal point is kept up to date with project progress.

6. Project support to poverty alleviation

The beneficiaries of this project are rural communities living close to degraded forest areas. 104 people are employed by the project. These people have been equipped with the skills to collect seed from, propagate, plant and sell native species. 60 people have been trained as seed monitors and collectors and are paid 120,000 Ugandan Shillings per month as a basic rate (part-time employment). 40 nursery staff have been trained and are currently paid 180,000 Ugandan Shillings per month. Four forest restoration plot managers have been trained and are currently paid 150,000 Ugandan Shillings per month (sample contracts are provided in Annex 10. Seedling sales will supplement these wages, and it is hoped that sales will continue beyond the timeframe of Darwin Initiative support, providing continued benefits.

7. Consideration of gender equality issues

There is limited non-agricultural job creation for the poorest households in Uganda, and employment opportunities for women are particularly restricted. This project has provided training and employment to 47 women (two nursery workers and two demonstration plot managers dropped out since last reporting and were replaced by males). Seed collectors and nursery workers were selected in collaboration with local leaders and district officers based on previous experience, willingness to participate and current lack of employment opportunities. Provision of training to 63 women, will empower and enable them to have a more equal role in households.

8. Monitoring and evaluation

The project team is primarily responsible for project monitoring and evaluation and ensuring that activities contribute to the project Outcome. Project members from BGCI and TBG are in touch regularly via phone or email to ensure the project is on track. In addition, BGCI staff have travelled to Uganda on 3 occasions during Year 2. BGCI is also helping TBG to monitor the impact of public outreach materials and events. Two BGCI staff were due to visit Uganda in March 2020, but the visit was postponed due to COVID-19.

A project steering committee was established in Year 1 to help monitor and evaluate progress. Steering Committee members met in July 2019 (see Annex 4 for minutes) and are kept up to date with project progress by TBG regularly meeting with representatives, particularly MWE. The next meeting of the steering committee meeting was scheduled for March 2020, but will be rescheduled when possible.

9. Lessons learnt

The project team has worked very well together which has helped secure good progress in Years 1 and 2. This is the result of strong existing partnerships, including for example between BGCI and TBG, between TBG and NFA and between BGCI and NEMA.

Engagement of forest officers and environment officers was essential for nursery site selection, and engagement of local leaders greatly helped with selection of people to be involved in nursery and seed collecting groups. For example, the District Forest and Environment Officers of Ibanda District helped in the selection of most of the trainees from Ibanda for Kirimirire nursery and the district local government for Kagadi councillors also helped with identification of the local community members to be involved in the project at that site.

Whilst all nursery workers seem happy with their jobs, some seed collectors are less happy as their jobs involve frequent travel and the amount of work varies depending on seed availability, compared to the full-time nursery positions. Establishing seed collecting networks is a key component of delivering species for propagation which supplies and genetically diverse forest restoration and so these networks will be a part of future projects. It is thought that employing people from across a wider area would work better in future projects, to facilitate monitoring of seed set and reduce travel to seed collection sites (most collectors are based close to nurseries). The project would also have benefited from including increased funding for transportation of seeds to facilitate this, e.g. motorbikes. Higher equipment budget would also have benefited the project, enabling purchase of better quality seed collecting equipment, e.g. buckets and more durable collecting bags instead of plastic bags. The nature of seed collecting work is such that the work will always be variable depending on season. This (and the variation compared to nursery work) could be explained to groups better at the start of future projects.

10. Actions taken in response to previous reviews (if applicable)

Comments from the review of the Year 1 annual report are provided, with feedback on individual responses.

Comment 1: The target of 300,000 seedlings of 100 species produced by 'newly trained' nursery staff by the end of Year 2, with an additional 500,000 seedlings of 150 species in year 3, many of which will not have been propagated before seems very ambitious. The Darwin Expert Committee also commented on overambitious targets, which presumably refer to tree production. The reviewer would suggest that the project team consider reviewing these targets now.

Based on the collection and production numbers at the time of half-year reporting in October 2019 (58 species collected, and 74,261 seedlings produced of 35 species with an additional 21

species sown in germination beds), the project team anticipated in our Year 2 half-year report that 200,000 seedlings of 80 species would be available from nurseries by the end of Year 2.

At the end of Year 2, 195,142 seedlings of 70 species were available from nurseries.

If project activities were to continue as normal (i.e. without COVID-19) the project team would anticipate that 450,000 seedlings of 110 species would be available from nurseries by the end of Year 3 compared to 500,000 seedlings of 150 species by the end of Year 3, as was included in the initial application for funding. However, the accuracy of this estimate will depend on how quickly seed collection and propagation activities can resume as planned.

Comment 2: Have the project team considered propagating and planting a smaller number of species, perhaps a mix of 'framework native tree species' (including pioneers and climax species) with a selection of species of utilitarian value to local communities? And allow frugivorous species to help diversify the new forests – if the restoration plots are close to areas of good quality forest.

The Year 1 list of target species includes species that are of value to local communities, as identified in part by TBG's existing knowledge and the findings of the baseline survey in Year 1 on demand for native species. Since 2012, TBG has gathered information on candidate framework species for Uganda, based on results from their forest restoration plots. These species are part of the target list and are available for sale from nurseries. The framework species methodology will be explained to people interested in purchasing seedlings for restoration, supported by the forest restoration demonstration plots.

Comment 3: The logframe (and Application) do not appear to include a baseline survey of the restoration plots to establish levels of natural regeneration (and to mark any trees found to ensure that they are not lost during the planting process), and there is no indication that control plots will be monitored where no trees are planted.

Demonstration plot managers protected all native trees found on restoration plots during site clearance. Control plots were not established because the primary purpose of the plots is demonstration of each native species at an older age than seedlings in the nursery so that customers can see growth form, growth rate, etc., rather than experimentation. However, different spacing between trees will be trialled in the plots, and natural regeneration and growth rates will be recorded by demonstration plot managers.

Comment 4: It appears from the budget and comments in Section 12, that seed monitoring and collection work has been delayed due to difficulties over making payments. There is also a significant underspend. These issues may have been resolved, but it would be advisable for the project to update Darwin.

The Year 1 report explained that this was because the most transparent and effective way of paying these groups was still under consideration by the TBG board. A record of collections made in Year 1 was maintained. Contracts were issued for seed monitors and collectors, Year 1 payments were made, and Year 2 funds for this activity were fully distributed. Since October 2019, payments have been made to additional people to support expansion of seed collection to new areas. This includes payments to field assistants and patrol staff in National Parks where collection has taken place.

