Applicant: **Hudson, Alex**
Organisation: **Botanic Gardens Conservation International**
Funding Sought: **£0.00**

DIR28IN\1075

Understanding Ugandan native plant species' role in innovative sustainable landscapes

Natural resource degradation in Uganda has increased over the past 30 years, causing biodiversity loss and livelihoods challenges from reduced nutritional diversity and reduced food yields caused by soil erosion and flooding.
This project will investigate how native food plant species in diverse agroforestry system could help address these problems. These species will be tested in agroforestry trials, analysed nutritionally, and developed into new food products. The results will then be promoted to rural and urban communities.

Section 1 - Contact Details

PRIMARY APPLICANT DETAILS

Title	Mr
Name	Alex
Surname	Hudson
Organisation	Botanic Gardens Conservation

[redacted]

GMS ORGANISATION

Type	**Charity/ trusts**
Name	Botanic Gardens Conservation International

[redacted]

Section 2 - Project Summary, Ecosystems, Approaches and Threats

Q3. Project Title

Understanding Ugandan native plant species' role in innovative sustainable landscapes

Q4. Key Ecosystems, Approaches and Threats

Please select up to 3 biomes that are of focus, up to 3 conservation actions that characterise your approach, and up to 3 threats to biodiversity you intend to address, from dropdown lists.

Biome 1

Tropical-subtropical forests

Biome 2

Intensive land-use systems (agric., plantations and urban)

Biome 3

No Response

Conservation Action 1

Land/water management (area, invasive control, restoration)

Conservation Action 2

Education & awareness (incl. training)

Conservation Action 3

No Response

Threat 1

Agriculture & aquaculture (incl. plantations)

Threat 2

Biological resource use (hunting, gathering, logging, fishing)

Threat 3

No Response

Q5. Summary of project

Please provide a brief summary of your project, its aims, and the key activities you plan to undertake. Please note that if you are successful, this wording may be used by Defra in communications e.g. as a short description of the project on the website.

Please write this summary for a non-technical audience.

Natural resource degradation in Uganda has increased over the past 30 years, causing biodiversity loss and livelihoods challenges from reduced nutritional diversity and reduced food yields caused by soil erosion and flooding.
This project will investigate how native food plant species in diverse agroforestry system could help address these problems. These species will be tested in agroforestry trials, analysed nutritionally, and developed into new food products. The results will then be promoted to rural and urban communities.

Section 3 - Dates & Budget Summary

Q6. Project Country(ies)

Which eligible host country(ies) will your project be working in?

Country 1	Uganda	**Country 2**	*No Response*
Country 3	*No Response*	**Country 4**	*No Response*

Do you require more fields?

⦿ No

Q7. Project dates

Start date:	End date:	Duration (e.g. 1 year, 8 months):
01 April 2022	31 March 2024	24 months

Q8. Budget Summary

Darwin Funding Request	2022/23	2023/24	Total request
(Apr - Mar) £	£123,789.00	£75,570.00	199,359.00

Q9. Proportion of Darwin Initiative budget expected to be expended in eligible countries: % [redacted]

Q10a. Do you have proposed matched funding arrangements?

⦿ Yes

What matched funding arrangements are proposed?

Time within the project for MU and EBG staff is being put in as in-kind contributions.
Funding for some activities have been requested from the Global EbA fund that will expand the number of agroforestry trial plots established and promotional activities.

Q10b. Total confirmed & unconfirmed matched funding (£) [redacted]

Q10c. If you have a significant amount of unconfirmed matched funding, please clarify how you fund the project if you don't manage to secure this?

This project is standalone, establishing 5 agroforestry demonstrate / trial plots and training local community members to maintain and monitor those plots and promote the project results to the public at workshops and over local radio. If the unconfirmed matched funds are successful, this will allow more plots to be established, however, if the matched funds are not successful these activities will still be carried out with the project outputs and outcome achieved.

Section 4 - Darwin Objectives and Conventions

Q11. Problem the project is trying to address

Please describe the evidence of the problem your project is trying to address in terms of biodiversity and its relationship with poverty. What is the need, challenge or opportunity? For example, what are the drivers of loss of biodiversity that the project will attempt to address? Why are they relevant, for whom? How did you identify these problems?

Please cite the evidence you are using to support your assessment of the problem (references can be listed in a separate attached PDF document).

In sub-Saharan Africa, 941 amphibian, bird and mammal species are projected to lose over 25% of their habitat by 2050, increasing extinctions and the number of species threatened with extinction (Williams et al., 2020).
In Uganda, land converted to agriculture is predicted to cause severe losses for biodiversity. Agriculture has expanded from 84,695 km2 (1990) to 105,317 km2 (2015) as the country's largest employment sector, often aiming for high calorie production rather than nutrient diversity (FAO, 2010, UBOS, 2018, Luwa et al., 2020). This has contributed to over 70% of land being degraded, causing a loss of 4-12% of Uganda's GDP annually (MofWE 2016a).
Land conversion affects Uganda's biodiversity negatively by reducing space for native plants and associated wildlife. Forest cover has decreased from 49,334 km2 (1990) to just 19,535 km2 (2015) with 1,220km2 lost annually (MofWE, 2016b; Luwa et al., 2020). Population increases, market pressures and policies drive this, including a lack of awareness of the benefits of more diverse food systems to people's health and the environment. With the population projected to reach 141.2 million by 2065, more sustainable options are urgently needed (AFIDEP, 2017).
In rural Uganda, where farming is the major economic activity, poverty rates are high and land is increasingly scarce. This drives agricultural expansion into natural areas, intensified by intra-national migration, factors noted in the four project areas - Ibanda, Mbale, Kagadi and Mpigi districts (UBOS, 2018).
The resulting degradation contributes to livelihoods and health problems with soil erosion and flooding leading to less productivity (Nkonya et al., 2005), and biodiversity loss reducing wild plant availability for traditional foods and medicines. Malnutrition problems are exacerbated, like anaemia (34.3% in pregnant and 27.8 in non-pregnant women), stunting (28.9% of children under 5) and Vitamin A deficiency (IFPRI, 2017, Global Nutrition Report's Independent Expert Group, 2020).
These challenges are well-documented in scientific and development literature and have also been identified in a previous Darwin Initiative project (25-020), which established nurseries that propagate native species for Forest Landscape Restoration (FLR). This project builds upon this initiative by developing agroforestry practices that incorporate propagated native species, including food sources. This will aim to create the evidence needed to stimulate new markets for native plant products and reduce the risk for investment in them.
Agroforestry reduces degradation, helping to conserve water and prevent erosion, and providing people with better access to diverse and healthy diets (Nkonya et al., 2005; Global Nutrition Report's Independent Expert Group, 2020). Planting native species increases this impact because they are adapted to the local environment increasing smallholders' resilience. They also support local wildlife by providing habitat and sources of food.
The development of novel food products from native species that address nutritional gaps in Ugandan diets will improve their value and marketability. The inclusion of smallholder farmers at every stage of this development will ensure they are the future beneficiaries of developments. As demand increases, there will be increased farmer uptake of agroforestry compared to less diverse systems increasing national biodiversity and health impacts.

Q12. Biodiversity Conventions, Treaties and Agreements

Q12a. Your project must support the commitments of one or more of the agreements listed below.

Please indicate which agreement(s) will be supported.

- ☑ Convention on Biological Diversity (CBD)
- ☑ Nagoya Protocol on Access and Benefit Sharing (ABS)
- ☑ Global Goals for Sustainable Development (SDGs)

Q12b. National and International Policy Alignment

Please detail how your project will contribute to national policy (including NBSAPs, NDCs, NAP etc.) and in turn international biodiversity and development conventions, treaties and agreements that the country is a signatory of.