11. Other comments on progress not covered elsewhere

BGCI appointed a new project manager in August 2019, which has improved project implementation.

Activities under Output 3 commenced in Year 2. The project team noticed that logframe indicator 3.7 is incorrect. In the application, it reads 800,000 native tree seedlings sold by the end of Year 3, but the figure should have aligned with Outcome indicator 0.2 and Output indicator 2.4, i.e. 500,000 native tree seedlings sold by the end of Year 3 (although in this report the project team suggests reducing that figure to 450,000 seedlings).

A funding application was submitted to the Ashden Trust in Year 1 to provide matched funding to this project. The application was not successful. The project team plan to submit a funding application in Year 3 to Fondation Franklinia in 2020 to support collection of seed from additional threatened tree species. This requires more survey effort because threatened

species are often difficult to find due to their small populations, and often fruit less frequently and are difficult to germinate, hence additional funding is required.

Funding applications are planned to the Global Challenge Research Fund (June 2020) and the Darwin Initiative (July 2020) for a project that investigates the nutritional values provided by some Ugandan underutilised indigenous food species and develop ways to make these more available to people throughout the year, and throughout the country. It will include, nutrition research, new product development, plot trials of new diverse agroforestry systems and market analysis of both the supplier and demand sides of Uganda food value chains. This will be undertaken in the nursery site areas so that these nurseries can be the suppliers of seeds of species that prove most useful for sustainable development.

Due to COVID-19, some of the activities scheduled for March 2020 could not take place. This included some of the scheduled public outreach events as part of the National Water and Environment week, a visit to Uganda from BGCI's Biodiversity Education Officer to support public outreach activities, a visit to Uganda from the Project Leader from BGCI and a steering committee meeting. A change request was submitted in March 2020 to defer some staff time, travel and meeting costs to Year 3, which was approved (amount requested to defer to Year 3: £6,100).

As noted in the project report, Uganda is now on a national lockdown, which has halted seed collection activities and the TBG team is unable to visit nurseries. A reduced number of nursery workers are able to continue to water and care for seedlings in the nurseries, but the nurseries are closed to the public so no seedlings will be sold for the April – May rains and planting season. We anticipate that planting of forest restoration demonstration plots next to nurseries can continue, with social distancing measures being observed and government guidance followed. BGCI is in regular contact with TBG to adapt to the situation as best possible, keep everyone's safety first, and following government guidance and consulting the TBG board of directors, for example on how to handle payments that would be due to seed collectors and nursery workers from April onwards.

It is currently not certain how the impact of COVID-19 will continue to affect project activities. The key focus at present is on keeping the seedlings alive in nurseries and restoration plots, so that the huge amount of effort put into the project activities to date are not lost.

12. Sustainability and legacy

Although there are larger restoration projects being implemented in Uganda, this project has a fairly high profile as it is working in collaboration with MWE and NEMA. In Year 2, public outreach efforts have greatly helped to raise awareness of the aims of the project and the benefits of planting native instead of exotic seedlings. TBG, BGCI and the local marketing consultant worked together to ensure that content, messaging and types of outreach were as effective as possible.

Training materials used in Year 1 were all provided to trainees in printed and soft copy to allow for continued reference and learning, and additional training was provided in Year 2.

The project exit strategy is impacted, although we are not sure to what extent, through nursery closures delaying the first anticipated round of seedling sales and cancellation of some activities to drive seedling sales. We will continue to monitor this situation carefully as we move in to Year 3.

13. Darwin identity

The Darwin Initiative logo is used on all public outreach materials associated with the project (see examples in Annex 6) and nursery signs (see right image). The UK Government's contribution is well recognised by everyone involved in the project. This is a distinct project with a clear identity, but it is hoped that it will lead on to a larger programme of work in Uganda and elsewhere in future. The project is promoted through the @BGCI and @globaltrees Twitter accounts and here is a link to the project page on the BGCI webpage: <https://www.bgci.org/our-work/projects-and-case-studies/supply-and-demand-restoration-in-uganda-for-people-and-biodiversity/>



14. Safeguarding

TBG has safeguarding guidelines that were shared with nursery groups at the start of operations. All seed collecting groups and nursery workers also having a direct link to TBG, and the ability to contact BGCI directly if they wish. This ensures that any issues within groups cannot be concealed by nursery managers. Seed collecting and nursery groups from each region are also in touch with each other, which provides transparency and encourages groups that they are all treated in a fair and equitable manner.

In addition, seed monitors and collectors were trained using BGCI resources that have been developed following best practice and ensure that there is no negative effect on the species being collected or animals that depend on them, for example by ensuring no more than 20% of available seed is collected.

15. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2019 – 31 March 2020)

Project spend (indicative) since last annual report	2019/20 Grant (£)	2019/20 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2019-2020

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
<p>Impact</p> <p>Forest Landscape Restoration in Uganda provides long term biodiversity conservation and sustainable employment benefits</p>		<p>The project has created jobs for 104 people. 195,000 seedlings of 70 native tree species were available at the end of Year 2 from four nurseries established close to high priority areas for restoration. Increased information is being generated on native species seed set and propagation techniques, helping to scale up supply of seedlings. The project is working closely with the Ministry of Water and Environment and the National Forest Authority to maximise uptake and promotion of native species to increase demand in the long term.</p>	
<p>Outcome</p> <p>Supply and demand for genetically and species diverse planting material is increased through nurseries and seed collecting networks that employ >100 people, for biodiverse Forest Landscape Restoration in Uganda.</p>	<p>0.1 Improved information available for 150 native tree species – information on distribution, populations, seed availability improved by the end of year 2, information on propagation protocols and growing conditions made available / developed / improved by the end of year 3.</p> <p>0.2 300,000 genetically diverse seedlings of 100 native tree species available for purchase from four nurseries established in high priority restoration areas, by end of year 2 and an additional 500,000 genetically diverse seedlings of 150 native tree species available by end of year 3.</p> <p>0.3 Increased demand for genetically and species diverse seedlings, sufficient that by the end of year 3 the</p>	<p>0.1 100 species are being monitored for seed set. Existing information was gathered on propagation techniques of native species, and additional information is being recorded by nursery workers, with 70 species propagated so far. A seed zone map for Uganda was produced.</p> <p>0.2 Four nurseries were established in Year 1. In response to Year 1 report feedback, Year 2 target was adjusted to 200,000 seedlings of 80 native species. At the end of Year 2, 195,142 seedlings of 70 species were available from nurseries, including 8 threatened species. An additional 9 species have been collected and are in germination beds.</p>	<p>0.1 Seed collecting calendars and propagation protocols will be published in Year 3.</p> <p>0.2 Continue seed collection and propagated of collected seeds when COVID-19 travel restrictions are lifted. Continue to care for seedlings in the nurseries until sales are possible.</p> <p>0.3 Public outreach to promote seedling sales will continue in Year 3, including rescheduling the national event that was cancelled due to COVID-19.</p> <p>0.4 Seed collecting activities will resume after travel restrictions have been lifted. Nursery workers and demonstration plot managers can continue work so payments to those groups are expected to</p>

	<p>nurseries are fully-funded by seedling sales.</p> <p>0.4 104 people (including at least 50% women) have increased capacity and improved livelihoods years 1 – 3, and after the project ends.</p>	<p>0.3 Public outreach materials were developed, TV and radio programmes held, and four regional events held to promote the sale of seedlings from nurseries. Orders for seedlings equating to 7,856,000 Ugandan Shillings (just over 2,000 USD) were placed, but it is not sure if these sales can go ahead as the nurseries have been closed for business as a result of COVID-19. Further sales are therefore postponed too, so it is hard to measure current demand at this point.</p> <p>0.4 104 people, including 47 women, were trained in Year 1 and employed in Year 2 as seed monitors and collectors, nursery workers, and demonstration plot managers.</p>	<p>continue as normal throughout Year 3.</p>
<p>Output 1. Improved information generated on more than 150 native tree species, including improved information on distribution, wild populations and seed availability and propagation protocols improved / developed.</p>	<p>1.1. Project infrastructure established, including project management, employment of experts, full stakeholder engagement, acquiring Prior Informed Consent and Monitoring & Evaluation methodology defined.</p> <p>1.2 Seed collection zones defined using forest and degradation maps (Figs 8 and 9, Uganda FLR report, p16 & 17 https://portals.iucn.org/library/sites/library/files/documents/2016-076.pdf) and working with a geneticist from BGI network, within the first six months of the project.</p> <p>1.3 150 target species identified depending on suspected / known presence in collecting zones, historic presence in priority restoration areas, suitability for restoration (focus on</p>	<p>Good progress has been made towards this Output in Years 1 and 2. The project team think the indicators here are still appropriate. Year 1 report feedback asked for species and seedling production targets to be reduced. Indicator 1.4 and 1.5 should therefore be reduced to 110 species.</p> <p>1.1 A project steering committee was established in Year 1 and remains active (see steering committee minutes in Annex 4). All partners identified as key for this project have been actively involved, including the Ministry of Water and Environment (MWE), the National Forest Authority (NFA). Project consultants were appointed in Year 1 and the business and marketing skills consultant continued work in Year 2 (see marketing tool in Annex 5 and marketing skills consultant report in Annex 7).</p> <p>1.2 Andrew Bower, a geneticist from United States Forest Service, worked with TBG and NFA to produce preliminary maps that delineate seed zones in Uganda (see section 1 of this report).</p> <p>1.3 A target species list was produced by TBG and shared in the Year 1 report.</p> <p>1.4 Information has been collected on seed set of 100 species. This information will be published in seed collecting calendars in Year 3.</p>	

	<p>pioneer species for initial plantings), conservation value (IUCN status – target 20 species) within first 9 months of project.</p> <p>1.4 Seed collecting calendars produced for 150 target species (end of year 2).</p> <p>1.5 Existing propagation protocols published online and new protocols developed / improved and published online for 150 target species (end of year 3), including 20 globally threatened species.</p>	<p>1.5 Existing propagation information was collated and is being supplemented by new information from nursery groups. Propagation protocols will be published in Year 3.</p>
<p>Activity 1.1 Inaugural Project Workshop held with all stakeholders present. Project plan communicated, refined and all necessary mechanisms for acquiring permits and Prior Informed Consent defined and implemented.</p>	<p>Complete. A project launch workshop was held in Year 1 with 23 participants from government and NGOs involved in tree planting. The project plan was communicated and the project team received feedback on proposed actions and proposed location of nurseries. Relevant authorities from the Ministry of Water and Environment (MWE) and the National Forest Authority (NFA) attended, and follow up meetings were held to secure consent to carry out project activities.</p>	<p>The project team continue to keep relevant authorities updated, through meetings, email and phone communication and steering committee meetings.</p>
<p>1.1. Project Steering Committee established, including all existing stakeholders (national and local authorities, communities, NGOs, academics etc.).</p>	<p>Complete. Representatives from the MWE, NFA, NEMA, the University of Makerere University and UWA sit on the project steering committee.</p>	<p>A steering committee meeting was planned for March 2020, but had to be cancelled due to COVID-19. This report has been shared with steering committee members and the next meeting will be scheduled when possible.</p>
<p>1.1. Detailed briefs written for external consultants</p>	<p>Complete. BGCI and TBG have appointed consultants to support project delivery, including; a marketing consultant, a socio-economic consultant, and a geneticist.</p>	<p>The marketing consultant will continue to provide support to the project in Year 3. The socio-economic consultant will repeat the survey in Year 3 to monitor progress against the Year 1 baseline.</p>
<p>1.1. Monitoring and evaluation methodology defined and implemented.</p>	<p>Ongoing. An M&E methodology was defined at the first steering committee meeting. The project team is</p>	<p>A steering committee meeting was planned for March 2020, but had to be cancelled due to COVID-19. This report</p>