This project will contribute to Uganda's NBSAP interventions by addressing threats to Plant Genetic Resources (PGR). The capacity for new models to sustainably use native plant species will be developed with improved domestication and inventorying of those native useful plant resources. The project will incorporate women's and men's indigenous and traditional knowledge and techniques, and raise awareness in communities to increase the protection and safeguarding of PGR.
The project also supports Uganda's objectives in their 1994 National Environment Policy to optimise resource use and

achieve sustainable resource consumption; raise awareness about the linkages between environment and development; and ensure participation in environmental improvement activities.
CBD:
The project will contribute to Article 10 by aiming to integrate sustainable resource use into national decision-making, support local populations to remediate degraded lands and build cooperation between government authorities and the private sector (e.g. GrassRoots Ltd) to develop sustainable options. The project will contribute to Article 13 by promoting the importance of biological diversity to various audiences (urban, rural and governmental) and Article 8.
Of the Aichi targets this will contribute to:
- 7 and 15: Promote sustainable agroforestry for restoration of degraded ecosystems to improve the conservation of biodiversity.
- 16: Ensure fair and equitable sharing of the benefits by working closely with communities in development and when sharing the results.
- 14: Provide rural smallholders farmers with essential services that contribute to positive health, livelihoods and well-being.
- 1: Engage urban populations to co-create interpretation options that improve awareness of the importance of biodiversity and sustainable diets.
ABS:
The targeted native plant species have traditional knowledge (TK) associated with them so national ABS guidelines on TK protection will be adhered to with providers the first beneficiaries of training activities. This will build on existing partnerships to incorporate ABS best practice.

Section 5 - Method, Innovation, Capability & Capacity

Q13. Methodology

Describe the methods and approach you will use to achieve your intended Outcome and contribute towards your Impact. Provide information on:

- **How have you reflected on and incorporated evidence and lessons learnt from past and present similar activities and projects in the design of this project?**
- **The need for this work and a justification of your proposed approach.**
- **How you will undertake the work (materials and methods).**
- **What will be the main activities and where will these take place?**
- **How you will manage the work (roles and responsibilities, project management tools, risks etc.).**

Please make sure you read the guidance documents, before answering this question.

This project builds on an EU Horizon 2020 project, the BigPicnic (2016-2019), and Darwin Initiative funded project, 25-020 (2017-2021). These highlighted communities' desire to protect soil and water, and for nutritious and sustainable diets (BigPicnic, 2019); and established community nurseries in 4 districts that supply native plantseedlings. It also builds on the World Agroforestry Centre's Fruit-tree Portfolio Approach (McMullin et al., 2019), which identifies location-specific fruit tree combinations to address local dietary gaps, by addressing the impacts on biodiversity and gaps in nutritional understanding for many native species. This will help to develop new market opportunities for these species.
The project team has carried out preliminary research into appropriate native plant species through local consultations and review of scientific publications and databases (e.g. https://www.prota4u.org). The project's 34 target species (including African custard apple - Annona senegalensis , Harungana madagascariensis, Waterberry - Syzygium cordatum -, Aidan tree - Tetrapleura tetraptera -, and African breadfruit - Treculia africana) were selected from this research.
At the project initiation, a steering committee will be established to meet bi-annually to assess and adaptively manage the project. It will include experts from agriculture, forestry and biodiversity (e.g. birds, reptiles, mammals, human-wildlife conflict) and will inform agroforestry trial designs, including deciding a monitoring framework, and training programmes.
TBG engages rural communities in workshops to discuss food consumption, barriers to accessing year-round nutrition, and to gather traditional knowledge on the target species (domestication, recipes, etc.). GrassRoots Ltd will analyse markets for food product opportunities (retailers, wholesalers, value chain operators and specialist markets).
50 community members will be trained by Makerere University (MU) to monitor and collect raw food materials of the target species to provide to MU for analysis. MU will complete nutritional analysis - including proximate, phytochemical and Association of Official Analytical Collaboration International analysis - on these to show micro- and macro-nutrients.
From the nutritional analysis, community engagement and market analysis, at least 6 species will be selected to develop 12

new food products and to be used in agroforestry trials. MU will develop products that add value and improve their shelf life, e.g. pickling and preserving, and nutritionally analyse the new products, to understand changes in nutrient bioavailability. They will also do organoleptic testing.
Five agroforestry trial plots will be planted in Ibanda, Lwamunda, Kagadi , Mbale and at TBG. The steering committee will identify consultants with relevant expertise to train 24 plot managers, who will maintain the agroforestry plots and monitor them quarterly, as well as plots in standard farms and degraded areas, for productivity and biodiversity. TBG will support them with monitoring. Data will be compiled to estimate total crop per hectare yields for comparison with other land use systems.
TBG and EBG will engage urban community members and farmers to co-design promotional materials of the project results to raise awareness in different audiences. Agroforestry and the new food products will be promoted at meetings TBG has with district and national government officials from the forestry, water and agriculture ministries.

Q14. Innovation

Please specifically outline how your approach or project is innovative, noting the opportunity to describe the methodology is next.

Is it the application of existing evidence/technology/approach in a distinctly different sector, the development of new technologies/approach in an existing area, or is it a totally disruptive approach?

This innovative project seeks to expand knowledge and understanding of the nutritional value of native food plant species and their use in alternative land use systems (e.g. agroforestry). This will provide important evidence of the benefits to people's health and the environment in the Ugandan context. The development of new food products from selected native species - that are shown from community engagement, market research and nutritional assessment to be most likely to provide benefits in the future - will create new pathways and opportunities for sustainable development in Uganda.
The methods suggested are not new, however there are gaps in what is currently known, particularly in relation to the nutritional value of many native African food plant species and how agroforestry systems that incorporate native species perform better for biodiversity than other land use systems. Plugging these gaps and disseminating the information to different audiences will expand the interest within consumers for native food plants and products from them, whilst also reducing the risk for farmers to grow them and private interests to invest in them. In the future, this will help smallholder farmers to change their practices to include agroforestry techniques as the new value chains of native plant products they grow develop and provide them with economic returns.

Q15. Capability and Capacity

How will you support the strengthening of capability and capacity in the project countries at organisational or individual levels, please provide details of what form this will take and the post-project value to the country.

24 local community members will be trained to monitor biodiversity and the productivity of plants in the agroforestry plots. Biodiversity indicators and plant performance indicators will be decided by the steering committee with partner organisations and relevant biodiversity experts contributing to the training programmes developed. This will allow those trained to see the direct impacts and to act as champions of the model within their own communities beyond the project timeframe.
MU will also train 50 community members to harvest and store raw materials from the target species. This will ensure enough quantity reaches MU for analysis, and will provide those trained with the ability to manage personal collections following the project, giving them access to more food opportunities for longer in the year during and beyond the project.
BGCI will train and support TBG and EBG staff to use co-creation methods to engage local communities to plan promotional activities in the gardens and on local radio. Co-creation ensures ownership and relevance to the target audience's needs ensuring they have interest and buy in to the results. This will allow the importance of biodiversity and native food species to be promoted to urban and rural audiences in a much more targeted way delivering more impact.
BGCI will also support the in country partners (e.g. TBG) to collect monitoring information within electronic data capture systems and databases. This will improve data collation and dissemination of results, building on collaboration and support from the previous Darwin Initiative project (25-020). This will improve partners' ability to monitor and assess activities they undertake beyond the project that aim at improving plant conservation and sustainable use in Uganda.

Section 6 - Gender, Awareness, Change Expected & Exit Strategy

Q16. Gender equality

All applicants must consider whether and how their project will contribute to reducing inequality between persons of different gender. Explain how your project will collect gender disaggregated data and what impact your project will have in promoting gender equality.