	responsible for ensuring good progress against the project activities and logframe. Progress is presented to steering committee members during and between meetings, so they can help resolve any problems that arise in project implementation or meeting targets.	has been shared with steering committee members and the next meeting will be scheduled when possible.
1.2 Geneticist works with NFA and TBG to map wild seed collection zones, using forest and degradation maps.	Complete. Andrew Bower, a geneticist from United States Forest Service (USFS), spent one week in Uganda with the project team in Year 1. Meetings were held with NFA to review existing climatic maps for GIS work. The team also visited degraded and “pristine” forest areas and training was provided by the consultant on identifying and mapping mother trees for seed collection.	The seed zone maps will continue to support seed collection activities in Year 3.
1.2 Seed collecting zone maps produced to guide wild seed collection.	Ongoing. Seed zone maps were refined and used to guide seed collection in Year 2.	Provenance of seed and seedlings is tracked in the nurseries to provide advice on suitable seedlings for planting at particular sites, based on seed zones.
1.3 TBG, BGCI and NFA develop target list of 150 species, based on suspected / known presence in collecting zones, historic presence in priority restoration areas, suitability for restoration, conservation status.	Complete. A list of target species was produced by TBG in Year 1. This list was used to develop target lists per nursery and seed collecting group.	The list of species may be refined based on seedling sales in Year 3.
1.4 Seed surveys carried out by trained seed monitors (trained in activity 4.1)	Ongoing. Seed monitors have recorded information on seed set of 100 species so far.	Seed collecting calendars will be published in Year 3.
1.4 Seed collecting calendars produced for 150 target species (by people trained in activity 4.1).	Not started. Information has been collated at nurseries and will be used to produce calendars in Year 3.	Seed collecting calendars will be published in Year 3.
1.5 Existing propagation information gathered from literature and TBG nursery staff.	Complete. Existing propagation information was compiled by TBG for target species in Year 1. This information was used by nursery workers in Year 2.	Nursery workers continue to use this information and are recording additional information on propagation techniques.

1.5 New protocols developed / improved through propagation trials at nurseries (established in activity 2.2)	Ongoing. Nursery groups are recording information on propagation techniques.	Nursery groups will continue to record information on techniques in Year 3.
1.5 Protocols published online for 150 target species by end of year 3, including 20 globally threatened species.	Not yet started. This activity is scheduled for Year 3.	Information gathered by nursery groups will be used to publish improved propagation information by the end of Year 3. The total number of species targeted by this project has been reduced to 110.
<p>Output 2. Genetically diverse seedlings of 150 native tree species available for purchase from nurseries established in high priority restoration areas</p>	<p>2.1 Sites selected for nursery establishment, working with IUCN, Ministry of Water and Environment, and NGOs working on restoration.</p> <p>2.2 Four nursery infrastructures established close to high priority restoration areas by end of year 1.</p> <p>2.3 Seed collected from 150 target species, initiated in year 1 (as part of training), 100 species by end of year 2 and 150 species by end of year 3, by 30 seed trained seed collectors (see Output 4).</p> <p>2.4 300,000 seedlings produced by nursery workers and available for purchase from 100 target species by end of year 2 and an additional 500,000 seedlings from 150 species by end of year 3</p>	<p>Good progress has been made towards this output in Years 1 and 2. The project team think the indicators here are still appropriate. Year 1 report feedback asked for species and seedling production targets to be reduced. Indicator 2.3 and 2.4 should therefore be reduced to 200,000 seedlings of 80 species by end of Year 2 and 450,000 seedlings of 110 species by end of Year 3.</p> <p>2.1 Four nursery sites selected for establishment in Year 1.</p> <p>2.2 Four nursery infrastructures established close to high priority restoration areas in Year 1 and remain operational in Year 2 (see photos in main report).</p> <p>2.3 In response to Year 1 report feedback, targets were reduced to 80 species by the end of Year 2. This revised target was almost met, and seed was collected from 79 species by the end of Year 2 (see species and seedling production information in Annex 9).</p> <p>2.4 In response to Year 2 report feedback, targets were reduced to 200,000 seedlings from 80 species by the end of Year 2. This revised target was almost met, with 195,142 seedlings propagated of 70 species, with an additional 9 in germination beds (see species and seedling production information in Annex 9).</p>
Activity 2.1. Working group established to identify sites for nursery establishment: BGCI, TBG, IUCN, NEMA, MoW&E, NGOs by end of first quarter.	Complete. Four nursery sites identified for project implementation by the working group and project team in Year 1.	Nursery operations will continue in Year 3.
Activity 2.1 Visits to candidate sites to hold meetings with community members by end of year 1.	Complete. Community meetings held in candidate sites in Year 1, and communities remain supportive of nurseries in Year 2.	Nursery workers and the project team will continue to engage with other community members during Year 3.
2.1 Working group meeting to finalise siting of nurseries by end of year 1.	Complete. Final selection of the four nursery sites complete in Year 1.	Nursery operations will continue in Year 3.

2.2 Four nursery infrastructures built by nursery workers by end of year 1.	Complete. Four nursery infrastructures built by community members with technical guidance from a contractor in Year 1. Improved irrigation systems were added in Year 2.	Nursery operations will continue in Year 3.
2.3 40 nursery staff (trained in activity 4.5) employed to construct nurseries, propagate and sell seedlings.	Ongoing. 40 nursery staff were employed to propagate seedlings in Year 2.	Nursery workers are continuing to work in reduced numbers at the moment, following government guidance. Nursery work will continue through Year 3.
2.4 60 seed collectors (trained in activity 4.3) employed across Uganda.	Ongoing. 60 seed collectors were employed and monitored and collected seed during Year 2.	Seed monitoring and collection activities are currently on hold due to COVID-19. It is hoped that the situation will improve and activities can resume soon.
2.4 Seed collected from 150 target species, initiated in year 1 (as part of training), 100 species by end of year 2 and 150 species by end of year 3.	Ongoing. This target was adjusted to 80 species by the end of Year 2. Seed set is being monitored for 100 species. Seed was collected from 80 species by the end of Year 2.	Seed monitoring and collection activities are currently on hold due to COVID-19. It is hoped that the situation will improve and activities can resume soon.
2.4 300,000 seedlings produced and available for purchase from 100 target species by end of year 2 and an additional 500,000 seedlings from 150 species by end of year 3.	Ongoing. This target was adjusted to 200,000 seedlings from 80 target species by the end of Year 2. At the end of Year 2, 195,142 seedlings of 70 species were available from nurseries, with seed from an additional 9 species collected and in germination beds.	Seedlings are currently being maintained in nurseries. Seed monitoring and collection activities are currently on hold due to COVID-19. It is hoped that the situation will improve and activities can resume soon, and that additional species and seedlings will be propagated in Year 3.
Output 3. Increased demand for genetically and species diverse seedlings	3.1 National forum held to increase understanding by government ministries, tree planting NGOs (incl. International Tree Foundation partners) and farmer associations (incl. Rainforest Alliance and Agroforestry Alliance for Africa partners) of the importance of biodiverse and genetically diverse FLR and the diverse range of species available in Uganda, led by BGCI, IUCN and NEMA in year 2.	It is too soon to measure progress towards Output 3 at the end of Year 2. The project was just reaching the first time for seedling sales from nurseries to align with the rains (April – May 2020). However, COVID-19 as resulted in the closure of nurseries for business. The project team is happy with the indicators put in place and think they are still appropriate. Demand created for native seedlings will be better understood by the end of Year 3, but seedling production and sales will likely be affected by COVID-19. 3.1 The national event was organised to coincide with the National Water and Environment week in Uganda, but it was cancelled due to COVID-19. It is hoped that it will be rescheduled with MWE in Year 3.

	<p>3.2 Four regional workshops held in high priority restoration areas to increase understanding of local government, tree planters and farmers of the importance of biodiverse and genetically diverse FLR and the diverse range of species available by end of year 3.</p> <p>3.3 National campaign launched to promote planting a diverse range of native species, in years 2 and 3.</p> <p>3.4 Four forest restoration demonstration plots set up, 1 per nursery, to demonstrate planting techniques and growth rates by end of year 2.</p> <p>3.5 10-year business plan produced by each nursery, including marketing strategies, opportunity areas and partners for sales.</p> <p>3.6 Demand for native species increased by at least 50% by end of year 3, based on baseline level identified during year 1 survey to farmers, NGOs and other tree planters and repeated in year 3.</p> <p>3.7 800,000 native tree species seedlings sold by end of year 3, enough that by the end of year 3 the nurseries are fully-funded by seedling sales.</p>	<p>3.2 Four regional events took place to promote the purchase of native seedlings from nurseries with 286 participants in total.</p> <p>3.3 A public outreach campaign was launched in Year 2, promoting the purchase of native seedlings through promotional materials (see Annex 6) and TV and radio programmes.</p> <p>3.4 Four restoration plots have been cleared and prepared for planting of native species close to nurseries to provide demonstration of growth rates and promote planting of native species. £11,000 secured from WWF Reforestation Grants to enable planting of these sites.</p> <p>3.5 This activity will take place in Year 3.</p> <p>3.6 Demand will be fully measured at the end of Year 3. Orders for native seedlings equating to 7,856,000 Ugandan Shillings (just over 2,000 USD) across the four nurseries were received, but it is unclear if these sales can go ahead due to the nurseries closing for business. Further sales are also unlikely at this stage. This is a great shame after the effort that had gone into public outreach events to coincide with the rainy season (April – May 2020) and may affect seedling sales.</p> <p>3.7 In response to feedback from Year 1 report, seedling production targets were reduced to 200,000 seedlings. At the end of Year 2, a total of 194,142 seedlings were available from nurseries. The project team has reviewed the Year 3 target and would like to reduce this to 450,000 seedlings sold, but this target is not taking COVID-19 into account.</p>
<p>3.1 Hold national forum to increase understanding by government ministries, tree planting NGOs (incl. International Tree Foundation partners) and farmer associations (incl. Rainforest Alliance and Agroforestry Alliance for Africa partners) of the importance of biodiverse and genetically diverse FLR and the diverse range of species available in Uganda, led by BGCI, IUCN and NEMA by end of year 2.</p>		<p>Postponed. At the Year 2 steering committee meeting, it was public outreach events for this project should coincide with the National Water and Environment week in March 2020. TBG subsequently worked with MWE and IUCN to organise the event, and with BGCI to develop content and messaging for the event. The event</p>
		<p>It is hoped that the national event can be rescheduled in Year 3.</p>

	was unfortunately cancelled due to COVID-19.	
3.2 Hold four regional workshops in high priority restoration areas (where nurseries are located) to increase understanding of local government, tree planters and farmers of the importance of biodiverse and genetically diverse FLR and the diverse range of species available by end of year 3.	Complete. Four regional workshops were held, one with each nursery group, and District Forest Officers and District and Local government representatives at each site. The events were attended by a total of 286 people.	When seedlings are sold from nurseries, nursery groups will record how people found out about the nurseries to evaluate the success of outreach measures.
3.3 Design and launch national campaign to promote planting a diverse range of native species, in collaboration with public outreach expert from BGCI's network, years 2 and 3.	Ongoing. TBG worked with the marketing consultant and BGCI to develop a marketing tool, carry out an assessment of potential seedling purchasers in each district where a nursery is situation and develop marketing materials and messaging to promote seedling sales.	Public outreach will continue to be a strong component of the project in Year 3. The BGCI team will help to evaluate the success of outreach measures.
3.4 Set up four forest restoration demonstration plots, 1 per nursery, to demonstrate planting techniques and growth rates by end of year 3.	Ongoing. Four restoration plots have been cleared and prepared for planting of native species close to nurseries to provide demonstration of growth rates and promote planting of native species. £11,000 secured from WWF Reforestation Grants to enable planting of these sites.	It is anticipated that the funding will reach TBG from WWF soon. It is hoped that planting of these sites will not be affected by COVID-19 as social distancing measures can be observed at all sites.
3.5 10-year business plan produced by each nursery, including marketing strategies, opportunity areas and partners for sales by end of year 3.	Not yet started. This activity is scheduled for Year 3.	In Year 3, TBG and the marketing consultant will help nursery groups to develop 10-year business plans.
3.6 Year 1 baseline survey to farmers, NGOs and other tree planters carried out by marketing consultant in 10km radius around nurseries, and repeated in year 3 to measure demand for / planting of native species.	Ongoing. A baseline survey was carried out in Year 1 by an agribusiness consultant. This survey measured demand for seedlings. The survey highlighted that most people get their planting materials / seedlings from nurseries and therefore it is recommended that the prices of the native tree seedlings should be made affordable to encourage demand for these species.	The survey will be repeated in Year 3, to assess change in demand for native tree seedlings.