A potential future negative impact of this market development strategy is the usurpation of knowledge and opportunities by male-dominated households and businesses beyond the project. To counter this, we will ensure all project activities include 50% of female participants so that knowledge generated is inclusive and results are shared equitably.
All engagement with community members at knowledge generation workshops, co-creation workshops and market analysis will be disaggregated by gender, age, culture, affluence and employment. This will ensure that different groups, including women, are catered for in public awareness and marketing development for the project.
The format for the early workshops will be designed to provide an even playing field between scientists/experts and the local communities. This helps to build trust, promote dialogue and allows access to individuals and/or groups that may not normally have the opportunity to input into such discussions. 50% of attendees will be women to ensure (a) women's roles in family health provision and their food challenges and desires, and (b) women's TK and values associated with the target native food plant species, are understood and incorporated into the project. This will ensure gender equality in the decisions made during the project and the value chains that are developed.
At least 50% of the people trained and employed through this project will also be women (agroforestry managers, and seed and raw food material collectors). When selecting the species for product development the needs and deficits of different Uganda populations will be considered when decided the presence of important nutrients – for example for women anaemia during pregnancy is an important issue.
Any future development of the proven species from this project, e.g. the development of farmer's cooperatives, will also ensure female-headed households are included.

Q17. Awareness and understanding

How will you raise awareness and understanding of biodiversity-poverty issues in your stakeholders, including who are your stakeholders, what approaches/formats/products will you use, how you will ensure open and free access to all data, and how will you know that the messages are understood?

Awareness will be raised with community groups on multiple occasions during the project with food producer (farmer) and potential consumer stakeholders. Firstly, during the early consultation workshops the environmental challenges being seen in Uganda will be discussed along with the benefits of biodiversity and native food plant species within the country, allowing exchanges between members, conservationists and food scientists.
At training for community members to collect food raw material and to maintain and monitor the agroforestry plots the importance of the native plants for their nutritional value and biodiversity will also be taught. Those selected for training will be local champions that take the knowledge back to their communities to spread the information further.
Finally, during co-creation workshops, attending farmer and urban consumers will be explained the results on nutritional analysis of the target food plant species and the positive impact of agroforestry for biodiversity and ecosystem services. As those community members then co-create promotional materials – e.g. radio programmes, leaflets, flyers and botanic garden information boards – these will reach a wider audience. In the previous Darwin Initiative project, analysis of data collected from seedling buyers following different promotional activities (e.g. television, radio, promotion vans), it was shown that radio was the most impactful form of awareness raising with the general public and local businesses.
Any scientific publications from the project will be in open access journals so that they are available freely. Following from the co-creation events promotional materials (as above) will also be disseminated freely on radio programmes and at TBG, as well as using BGCI social media and website channels. At TBG, leaflets and flyers will be given out to visitors and information boards will be installed in the TBG agroforestry plot to explain the plots and the links between biodiversity conservation and poverty alleviation.

Q18. Change expected

Detail the nature of the outputs you expect from the project (for example report, practical demonstration, know-how,

new process, product or service design) and how these will help you to target the identified need, challenge or opportunity in terms of biodiversity and poverty reduction, and links between them.

You should identify what will change and who will benefit a) in the short-term (i.e. during the life of the project) and b) in the long-term (after the project has ended).

When talking about how people will benefit, please remember to give details of who will benefit, differences in benefits by gender or other layers of diversity within stakeholders, and the number of beneficiaries expected. The number of communities is insufficient detail – number of households should be the largest unit used.

The project will provide opportunities for those living in poverty in rural areas to establish agroforestry plots providing them with nutritionally diverse diets. These will support biodiversity by using indigenous instead of exotic species and enhance smallholders' resilience to climate change and soil nutrient depletion that accompanies poor agronomic practices. Increased farm diversity has a strong impact on smallholder dietary diversity, improving their health, particularly if the planted species are sources of vital nutrients, such as iron and Vitamin A. Improved storage and shelf life increases the benefits by providing year-round availability and opportunities to reach urban populations.
Increasing the use of native food plant species in mixed food systems will create habitats for smaller mammal, bird, reptile, and amphibian species. These may be less charismatic than larger animals (e.g. elephants, gorillas and chimpanzees) but they are also a key part of Uganda's wildlife, including species currently threatened with extinction. In more urban areas or areas further from forests and protected areas, these could help people to reconnect with nature.
Short-term benefits:
-24 smallholders (50% women) from 4 project areas will receive food, and other products, from agroforestry trial harvests improving their household nutritional diversity and direct payments for maintenance and monitoring. They will also receive training in the methods to monitor plant growth and plot biodiversity.
- 50 seed collectors (50% women) will receive training to harvest and store for longevity native food plant species
-Urban community groups around 2 botanic gardens, including 50% women, will co-create public awareness materials for botanic gardens about native food plants species and the importance of nutritious, sustainable diets, reaching 39,300 visitors per year.
Long-term benefits:
-Potential future beneficiaries will be engaged from the start of the project so that their views are incorporated into the project's development. These connections can then be used to create co-operatives and value chains for native nutritionally important species increasing demand pressure for agroforestry expansion.
-Targeted agroforestry expansion in rural Western Central and Eastern regions of Uganda (ca. 7.4 millions households operating agricultural land – UBOS, 2020), influencing food security and malnutrition rates.
-Agrobiodiversity enhanced in crop and forestry systems with concomitant benefits for associated biodiversity (pollinators, seed dispersers etc.).
-The project acts as a replicable model in other countries that have commitments to the Bonn Challenge and the Africa Forest Landscape Restoration Initiative, with total commitments to bring 100 million hectares of land in Africa into restoration by 2030 (AFR100).
- The plots may also offer other benefits to people long term from timber, carbon markets, charcoal and other NTFPs (e.g. medicines) providing alternatives to wild harvesting, reducing pressures on forested and protected areas.
- Project results are included in Ugandan District and National development plans to create a politically enabling environment for scaling up agroforestry land use and business opportunities.

Q19. Pathway to change

Please outline your project's expected pathway to change, including how your outcome can be scaled. This should be an overview of the overall project logic and outline why and how you expect your Outputs to contribute towards your overall Outcome and, longer term, your expected Impact.

This should directly relate to your overall project's Theory of Change which must be uploaded alongside your logframe at Q24. See the separate Theory of Change Guidance **and Section 2.3.2 of the** Darwin Initiative Innovation Supplementary Guidance **for further information on your Theory of Change.**

Afforestation in Africa is dominated by monoculture utility planting and agroforestry systems that utilise a handful of exotic

species (Eucalyptus, Acacia, Grevillea, Prosopis etc.). These approaches are deleterious to biodiversity, and often have limited benefits for human health and livelihoods.
This project utilises the existing substantial body of research on native agroforestry food species to identify 34 fast-growing species for potential introduction into agroforestry systems through the Bonn Challenge initiative in Uganda. The pathway to change is as follows:
Local farmers will be consulted about impediments and opportunities related to the cultivation and marketing of potential products from 34 promising native food species with current markets assessed (output 1). The same species will be analysed for their nutritional benefits (output 2). From this, at least 6 of the most promising species will be selected for further product development (output 2) and for inclusion in agroforestry trials to collect baseline data on productivity and biodiversity (output 3). Finally, the importance of native food plant species and agroforestry will be disseminated to urban and rural communities, including project results as they become available (output 4).

Q20. Exit strategy

How will the benefits or outcome be sustained post-funding? Will the innovation be mainstreamed into "business as usual" to continue to deliver the benefits? How will the required capability and capacity remain available to sustain the benefits? How will your approach, if proven, be scaled? Are there any barriers to scaling and if so, how will these be addressed?

A basic cost-benefit analysis will be possible from the results of the project comparing a hectare of land used for agroforestry systems with native species specific to four different parts of Uganda vs standard cash crops. The evidence produced will be used to promote this approach more widely in Uganda and Africa. GrassRoots Ltd will be able to use the knowledge created in this project to develop a marketing strategy for the products developed. The marketing strategy will include packaging designs, promotion materials and branding for products (see attached standard marketing and production organogram). It will also consider certification, promoting the products' ethical sourcing for people and the environment.
The approach will be scaled by building on the partnerships formed between MU, TBG, EBG and GrassRoots Ltd, to develop a training programme that can be taught to extension officers as trainers. These will then be able to teach rural community members how to grow, harvest, store and process native food plant species.
The future utilization of the forests may conflict with community offtakes if not well planned. This can be mitigated using a management strategy that incorporates traditional uses of resources in sustainable systems. These systems may also provide other ecosystem services to people, through the provision of things like charcoal and medicines, and long-term provision of timber or eco-tourism business opportunities. None of these are provided by monocultures.
Those that have been trained within the project - to collect and store food produce from native plants and to establish and maintain agroforests - will also act as local champions of these methods beyond the project. They will be selected to include those with local influence so that the knowledge and practices are passed on to others in the four districts, further increasing the projects impact.