<p>3.7 Nurseries supported to sell 800,000 native tree species seedlings by end of year 3, enough that by the end of year 3 the nurseries are fully-funded by seedling sales.</p>	<p>Ongoing. Feedback on the Year 1 report suggested that overall seedling production targets be reviewed and reduced. The project team would like to decrease the overall target to 450,000 seedlings by the end of Year 3. By the end of Year 2, 192,142 seedlings had been produced.</p>	<p>Seedlings are currently being maintained in nurseries. Seed monitoring and collection activities are currently on hold due to COVID-19. It is hoped that the situation will improve and activities can resume soon, and that additional species and seedlings will be propagated in Year 3</p>
<p>Output 4. 104 people have increased capacity and improved livelihoods.</p>	<p>4.1 Following mapping of seed collecting zones (1.2 above), 60 people, at least 50% women, will be trained as seed monitors to track seed set and develop seed collecting calendars, and as seed collectors, by end of year 1.</p> <p>4.2 60 trainees will be employed as seed monitors and collectors for years 2 and 3 of the project.</p> <p>4.3 40 people, at least 60% women, trained in propagation, nursery management and records keeping, by BGCi network, by end of year 1.</p> <p>4.4 Four nursery managers identified (from the 40 trained) and trained in business skills by end of year 1.</p> <p>4.5 40 trainees employed in nurseries by end of year 1.</p> <p>4.6 Four people, at least 50% women, trained as demonstration plot managers by TBG in year 1.</p> <p>4.7 Four people employed as demonstration plot managers by end of year 1 and four demonstration plots set up by end of year 2 to support species selection.</p> <p>4.8 104 people employed at more than the average rural household income rate (initially part supported by the project and fully supported by seed</p>	<p>Good progress has been made towards this target in Years 1 and 2. 104 people have been trained and employed through the project and their employment is anticipated to continue in Year 3, although the activities of seed collecting teams are currently on hold. The project team is happy with the indicators and thinks they are still appropriate.</p> <p>4.1 60 people trained as seed monitors and collectors in Year 1.</p> <p>4.2 60 trainees were employed in Year 2 (see example contracts in Annex 10).</p> <p>4.3. 40 people trained in propagation, nursery management and records keeping in Year 1.</p> <p>4.4 Four nursery managers were identified from the 40, and trained in business skills in Year 1.</p> <p>4.5 40 people have been employed in four nursery teams in Year 2, including a nursery manager at each nursery (see example contracts in Annex 10).</p> <p>4.6 Four people were identified as demonstration plot managers in Year 1 and trained in Year 2.</p> <p>4.7 Four people were employed as demonstration plot managers in Year 2 (see example contracts in Annex 10).</p> <p>4.8 A socio-economic baseline survey was carried out in Year 1 so progress towards this target can be measured in Year 3.</p>

	sales at end of year 3) and livelihood impact measured through baseline socio-economic survey in year 1, repeated in year 3.	
4.1 Following mapping of seed collecting zones (1.2 above), 60 people, at least 50% women, trained by BGCI, TBG and NFA as seed monitors to track seed set and develop seed collecting calendars and as seed collectors by end of year 1.	Complete. 60 people trained as seed monitors and collectors in Year 1. Further training was conducted in Year 2, including on how to select mother trees and use a GPS.	Further training will be provided by TBG as needed.
4.2 60 trainees employed as seed monitors and collectors by end of year 1.	Ongoing. 60 trainees were employed as seed monitors and collectors in Year 2, including 24 women.	Seed monitoring and collection activities are currently on hold due to COVID-19. It is hoped that the situation will improve and activities can resume soon.
4.3 40 people, at least 60% women, trained in propagation, nursery management and records keeping, by BGCI network by end of year 1.	Complete. 40 people trained in propagation, nursery management and records keeping in Year 1. Additional training was provided in Year 2, including how to solve propagation issues and further training on record keeping.	Further training will be provided by TBG as needed.
4.4 Four nursery managers identified (from the 40 trained) and trained in business skills by end of year 1.	Complete. Four nursery managers were identified and trained in business skills in Year 1.	Nursery groups will be supported to produce 10-year business plans in Year 3.
4.5 40 trainees employed in nurseries by end of year 1.	Ongoing. 40 trainees were employed in nurseries in Year 2, including 21 women.	Nursery workers are currently maintaining the seedlings in nurseries, as nurseries are closed for business. It is hoped that the COVID-19 situation will improve soon, so that seed collecting activities, further propagation and seedling sales can continue in Year 3.
4.6 Four people, at least 50% women, trained as demonstration plot managers by TBG by end of year 1.	Ongoing. Four people were trained as demonstration plot managers in Year 1.	Further training will be provided by TBG as needed.
4.7 Four people employed as demonstration plot managers by end of year 1 and four demonstration plots set up by end of year 2 to support species selection.	Ongoing. Four people, including two women, were employed as demonstration plot managers in Year 2. During Year 2, the plots were	Demonstration plots will be planted and maintained in Year 3.

	demarcated, cleared and prepared for planting.	
4.8 Baseline socio-economic study carried out in year 1 and repeated in year 3, to measure impact of employing 104 people at more than the average rural household income rate (initially part supported by the project and fully supported by seed sales at end of year 3).	Ongoing. A baseline socio-economic study was carried out in Year 1.	The socio-economic study will be repeated in Year 3 to measure the impact of the project on the livelihoods of people involved in the project.

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Impact: Forest Landscape Restoration in Uganda provides long term biodiversity conservation and sustainable employment benefits (Max 30 words)</p>			
<p>Outcome: (Max 30 words)</p> <p>Supply and demand for genetically and species diverse planting material is increased through nurseries and seed collecting networks that employ >100 people, for biodiverse Forest Landscape Restoration in Uganda.</p>	<p>0.1 Improved information available for 150 native tree species – information on distribution, populations, seed availability improved by the end of year 2, information on propagation protocols and growing conditions made available / developed / improved by the end of year 3.</p> <p>0.2 300,000 genetically diverse seedlings of 100 native tree species available for purchase from four nurseries established in high priority restoration areas, by end of year 2 and an additional 500,000 genetically diverse seedlings of 150 native tree species available by end of year 3.</p> <p>0.3 Increased demand for genetically and species diverse seedlings, sufficient that by the end of year 3 the nurseries are fully-funded by seedling sales.</p> <p>0.4 104 people (including at least 50% women) have increased capacity and improved livelihoods years 1 – 3, and after the project ends.</p>	<p>0.1 Distribution maps, seed collecting calendars, open access propagation protocols.</p> <p>0.2 Nursery records, nursery website showing locations and seedling availability.</p> <p>0.3 Posters and painted buildings, nursery records and accounts, workshop reports, Biodiverse FLR implementation report.</p> <p>0.4 Workshop reports, training certificates, payslips (or equivalent), socio-economic survey report.</p>	<ul style="list-style-type: none"> • Technical challenges can be overcome for difficult species (BGCI's network of experts will help solve problems) • Employment opportunities (seed monitors, seed collectors and nursery workers) are appealing to communities.
<p>Outputs:</p> <p>1. Improved information generated on more than 150 native tree species, including improved information on distribution, wild populations and seed availability and propagation protocols improved / developed.</p>	<p>1.1. Project infrastructure established, including project management, employment of experts, full stakeholder engagement, acquiring Prior Informed Consent and Monitoring & Evaluation methodology defined.</p> <p>1.2 Seed collection zones defined using forest and degradation maps (Figs 8 and 9, Uganda FLR report, p16 & 17</p>	<p>1.1 Employment contracts, Workshop minutes, Steering Committee minutes, consultant contracts, permits, M & E reports.</p> <p>1.2 Maps of seed collection zones.</p> <p>1.3 Target species list.</p> <p>1.4 Seed collecting calendars.</p>	<ul style="list-style-type: none"> • Sustainable sources of wild seed can be identified for all target species. Propagation information can be obtained or new protocols developed for species that do not have protocols (up to