Section 7 - Risk Management

Q21. Risk Management

Please outline the 6 key risks to achievement of your Project Outcome and how these risks will be managed and mitigated, referring to the Risk Guidance**. This should include at least one Fiduciary, one Safeguarding Risk, and one Delivery Chain Risk.**

Projects should also draft their initial risk register, using the Risk Assessment template**, and be prepared to submit this when requested if they are recommended for funding. Do not attach this to your application.**

Risk Description	Impact	Prob.	Gross Risk	Mitigation	Residual Risk

Fiduciary Due to mismanagement funds are not dispersed correctly to all partner organisations for their activities so that whole outputs cannot be competed (e.g. to Makerere University for nutrition analysis and product development work)	4	1	Moderate	As the lead project partner in Uganda, Tooro Botanical Gardens will disburse funds to other Uganda partners, as it has done in previous projects without issues. Clear and transparent financial systems will be applied. Rigorous financial reporting, and monitoring will also be applied across the project.	Minor
Safeguarding In fieldwork to forested areas, community members or tree climbers engaged to collect seed or raw food materials are injured or worse and because of this they feel unsupported refuse to collect further impacting the ability to establish agroforestry plots and do nutritional analysis	5	3	Severe	Professional tree climbers will be employed with relevant training certification and insurance. Community collectors were supported by TBG previously so that they have experience collecting and relationships with TBG staff, with phone communication and support visits, that will continue. No solo fieldwork will be allowed with emergency protocols in place.	Moderate
Delivery Chain Due to continued COVID-19 impacts, or another similar event, BGCI as the lead partner is unable to visit Uganda for M&E	3	3	Major	BGCI has supported TBG, and other projects, through COVID-19 so far using various online means for monitoring and evaluation (e.g. Zoom for meetings and training, cloud storage for sharing financial information). This demonstrated an ability to effectively manage projects with TBG, despite travel restrictions.	Minor
Risk 4 One of the partners decides it is unable to support the project so that relevant outputs risk not being undertaken and included in project decisions and dissemination (e.g. if GrassRoots Ltd leaves, market research will not be used in species selection for agroforestry and food product development)	4	3	Major	Yearly grant agreements for project funds will require at least three months' notice for any partner leaving the project, providing time to address issues and identify new partners, if needed. BGCI will ensure meetings and updates will help to address issues as they arise, reducing the possibility of partners leaving.	Minor
Risk 5 Staff issues including but not limited to: Staff loss, recruitment problems, health or compassionate leave, issues of misconduct	3	2	Moderate	A project manager will be in place to lead and manage project activities. Roles and responsibilities are clearly defined with lines of accountability and communication. Cloud based records of all work will be kept arranging rapid secure transfer. Management plans will be agreed prior activities to ensure efficiency and transparency.	Minor

Risk 6 Due to difficulties with fieldwork (e.g. reduced wild productivity from environmental conditions) in the year, collectors are unable to find enough raw food materials of the target plant species so that the nutritional analysis of the target species could not be completed	3	2	Moderate	During training, collectors will be given compiled information on the target species, including locations of known plants and phenology calendars so that they can target collections for each species. Regular communications will allow issues to be identified early to develop other strategies for collection (e.g. other areas) when issues occur.	Minor

Section 8 - Implementation Timetable

Q22. Provide a project implementation timetable that shows the key milestones in project activities

Provide a project implementation timetable that shows the key milestones in project activities. Complete the Word template as appropriate to describe the intended workplan for your project and upload this below as a PDF.

Implementation Timetable Template

Please add/remove columns to reflect the length of your project. For each activity (add/remove rows as appropriate) indicate the number of months it will last, and fill/shade only the quarters in which an activity will be carried out.

[redacted]

Section 9 - Monitoring and Evaluation

Q23. Monitoring and evaluation (M&E)

Describe how the progress of the project will be monitored and evaluated, making reference to who is responsible for the project's M&E.

Darwin Initiative projects are expected to be adaptive and you should detail how the monitoring and evaluation will feed into the delivery of the project including its management. M&E is expected to be built into the project and not an 'add' on. It is as important to measure for negative impacts as it is for positive impact. Additionally, please indicate an approximate budget and level of effort (person days) to be spent on M&E (see Financial Guidance**).**

Botanic Gardens Conservation International (BGCI) will lead M&E, ensuring that activities are delivered according to the project plan. This will include visits to Uganda (we anticipate this will even be possible during the pandemic by BGCI Africa staff).
The established steering committee (indicator 3.1) will play an important M&E role, meeting biannually to assess project progress, review the risk register, ensure activities are on-track and suggest adaptive management changes as needed. The committee will have expert representation from academia and government, and will decide what biodiversity indicators

should be monitored within agroforestry trials (i3.2). The committee will approve selection of plant species for new product development based on year 1 results (i2.4).
As the lead in-country partner, TBG will help to ensure activities are delivered to plan, including by monitoring activities of other in-country partners. TBG will take responsibility for monitoring and data collation of the agroforestry trials, including field support to the plot mangers (i3.3-3.6). TBG will support the trained community agroforestry plot managers to collect biodiversity and productivity data dealing with issues that arise to ensure the data is collected regularly in a coordinated manner for good analysis (i3.5 and i3.6). This will provide the baseline of evidence for the benefits of agroforestry land use systems incorporating native food plant species relative to other land use systems (i0.3)
TBG and BGCI, will undertake the initial community engagement workshops ensuring the required information is recorded (indicators 1.1 and 1.2). These workshops will ensure that communities are satisfied with the project and feel that their opinions are taken into account. In parallel to the engagement workshops, GrassRoots Ltd. will collect marketing data to help to determine which species to develop new products from (i1.3). These activities will provide the evidence for how these native food plants are used and which are best to be taken forward in agroforestry and food product development (i0.1).
MU will train and support raw food materials collectors, and deal with any issues as they arise and, with TBG, identify new collection sites if they do have problems at known sites (i2.1 and i2.2). As MU are also responsible for the nutrition research they will undertake it as soon as raw materials are delivered to them in the year so that re-collections can be made if problems occur at the analysis stage (i2.3 and i2.6), They will feedback the results to the steering committee for selection of those to take forward in the project (i2.3 and i2.4).
Project promotion engagement with communities, after training of EBG and TBG staff (indicator i4.1), will be at co-creation workshops with communities around Fort Portal and Kampala (indicator i4.2). A record of who has been engaged will be maintained to evaluate the reach of activities, with the aim to reach both rural and urban communities around Fort Portal and Kampala (i0.4). Outreach materials and approaches will be adapted to reach different target audiences (i4.3 and i4.4). TBG will also promote the project results at district governmental levels using current relations.

Total project budget for M&E (this may include Staff and Travel and Subsistence Costs)	[redacted]
Percentage of total project budget set aside for M&E	[redacted]
Number of days planned for M&E	40

Section 10 - Logical Framework

Q24. Logical Framework

Darwin Initiative projects will be required to monitor (and report against) their progress towards their expected Outputs and Outcome. This section sets out the expected Outputs and Outcome of your project, how you expect to measure progress against these and how we can verify this.

Logframe Template

Please complete your full logframe in the separate Word template and upload as a PDF using the file upload below. Copy your Impact, Outcome and Output statements and your activities below - these should be the same as in your uploaded logframe.

[redacted]

Impact:

FLR in Uganda includes a substantial amount of Agroforestry on degraded land using native food plant species to improve significantly rural and urban populations' health outcomes and local biodiversity.