	<p>https://portals.iucn.org/library/sites/library/files/documents/2016-076.pdf) and working with a geneticist from BGCI network, within the first six months of the project.</p> <p>1.3 150 target species identified depending on suspected / known presence in collecting zones, historic presence in priority restoration areas, suitability for restoration (focus on pioneer species for initial plantings), conservation value (IUCN status – target 20 species) within first 9 months of project.</p> <p>1.4 Seed collecting calendars produced for 150 target species (end of year 2).</p> <p>1.5 Existing propagation protocols published online and new protocols developed / improved and published online for 150 target species (end of year 3), including 20 globally threatened species.</p>	<p>1.5 Nursery log books, propagation protocols printed and available online (using BGCI template).</p>	<p>half of target species). Propagation experts from BGCI's network will be mobilised to work on difficult species (in-kind support).</p>
<p>2. Genetically diverse seedlings of 150 native tree species available for purchase from nurseries established in high priority restoration areas</p>	<p>2.1 Sites selected for nursery establishment, working with IUCN, Ministry of Water and Environment, and NGOs working on restoration.</p> <p>2.2 Four nursery infrastructures established close to high priority restoration areas by end of year 1.</p> <p>2.3 Seed collected from 150 target species, initiated in year 1 (as part of training), 100 species by end of year 2 and 150 species by end of year 3, by 30 seed trained seed collectors (see Output 4).</p> <p>2.4 300,000 seedlings produced by nursery workers and available for purchase from 100 target species by end of year 2 and an additional 500,000 seedlings from 150 species by end of year 3.</p>	<p>2.1 Report from site visits and working group meeting</p> <p>2.2 Infrastructures and consumables in place.</p> <p>2.3 Seed collecting data forms, nursery records.</p> <p>2.4 Nursery records, seedling sales.</p>	<ul style="list-style-type: none"> • Employment opportunities (seed monitors, seed collectors and nursery workers) are appealing to communities. • New communities are receptive to nursery establishment.

<p>3. Increased demand for genetically and species diverse seedlings</p>	<p>3.1 National forum held to increase understanding by government ministries, tree planting NGOs (incl. International Tree Foundation partners) and farmer associations (incl. Rainforest Alliance and Agroforestry Alliance for Africa partners) of the importance of biodiverse and genetically diverse FLR and the diverse range of species available in Uganda, led by BGCI, IUCN and NEMA in year 2.</p> <p>3.2 Four regional workshops held in high priority restoration areas to increase understanding of local government, tree planters and farmers of the importance of biodiverse and genetically diverse FLR and the diverse range of species available by end of year 3.</p> <p>3.3 National campaign launched to promote planting a diverse range of native species, in years 2 and 3.</p> <p>3.4 Four forest restoration demonstration plots set up, 1 per nursery, to demonstrate planting techniques and growth rates by end of year 2.</p> <p>3.5 10-year business plan produced by each nursery, including marketing strategies, opportunity areas and partners for sales.</p> <p>3.6 Demand for native species increased by at least 50% by end of year 3, based on baseline level identified during year 1 survey to farmers, NGOs and other tree planters and repeated in year 3.</p> <p>3.7 800,000 native tree species seedlings sold by end of year 3, enough that by the end of year 3 the nurseries are fully-funded by seedling sales.</p>	<p>3.1 Forum report, evidence of attendance list.</p> <p>3.2 Workshop reports, attendance lists.</p> <p>3.3 Leaflets promoting the benefits of native trees, painted houses and shops, transcripts of radio and TV programmes.</p> <p>3.4 Photos of demonstration restoration plots.</p> <p>3.5 Baseline and year 3 native species survey figures, records of seedling sales and orders.</p> <p>3.6 Records of seedling sales and orders.</p>	<ul style="list-style-type: none"> • Demand can be created, to the extent that all seedlings are sold. Confident that this will be the case (see exit strategy and letters of support)
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<p>4. 104 people have increased capacity and improved livelihoods.</p>	<p>4.1 Following mapping of seed collecting zones (1.2 above), 60 people, at least 50% women, will be trained as seed monitors to track seed set and develop seed collecting calendars, and as seed collectors, by end of year 1.</p> <p>4.2 60 trainees will be employed as seed monitors and collectors for years 2 and 3 of the project.</p> <p>4.3 40 people, at least 60% women, trained in propagation, nursery management and records keeping, by BGCI network, by end of year 1.</p> <p>4.4 Four nursery managers identified (from the 40 trained) and trained in business skills by end of year 1.</p> <p>4.5 40 trainees employed in nurseries by end of year 1.</p> <p>4.6 Four people, at least 50% women, trained as demonstration plot managers by TBG in year 1.</p> <p>4.7 Four people employed as demonstration plot managers by end of year 1 and four demonstration plots set up by end of year 2 to support species selection.</p> <p>4.8 104 people employed at more than the average rural household income rate (initially part supported by the project and fully supported by seed sales at end of year 3) and livelihood impact measured through baseline socio-economic survey in year 1, repeated in year 3.</p>	<p>4.1 Attendance list, trainee certificates.</p> <p>4.2 Payslips (or equivalent).</p> <p>4.3 Attendance list, trainee certificates.</p> <p>4.4 Payslips (or equivalent).</p> <p>4.5 Attendance list, trainee certificates.</p> <p>4.6 Attendance list, trainee certificates.</p> <p>4.7 Payslips (or equivalent).</p> <p>4.8 Payslips, socio-economic baseline survey, repeated in year 1 and 3.</p>	<ul style="list-style-type: none"> • Employment opportunities (seed monitors, seed collectors and nursery workers) are appealing to communities. • Seed sales are sufficient to continue employment (see exit strategy and letters of support)

Activities (each activity is numbered according to the Output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

1.1. Inaugural Project Workshop held with all stakeholders present. Project plan communicated, refined and all necessary mechanisms for acquiring permits and Prior Informed Consent defined and implemented.