Outcome:

New innovative development opportunities using native food plant species are available with the baseline biodiversity information of their use in agroforestry systems collected ready for future impact monitoring

Project Outputs

Output 1:

Current use and markets of 34 target indigenous food species understood

Output 2:

Nutritional profiles of 34 target native food species known showing levels of important micro- and macronutrients with 12 new food products produced from at least 6 that are beneficial

Output 3:

Five agroforestry plots, with at least 6 of the target native food plant species, established to investigate the benefits to people and nature compared to less diverse alternatives, with baseline data collected

Output 4:

200 farmers and 400 urban community members help design promotion options to reach wider audiences about the benefits of native food species and agroforestry via radio shows and botanic gardens

Output 5:

No Response

Do you require more Output fields?

It is advised to have less than 6 Outputs since this level of detail can be provided at the activity level.

⦿ No

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 Run 4 workshops in project areas to engage local communities to discuss food consumption, barriers to accessing nutritional food year-round, and to gather traditional knowledge on the target plant species
1.2 Select community members for inclusion in agroforestry activities from workshop attendees
1.3 Analyse data and report on community perception
1.4 Market research to investigate market gaps for food products and nutrition content
1.5 Publish market research report

2.1 Complete training for food raw materials monitoring and collection
2.2 Trained community members collect food raw materials from target species for nutritional analysis
2.3 Carry out nutritional analysis on samples collected from all target species
2.4 Report on nutritional content of all target species produced
2.5 Agree 12 species to take forward for new food product development
2.6 Development of products from selected food species - including organoleptic testing
2.7 Carry out nutritional analysis carried out on newly developed food product

3.1 Establish steering committee and meet every 6 months
3.2 Decide agroforestry trial design and monitoring framework that incorporates target native food species, alongside other useful and beneficial species to the system (e.g. nitrogen fixers)

3.3 Seed collection networks collect the seed of the target species in their area for propagation
3.4 Community nurseries propagate the target species provided by the seed collection networks for use in trials
3.5 Plant 5 trial plots at TBG and public land (e.g. church groups) or willing community members' land
3.6 Complete monitoring training for community member site managers
3.7 Carry out baseline monitoring of plots
3.8 Monitor plots quarterly after establishment

4.1 Botanic Garden co-creation, education awareness and interpretation development training delivered to staff at TBG
4.2 Co-creation workshops held with groups of 25 community members
4.3 Radio programmes created and delivered monthly to promote agroforestry and native food plant species, including using co-creation workshop knowledge towards the project end
4.4 Interpretation materials designed, printed and installed at TBG using knowledge from co-creation workshops

Section 11 - Budget and Funding

Q25. Budget

Please complete the appropriate Excel spreadsheet, which provides the Budget for this application. Some of the questions earlier and below refer to the information in this spreadsheet.

Note that there are different templates for projects requesting under £100,000 and over £100,000. Please refer to the Finance Guidance for more information.

- Budget template for projects under £100k
- Budget template for projects over £100k

Please ensure you include any co-financing figures in the Budget spreadsheet to clarify the full budget required to deliver this project.

NB: Please state all costs by financial year (1 April to 31 March) and in GBP. The Darwin Initiative cannot agree any increase in grants once awarded.

Please note the next section is about the financial aspects of your project, rather than technical elements.

[redacted]

Q26. Funding

Q26a. Is this a new initiative or does it build on existing work (delivered by anyone and funded through any source)? Please give details.

⦿ Development of existing work

Please give details.

This project will build on projects between TBG and BGCI funded by the Ashden Trust and the Darwin Initiative. The Ashden Trust project developed propagation protocols and restoration activities around Fort Portal (finished in 2018). The Darwin Initiative funded project, entitled 'Supply and Demand: Restoration in Uganda for people and biodiversity' (Project 25-020, ending in March 2021), also included IUCN and built on the Ashden trust project. Project 25-020 established community

nurseries and seed collection networks to collect and propagate native plant species in high priority areas for restoration in Mpigi, Kagadi, Mbale and Ibanda districts.
These projects have developed a supply of native tree seedlings and associated knowledge on propagation and care. This established infrastructure and knowledge will be used to source the seedlings to plant in agroforestry trials in this new project. Further knowledge will also be generated in this project building on that initial base – on the nutritional value to people of these native food plant species and how they can be incorporated into agroforestry systems to improve biodiversity.

Q26b. Are you aware of any current or future plans for similar work to the proposed project?

◉ Yes

Please give details explaining similarities and differences, and explaining how your work will be additional and what attempts have been/will be made to co-operate with and learn lessons from such work for mutual benefits:

The African Orphan Crops Consortium (http://africanorphancrops.org/) is interested in developing neglected crops in Africa because of their nutritional importance, focusing on genome sequencing and plant breeding. It does not look at nutritional value or of testing the plants growth in agroforestry systems or the impacts on biodiversity. However, the improved breeding research would be good to incorporate further into developments beyond this project.
The World Agroforestry Centre's Fruit-tree Portfolio Approach (McMullin et al., 2019) investigates fruit crops that might provide year-round fruits that are rich in vitamins A and C. Only fruit trees were considered (i.e. no mixed herbaceous options) including many exotic species (e.g. Persea americana and Carica papaya). Only a few native species were chosen because of a lack of information on their nutritional value. The only crossovers with our list of 34 native species is Syzygium spp. and Ficus spp. The approach also does not test the impact of using those species on biodiversity.

Q27. Capital items

If you plan to purchase capital items with Darwin funding, please indicate what you anticipate will happen to the items following project end. If you are requesting more than 10% capital costs, please provide your justification here.

No capital items of high value are to be purchased within this project.

Q28. Value for Money

Please describe why you consider your application to be good value for money including justification of why the measures you will adopt will secure value for money.

This application is good value for money because the 4 outputs will lead to the project outcome providing strong evidence for agroforestry and promotional tools to create a socio-political environment to scale up.
The project partners are well placed to achieve the outputs and produce robust analysis and results by ensuring best practices are in place for biodiversity monitoring (BGCI and TBG); productivity assessment (NARO-EBG and TBG); nutritional analysis and product development (Makerere University); and community engagement and market analysis (BGCI, TBG and GrassRoots Ltd).
The methods used, market research and community workshops, will bring together consumers, value chain stakeholders and farmers - representing the key stages of the food chain (farm production, post-harvest and consumption) - to discuss and shape the products developed. This will create a strong evidence base for sustainable agroforestry that can be used to engage the public and private sectors through:
● Partner institutes good relationships with government institutes having aligned their work to the long-term goals of those institute's (e.g. the Ministry of Water and Environment).
● GrassRoots Ltd's business development experience to engage the private sector to develop value chains for the new products, increasing the economic value of agroforestry to smallholders.
● Makerere University, GrassRoots Ltd and TBG's training experience to expand courses to reach more people with the materials and experience generated in the project.
● TBG and BGCI relations with the wider FLR community in Eastern Africa to replicate the project concepts elsewhere.

Section 12 - Outputs, Open Access, Ethics & Safeguarding

Q29. Safeguarding

Projects funded through the Darwin Initiative must fully protect vulnerable people all of the time, wherever they work. In order to provide assurance of this, projects are required to have appropriate safeguarding policies in place.

Please confirm the Lead Partner has the following policies in place and that these can be available on request:

We have a safeguarding policy, which includes a statement of our commitment to safeguarding and a zero tolerance statement on bullying, harassment and sexual exploitation and abuse	Checked
We have attached a copy of our safeguarding policy to this application	Checked
We keep a detailed register of safeguarding issues raised and how they were dealt with	Checked
We have clear investigation and disciplinary procedures to use when allegations and complaints are made, and have clear processes in place for when a disclosure is made	Checked
We share our safeguarding policy with downstream partners	Checked
We have a whistle-blowing policy which protects whistle blowers from reprisals and includes clear processes for dealing with concerns raised	Checked
We have a Code of Conduct in place for staff and volunteers that sets out clear expectations of behaviours -- inside and outside the work place – and make clear what will happen in the event of non-compliance or breach of these standards	Checked

Please outline how you will implement your policies in practice and ensure that downstream partners apply the same standards as the Lead Partner.