1.1. Project Steering Committee established, including all existing stakeholders (national and local authorities, communities, NGOs, academics etc.).

1.1. Detailed briefs written for external consultants

1.1. Monitoring and evaluation methodology defined and implemented.

1.2 Geneticist works with NFA and TBG to map wild seed collection zones, using forest and degradation maps.

1.2 Seed collecting zone maps produced to guide wild seed collection.

1.3 TBG, BGCI and NFA develop target list of 150 species, based on suspected / known presence in collecting zones, historic presence in priority restoration areas, suitability for restoration, conservation status.

1.4 Seed surveys carried out by trained seed monitors (trained in activity 4.1)

1.4 Seed collecting calendars produced for 150 target species (by people trained in activity 4.1).

1.5 Existing propagation information gathered from literature and TBG nursery staff.

1.5 New protocols developed / improved through propagation trials at nurseries (established in activity 2.2)

1.5 Protocols published online for 150 target species by end of year 3, including 20 globally threatened species.

2.1 Working group established to identify sites for nursery establishment: BGCI, TBG, IUCN, NEMA, MoW&E, NGOs by end of first quarter.

2.1 Visits to candidate sites to hold meetings with community members by end of year 1.

2.1 Working group meeting to finalise siting of nurseries by end of year 1.

2.2 Four nursery infrastructures built by nursery workers by end of year 1.

2.3 Seed collected from 150 target species, initiated in year 1 (as part of training), 100 species by end of year 2 and 150 species by end of year 3.

2.4 300,000 seedlings produced and available for purchase from 100 target species by end of year 2 and an additional 500,000 seedlings from 150 species by end of year 3.

3.1 Hold national forum to increase understanding by government ministries, tree planting NGOs (incl. International Tree Foundation partners) and farmer associations (incl. Rainforest Alliance and Agroforestry Alliance for Africa partners) of the importance of biodiverse and genetically diverse FLR and the diverse range of species available in Uganda, led by BGCI, IUCN and NEMA by end of year 2.

3.2 Hold four regional workshops in high priority restoration areas (where nurseries are located) to increase understanding of local government, tree planters and farmers of the importance of biodiverse and genetically diverse FLR and the diverse range of species available by end of year 3.

3.3 Design and launch national campaign to promote planting a diverse range of native species, in collaboration with public outreach expert from BGCI's network, years 2 and 3.

- 3.4 Set up four forest restoration demonstration plots, 1 per nursery, to demonstrate planting techniques and growth rates by end of year 3.
- 3.5 10-year business plan produced by each nursery, including marketing strategies, opportunity areas and partners for sales by end of year 3.
- 3.6 Year 1 baseline survey to farmers, NGOs and other tree planters carried out by marketing consultant in 10km radius around nurseries, and repeated in year 3 to measure demand for / planting of native species.
- 3.7 Nurseries supported to sell 800,000 native tree species seedlings by end of year 3, enough that by the end of year 3 the nurseries are fully-funded by seedling sales.
- 4.1 Following mapping of seed collecting zones (1.2 above), 60 people, at least 50% women, trained by BGCI, TBG and NFA as seed monitors to track seed set and develop seed collecting calendars and as seed collectors by end of year 1.
- 4.2 60 trainees employed as seed monitors and collectors by end of year 1.
- 4.3 40 people, at least 60% women, trained in propagation, nursery management and records keeping, by BGCI network by end of year 1.
- 4.4 Four nursery managers identified (from the 40 trained) and trained in business skills by end of year 1.
- 4.5 40 trainees employed in nurseries by end of year 1.
- 4.6 Four people, at least 50% women, trained as demonstration plot managers by TBG by end of year 1.
- 4.7 Four people employed as demonstration plot managers by end of year 1 and four demonstration plots set up by end of year 2 to support species selection.
- 4.8 Baseline socio-economic study carried out in year 1 and repeated in year 3, to measure impact of employing 104 people at more than the average rural household income rate (initially part supported by the project and fully supported by seed sales at end of year 3).

Annex 3: Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
6A	Training courses provided in seed monitoring & collection, propagation & nursery management, and demonstration plot management.	Seed monitoring & collection: 50% women. Propagation & nursery management: 60% women. Demonstration plot management: 50% women.	Ugandan	100	104		104	104
6B	2-3 day courses per training topic and per group provided.			Total: 19 days	Total: 10 days		29 days	Additional training will be delivered as needed
7	Materials developed or adapted for the training courses were provided to participants in printed and soft copy. Propagation protocols to be published for target 150 species.	Gender balance of training course participants is noted above. Made publically available to all by end of project.	Ugandan	3 powerpoint presentations and 5 GTC guidance briefs shared 0			3 powerpoint presentations and 5 GTC guidance briefs shared	Additional training materials will be provided as needed 110 protocols (this target has been reduced to align with revised proposed seedling production numbers)
9	Species recovery plans for threatened species			0			0	Target: 20 species Matched funding will be required to meet this target
10	Resources required by seed monitors & collectors will be identified in year 2			0				TBG has provided guidance through training

13 A	Species not currently in TBG will be added to living collection for <i>ex situ</i> conservation.			0	7		7	Est. 30 new species
13 B	Herbarium collections for all target species improved. Living collections of species in TBG expanded to represent new provenances.			0			0	110 species (this has been reduced to align with new proposed targets) Est. 40 species
14 A	Project launch workshop, national & regional forums to promote planting of native species			1	4		5	6
14 B	Presentation of project at global & regional conferences			0	2			4
20	Nursery infrastructure and seed collecting equipment							
21	Community nursery & seed collector groups	Seed collectors: 50% women. Nursery workers and plot managers: 60% women.		4			4	4
22	Demonstration plots at nurseries			0 (sites identified)	4		4	4
23	Matched funding from foundations and seedling sales, and in-kind contributions							

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
N/A for Year 2. Seed collecting calendars and propagation protocols are planned for Year 3.						