The conduct of BGCI staff and BGCI sub-contractors is guided by BGCI's Code of Conduct, which includes: Anti-bribery and corruption; Anti-harassment and bullying; Dignity at work; Anti-money laundering; Equality, diversity and inclusion; Safeguarding children, young persons and vulnerable adults; and Whistleblowing (https://www.bgci.org/legal-and-policies/). BGCI staff and contractors must formally agree to conform to these policies by signing our standard contracts and grant agreements (copies available on request). Similarly, all partners of this project will formally agree to adhere to BGCI's policies on signing project agreements.

Q30. Ethics

Outline your approach to meeting the key ethical principles, as outlined in the guidance.

This project is designed to meet all legal and ethical obligations of both the UK and the countries involved in the project. It includes strong leadership and participation from developing countries, including the communities directly involved, to enhance the chances that perspectives, interests and well-being of those affected by the project are properly addressed. Project design includes workshops to understand local communities perspectives, - rural smallholders and urban populations - in the development of new food products and promotional materials. This will include the collection of traditional knowledge on how people currently use the target species. Since this information will be used in the research and development decisions, using appropriate scientific methods, we will ensure Prior Informed Consent along with Mutually Agreed Terms requirements are met under Uganda's 2007 ABS Guidelines.
BGCI has led ABS projects and will ensure best practices are followed in the project. NARO has an MoU with NEMA to develop ABS protocols in Uganda whilst NARO and MU have other projects in which they take into account ABS for research and development they are undertaking with community groups. This experience will ensure the project adheres with the national legislation.

Section 13 - FCDO Notifications

Q31. FCDO notifications

Please whether there are sensitivities that the Foreign, Commonwealth and Development Office will need to be aware of should they want to publicise the project's success in the Darwin competition in the host country.

No

Please indicate whether you have contacted your Foreign Ministry or the local embassy or High Commission (or equivalent) directly to discuss security issues (see Guidance Notes) and attach details of any advice you have received from them. If you have not, please say why not.

⦿ Yes (no written advice)

Section 14 - Project Staff

Q32. Project staff

Please identify the core staff on this project, their role and what % of their time they will be working on the project.

Please provide 1-page CVs or a 1 page job description, further information on who should be classified as core staff can be found in the Finance Guidance.

Name (First name, surname)	Role	% time on project	1 Page CV or job description attached?
Alex Hudson	**Project Leader**	25	Checked
Dominic Grantley-Smith	Engagement and education manager	15	Checked
Godfrey Ruyonga	Uganda Project leader	15	Checked
Said Musa Mutegeki	Project manager	75	Checked

Do you require more fields?

⦿ Yes

Name (First name, surname)	Role	% time on project	1 Page CV or job description attached?
Harriet Kokugonza	Public awareness officer	45	Checked
Rehema Walubembe	Marketing logistics	17	Checked
James Barnard	Market survey lead	25	Checked
Alex Sempira	Market data analysis	25	Checked

Godwin Anywar	Nutrition researcher	40	Checked
Joyce Adokorach	Ethnobotanist	40	Checked
No Response	*No Response*	0	Unchecked
No Response	*No Response*	0	Unchecked

Please provide 1 page CVs (or job description if yet to be recruited) for the project staff listed above as a combined PDF.

Ensure the file is named clearly, consistent with the named individual and role above.

[redacted]

Have you attached all project staff CVs?

⦿ Yes

Section 15 - Project Partners

Q33. Project partners

Please list all the Project Partners (including the Lead Partner), clearly setting out their roles and responsibilities in the project including the extent of their engagement so far and planned.

This section should demonstrate the capability and capacity of the Project Partners to successfully deliver the project. Please provide Letters of Support for all project partners or explain why this has not been included.

The partners listed here should correspond to the Delivery Chain Risk Map (within the Risk Register template) which you will be asked to submit if your project is recommended for funding.

Lead Partner name:	Botanic Gardens Conservation International (BGCI)
Website address:	https://www.bgci.org/

Why is this organisation the Lead Partner, and what value to they bring to the project? **(including roles, responsibilities and capabilities and capacity):**	BGCI will lead the overall management of the project, working closely with project partners throughout. This will include being responsible for the monitoring and financial reporting to the Darwin Initiative. BGCI will also support the agroforestry trial implementation and community engagement for the initial project knowledge-gathering, end of project promotion and co-creation workshops. These will build on our institutional training capacity using different engagement methods and our experience in Uganda, working closely with Tooro Botanical Gardens and other institutes for the past 8 years on plant conservation projects (Ashden Trust funded forest restoration project, EU Horizon 2020 BigPicnic food security project, Darwin Initiative forest restoration project 25-020). BGCI will also support the project data collection, management and analysis using its staff and member's knowledge of plant taxonomy, ethnobotany and ecological restoration. This includes mobilising global conservation networks like the Ecological Restoration Alliance of Botanic Gardens (www.erabg.org).
Allocated budget:	[redacted]
International/In-country Partner	⦿ International
Represented on the Project Board	⦿ Yes
Have you included a Letter of Support from the organisation?	⦿ Yes
Have you provided a cover letter?	⦿ Yes

Do you have partners involved in the project?

⦿ Yes

1. Partner Name:	Tooro Botanical Gardens (TBG)
Website address:	http://tbguganda.org
What value does this Partner bring to the project? **(including roles, responsibilities and capabilities and capacity):**	Tooro Botanical Gardens (TBG) will act as the lead partner in Uganda for the project and will manage the overall project finances and activities in Uganda. They will directly manage the establishment of 4 smallholder agroforestry trials, an agroforestry plot in their gardens, and will host 4 workshops at the project outset to engage communities and understand uses and importance of the target species, and their food concerns. TBG will also provide training for rural communities in agroforestry techniques and the engagement of urban communities in co-creation workshops. The latter will include training (with BGCI) of Entebbe Botanical Garden staff to deliver workshops in Kampala and running a workshop in Fort Portal in Western Uganda, where TBG is situated. TBG will be responsible for supporting agroforestry plot managers with the baseline data collection. TBG gets 14,300 visitors to the garden every year.

Allocated budget:	[redacted]
International/In-country Partner	⦿ In-country
Represented on the Project Board	⦿ Yes
Have you included a Letter of Support from this partner?	⦿ Yes

2. Partner Name:	Makerere University
Website address:	https://www.mak.ac.ug/
What value does this Partner bring to the project? **(including roles, responsibilities and capabilities and capacity):**	Makerere University will train community members to monitor and collect raw food materials from the project's target native plant species for the nutritional analysis. Their researchers will then carry out nutritional analysis research into the 34 target species. Once the project partners have selected at least 6 species for new food product development from the community engagement, market analysis and nutritional analysis, Makerere University will develop 12 new food products and test the nutritional properties of these. The Department of Food Technology and Nutrition at the University will be able to support this. Makerere University has been investigating the nutritional properties of species in Northern Uganda previously (Erythrococca bongensis, Grewia trichocarpa, Leptadenia hastata, Nymphaea lotus, Oxygonum sinuatum and Talinum portulacifolium) and so has the facilities to carry out modern scientific analysis of the project target species. They also train groups at the Innovation and Incubation Centre facility to deal with post-harvest handling, storage and processing methods for food produce.
Allocated budget:	[redacted]
International/In-country Partner	⦿ In-country
Represented on the Project Board	⦿ Yes
Have you included a Letter of Support from this partner?	○ Yes ○ No
If no, please provide details	*No Response*

3. Partner Name:	GrassRroots Ltd
Website address:	http://www.grassroots.co.ug/
What value does this Partner bring to the project? **(including roles, responsibilities and capabilities and capacity):**	Grassroots Ltd (GR) will support the marketing and sale of native plant species' produce. They will carry out market opportunity research, including surveys, and identify market linkages and synergies. Beyond the project they will be able support packaging systems, logos and appropriate designs, artwork and promotional material. GR will offer cost effective promotion (print, website, broadcast and social media). This will highlight regenerative agroforestry' benefits to health, functional foods, nostalgia, and nature. GR will also share data and collaborate with partners to produce training programmes that feed back to smallholder farmers. GR have over 15 years of experience marketing food products in Africa, mainly in the East Africa Community (EAC), but also the EU. GR has carried out National Marketing strategies (e.g. Botswana) and marketing for a Rwandan company to expand into the EAC by identifying opportunities and routes to markets. The company has experience in getting food products to market including the need for food standards labelling. The range of foods marketed in Uganda includes organic crops (shea butter and ginger sold into the EU) and locally produced organic breakfast cereal for local consumption.
Allocated budget:	[redacted]
International/In-country Partner	⦿ In-country
Represented on the Project Board	⦿ Yes
Have you included a Letter of Support from this partner?	⦿ No
If no, please provide details	A letter has been included from a prevous proposal that needs to be updated and will be sent through this week, if allowable.

4. Partner Name:	National Agricultural Research Organisation – Entebbe Botanical Gardens
Website address:	https://naro.go.ug/
What value does this Partner bring to the project? **(including roles, responsibilities and capabilities and capacity):**	Entebbe Botanical Gardens (EBG) has 25,000 visitors a year and is situated near to the main urban population of Uganda (Kampala). They will be taught by BGCI and TBG staff the methods of co-creation workshops to engage communities to co-design outreach strategies and materials. They will then implement a workshop with urban Kampala community members local to the garden regarding the project results to assess how to raise awareness of the importance of biodiversity and diverse nutritional diets. This will include how to promote food from nutritionally diverse food systems like agroforestry that use native species. The National Agricultural Research Organisation is also the national body that coordinates agricultural research in Uganda and so will provide important input into the agroforestry trial designs, including the monitoring strategies. They are also one of the core national ABS relevant institutions.
Allocated budget:	[redacted]

International/In-country Partner	⦿ In-country
Represented on the Project Board	⦿ Yes
Have you included a Letter of Support from this partner?	⦿ No
If no, please provide details	A letter has been included from a prevous proposal that needs to be updated and will be sent through this week, if allowable.

5. Partner Name:	*No Response*
Website address:	*No Response*
What value does this Partner bring to the project? **(including roles, responsibilities and capabilities and capacity):**	*No Response*
Allocated budget:	0
International/In-country Partner	◯ International ◯ In-country
Represented on the Project Board	◯ Yes ◯ No
Have you included a Letter of Support from this partner?	◯ Yes ◯ No
If no, please provide details	*No Response*

6. Partner Name:	*No Response*
Website address:	*No Response*

What value does this Partner bring to the project? **(including roles, responsibilities and capabilities and capacity):**	*No Response*
Allocated budget:	0
International/In-country Partner	○ International ○ In-country
Represented on the Project Board	○ Yes ○ No
Have you included a Letter of Support from this partner?	○ Yes ○ No
If no, please provide details	*No Response*

If you require more space to enter details regarding Partners involved in the project, please use the text field below.

No Response

Please provide a cover letter responding to feedback received at Stage 1 if applicable and a combined PDF of all letters of support.

[redacted]

Section 16 - Lead Partner Track Record

Q34. Lead Partner Capability and Capacity

Has your organisation been awarded Darwin Initiative funding before (for the purposes of this question, being a partner does not count)?

◉ Yes

Please provide details of the most recent awards (up to 6 examples) and go to Q10.

Reference No	Project Leader	Title
27-015	Joachim Gratzfeld	Farms and Forests: Boosting biodiversity and livelihoods in Northern Cambodia

27-016	Paul Smith	Responsible exchange of plant genetic resources for research and development
26-017	Kirsty Shaw	Maximising community and conservation benefits from plants of Mount Mulanje
25-020	Kirsty Shaw	Supply and Demand: Restoration in Uganda for people and biodiversity
No Response	*No Response*	*No Response*
No Response	*No Response*	*No Response*

Have you provided the requested signed audited/independently examined accounts?

If yes, please upload these on the certification page. Note that this is not required from Government Agencies.

◉ Yes

Section 17 - Certification

Q35. Certification

On behalf of the

Trustees

of

Botanic Gardens Conservation International

I apply for a grant of

£199,359.00

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful.

(This form should be signed by an individual authorised by the applicant institution to submit applications and sign contracts on their behalf.)

- **I have enclosed CVs for project key project personnel, letters of support, budget, logframe, theory of change, safeguarding policy and project implementation timetable (uploaded at appropriate points in application)**
- **Our last two sets of signed audited/independently verified accounts and annual report (or other financial evidence - see Financial Guidance) are also enclosed.**

Checked

Name	Paul Smith
Position in the organisation	Secretary General

Signature (please upload e-signature)	
Date	06 December 2021

Please attach the requested signed audited/independently examined accounts.

Please upload the Lead Partner's Safeguarding Policy as a PDF

Section 18 - Submission Checklist

Checklist for submission

I have read the Guidance, including the "Guidance Notes for Applicants**",** "Supplementary Guidance for Darwin Initiative Innovation**",** "Monitoring, Evaluation and Learning Guidance**",** "Theory of Change Guidance**","**Risk Guidance**" and "**Financial Guidance**".**	Checked
I have read, and can meet, the current Terms and Conditions **for this fund.**	Checked
I have provided actual start and end dates for my project.	Checked
I have provided my budget based on UK government financial years i.e. 1 April – 31 March and in GBP.	Checked
I have checked that the budget is complete, correctly adds up and I have included the correct final total at the start of the application.	Checked
The application has been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable).	Checked
I have attached the below documents to my application: • my completed **logframe** as a PDF using the template provided	Checked
• my 1 page **Theory of Change** as a PDF which includes the key elements listed in the guidance	Checked

• my **budget** (which meets the requirements above)	Checked
• my completed **implementation timetable** as a PDF using the template provided	Checked
• **1 page CV or job description for all the Project Staff** identified at Question 32, including the Project Leader, or provided an explanation of why not.	Checked
• a **letter of support** from the Lead Partner and partner(s) identified at Question 33, or an explanation of why not.	Checked
• a **cover letter from the Lead Partner,** outlining how any feedback received at Stage 1 has been addressed where relevant.	Checked
• a copy of the **Lead Partner's safeguarding policy**, which covers the criteria listed in Question 29.	Checked
• a signed **copy of the last 2 annual report and accounts** for the Lead Partner, or provided an explanation if not.	Checked
(If copying and pasting into Flexi-Grant) I have checked that all my responses have been successfully copied into the online application form.	Checked
I have been in contact with the FCDO in the project country(ies) and have included any evidence of this. If not, I have provided an explanation of why not.	Checked
I have checked the Darwin website **immediately prior to submission to ensure there are no late updates.**	Checked
I have read and understood the Privacy Notice on the Darwin Initiative website**.**	Checked

We would like to keep in touch!

Please check this box if you would be happy for the lead applicant (Flexi-Grant Account Holder) and project leader (if different) to be added to our mailing list. Through our mailing list we share updates on upcoming and current application rounds under the Darwin Initiative and our sister grant scheme, the IWT Challenge Fund. We also provide occasional updates on other UK Government activities related to biodiversity conservation and share our quarterly project newsletter. You are free to unsubscribe at any time.

Unchecked

Data protection and use of personal data

Information supplied in this application form, including personal data, will be used by Defra as set out in the latest copy of the Privacy Notice for Darwin, Darwin Plus and the Illegal Wildlife Trade Challenge Fund available here. This Privacy Notice must be provided to all individuals whose personal data is supplied in the application form. Some information may be used when publicising the Darwin Initiative including project details (usually title, lead organisation, location, and total grant value) on the GOV.UK and other websites.
Information relating to the project or its results may also be released on request, including under the 2004 Environmental Information Regulations and the Freedom of Information Act 2000. However, Defra will not permit any unwarranted breach of confidentiality nor will we act in contravention of our obligations under the General Data Protection Regulation (Regulation (EU) 2016/679).

Project Title: Understanding Ugandan native plant species' role in innovative sustainable landscapes

Project Summary	SMART Indicators	Means of Verification	Important Assumptions
Impact: (Max 30 words) FLR in Uganda includes a substantial amount of Agroforestry on degraded land using native food plant species to improve significantly rural and urban populations' health outcomes and local biodiversity.			
Outcome: (Max 30 words) New innovative development opportunities using native food plant species are available with the baseline biodiversity information of their use in agroforestry systems collected ready for future impact monitoring	0.1 The use and importance of 34 native food plant species to 100 smallholder farmers and 10 local markets in 5 districts are understood with a top 12 for each of the 5 project districts July 2023 0.2 12 new food products created from native food plant species that provide valuable nutrition content and have value chain development potential by January 2024 0.3 Baseline biodiversity indicators are recorded by agroforestry plot managers within 4 1ha agroforestry plots, 4 1ha farmland plots and 4 1ha degraded unmanaged plots by March 2024 to be used to monitor change across the plots in the future. 0.4 Nutrition and biodiversity benefits of producing and consuming native plant food species in diverse land use systems promoted to over 200 smallholder farmers and 400	0.1 Database records, workshop reports that highlight communities' use of species including disaggregation by gender, market research report including disaggregation by gender, species target lists 0.2 Scientific publications, information on the World Agroforestry Centre "Priority Food Tree and Crop Food Composition" database 0.3 Site biodiversity records, biodiversity baseline report 0.4 workshop attendees lists, radio recordings, promotional materials (e.g. signs and posters for use at TBG agroforestry plot)	From the target species some benefits can be shown (e.g. nutritional, seasonal production outside of main crops to provide year round food security, market use and potential) to select 12 for new product development Biodiversity indicators are selected that can be monitored easily by the plot managers with support from TBG

	urban community members by the end		
Outputs: **1**. Current use and markets of 34 target indigenous food species understood	1.1 4 consultation workshops held with local farmers, producers and marketers to discuss food consumption barriers to access nutritional food all year round, and to gather knowledge on species that we are analysing (traditional methods for growing, eating, recipes, etc.) by October 2022. 1.2 Data analysed from workshops to contribute to the decision of which 12 species to develop food products by October 2022 1.3 Market research undertaken to understand current markets for the target species, and assess national market gaps and consumer food opinions and decisions published by July 2023.	1.1 Workshop records outlining opinions of attendees from the 4 project districts 1.2. Report of consultation workshops with suggestions for product development 1.3 Market research report, species target list	Markets can be assessed multiple times in the year to include seasonal changes in availability of food plant resources, with research teams based in suitable locations to provide locality specific data
2. Nutritional profiles of 34 target native food species known showing levels of important micro- and macronutrients with 12 new	2.1 50 community members (seed collectors) trained to collect raw food materials from known sources of the target food	2.1 Training reports with trainee names and details, pre and post-training surveys to understand knowledge gained	The collectors are able to collect sufficient raw materials from the known sites in a year to be used by Makerere University for analysis

food products produced from at least 6 that are beneficial	plants for nutritional analysis by October 2022 2.2 Monitors collect samples for analysis from the relevant species to each of the 4 project areas (between 13 and 28 species) by July 2023 2.3 Research into the nutritional profiles of the 34 target species completed by July 2023 2.4 Steering committee uses consultation workshop, market research and nutrition profile results to select at least 6 species for food product development by October 2023 2.5 At least 6 New food products developed using Makerere Univrsity's food technology methods from the 12 species selected that have improved shelf life and/or 2.6 Nutritional profiles of 12 newly developed food products produced by March 2024	2.2 Quality collections suitable for analysis provided to Makerere University 2.3 & 2.6 Report on analysis of nutrition, scientific publication, community engagement reports and market research 2.4 Steering committee meeting minutes describing rationale and the decision made by the committee 2.5 New food products, low-cost methods of production documented	Community members engaged lose interest due to lack of support or miscommunications
3. Five agroforestry plots, with at least 6 of the target native food plant species, established to investigate the benefits to people and nature compared to	3.1 Steering committee established of project partners and relevant experts from the fields of Ugandan biodiversity, human wildlife conflict,	3.1 Steering committee minutes outlining data and presentations given and decisions made on any changes required	The partner organisations are able to deal with any issues community members have within their roles and support them to overcome them

less diverse alternatives, with baseline data collected	agriculture and forestry by July 2022 to meet bi-annually 3.2 Agroforestry trial design developed with steering committee, and local smallholder farmer input, by October 2022 3.3 24 smallholder agroforestry champion farmers (50% women) and 1 botanic garden staff trained to establish, manage and monitor the agroforestry trials, by June 2023 3.4 4 x 1ha agroforestry trials established on community land and 1 at TBG by November 2022 3.5 Baseline productivity of 5 x 1ha agroforestry and 5 x 1ha local smallholder farmer 5 collected by the main harvest season in June/July 2023 3.6 Baseline data on biodiversity indicator species between 5 agroforestry, 5 local smallholder farmer and 5 degraded forest plots collected by March 2024	3.2 Trial design report outlining how trials will be planted and monitored 3.3 Training attendees lists, training reports, payslips, plot data, socio-economic survey data 3.4 Plot establishment report with photos and GPS data, baseline monitoring data 3.5 & 3.6 Plot monitor reports, impact analysis report, Socio-economic and biodiversity data from agroforestry trials, nursery sales records and receipts	
4. 200 farmers and 400 urban community members help design promotion options to reach wider audiences about the benefits of native food species and agroforestry via radio shows and botanic gardens	4.1 Co-creation, education awareness and interpretation development training delivered to staff at TBG and EBG by April 2023 4.2 24 co-creation workshop held with 600 community members	4.1 Co-creation training report 4.2 Awareness raising strategy for engagement with urban populations 4.3 Radio programme recordings available online 4.4 Number of leaflets produced, number of signs produced	Urban and rural communities engage with the co-creation workshops to understand their diverse perspectives for promotion activities.

	around TBG and EBG by October 2023 4.3 24 promotional radio shows run on local radio in the 5 project areas by March 2024 4.4 Agroforestry interpretation materials created including 2000 leaflets in English, 2000 flyers in two local languages, 2 magazine promotions and at least 1 information board at the agroforestry plot at TBG, by March 2024		

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 Run 4 workshops in project areas to engage local communities to discuss food consumption, barriers to accessing nutritional food year-round, and to gather traditional knowledge on the target plant species

1.2 Select community members for inclusion in agroforestry activities from workshop attendees

1.3 Analyse data and report on community perception

1.4 Market research to investigate market gaps for food products and nutrition content

1.5 Publish market research report

2.1 Complete training for food raw materials monitoring and collection

2.2 Trained community members collect food raw materials from target species for nutritional analysis

2.3 Carry out nutritional analysis on samples collected from all target species

2.4 Report on nutritional content of all target species produced

2.5 Agree 12 species to take forward for new food product development

2.6 Development of products from selected food species - including organoleptic testing

2.7 Carry out nutritional analysis carried out on newly developed food product

3.1 Establish steering committee and meet every 6 months

3.2 Decide agroforestry trial design and monitoring framework that incorporates target native food species, alongside other useful and beneficial species to the system (e.g. nitrogen fixers)

3.3 Seed collection networks collect the seed of the target species in their area for propagation

3.4 Community nurseries propagate the target species provided by the seed collection networks for use in trials

3.5 Plant 5 trial plots at TBG and public land (e.g. church groups) or willing community members' land

3.6 Complete monitoring training for community member site managers

3.7 Carry out baseline monitoring of plots

3.8 Monitor plots quarterly after establishment

4.1 Botanic Garden co-creation, education awareness and interpretation development training delivered to staff at TBG

4.2 Co-creation workshops held with groups of 25 community members

4.3 Radio programmes created and delivered monthly to promote agroforestry and native food plant species, including using co-creation workshop knowledge towards the project end

4.4 Interpretation materials designed, printed and installed at TBG using knowledge from co-creation workshops