Submit by 2359 GMT on Monday 29 January 2018

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Darwin Initiative Application for Grant for Round 24: Stage 2

Before completing this form, please read both the Fair Processing Notice on pages 17 and 18 of this form and the Guidance . Where no word limits are given, the size of the box is a guide to the amount of information required. Information to be extracted to the database is highlighted blue. Blank cells may render your application ineligible

Eligibility

1. Name and address of organisation

(NB: Notification of results will be by email to the Project Leader in Question 6)

Applicant Organisation Name:	**Royal Botanic Gardens, Kew**
Address:	**Millennium Seed Bank, Wakehurst**
City and Postcode:	**Ardingly, RH17 6TN**
Country:	**United Kingdom**
Email:	
Phone:	

2. Stage 1 reference and Project title

Stage 1 Ref: 4174	**Title (max 10 words):** Enhancing rural Caucasian community livelihoods through fruit and nut conservation

3. Summary of Project

Please provide a brief summary of your project, its aims, and the key activities you plan on undertaking. 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 GOV.UK. Please bear this in mind, and write this summary for a non-technical audience.

(max 80 words)

Rural livelihoods will be enhanced through the conservation and sustainable use of economically-important fruit and nut species (F&N) in Georgia and Armenia. In-country partners and RBG Kew's Millennium Seed Bank will collaboratively deliver theoretical and practical conservation and sustainable management training to women, men and children from rural Caucasus communities, and hold information-sharing workshops on threats and uses of F&N. *Ex-situ* seed conservation, global IUCN-accredited red-listing and research into genetic traits of commonly-harvested economically-important F&N will support sustainable rural livelihoods.

4. Country(ies)

Which eligible host country(ies) will your project be working in? You may copy and paste this table if you need to provide details of more than four countries.

Country 1:	**Country 2:**
GEORGIA	ARMENIA

5. Project dates, and budget summary

Start date: 1st July 2018		**End date:** 31st March 2021		**Duration:** 2.75 years
Darwin funding request (Apr – Mar)	**2018/19 £72,575**	**2019/20 £141,294**	**2020/21 £96,302**	**Total £310,171**
Proposed (confirmed & unconfirmed) matched funding as % of total Project cost				**13%**

6. Partners in project. Please provide details of the partners in this project and provide a CV for the individuals listed. You may copy and paste this table if necessary.

Details	**Project Leader**	**Project Partner 1**	**Project Partner 2**	**Project Partner 3**
Surname	Breman	Nersesyan	Mikatadze-Pantsulaia	Kikodze
Forename (s)	Elinor	Anush	Tsira	David
Post held	Conservation Partnership Coordinator	President	Head of Department, Plant Conservation	Deputy Director
Organisation (if different to above)		Nature Heritage NGO	National Botanical Garden Georgia	Institute of Botany, Georgia
Telephone				
Email				

7. Has your organisation been awarded a Darwin Initiative award before (for the purposes of this question, being a partner does not count)**? Yes**
If so, please provide details of the most recent awards (up to 6 examples).

Reference No	**Project Leader**	**Title**
23002	Dr Martin Cheek	Important Plant Areas in Guinea-Conakry
23034	Dr Ruth Bone	Edible wild orchid trade: sustaining livelihoods and biodiversity in Zambia
22005	Dr Paul Wilkin	Conserving Madagascar's yams through cultivation for livelihoods and food security
22006	Dr Aaron Davis	Mainstreaming biodiversity conservation and climate resilience at Yayu Biosphere Reserve
22012	Philip C Stevenson	Harnessing agricultural ecosystem biodiversity for bean production and food security

8a. If you answered 'No' to Question 7 please complete Question 8a, b and c.
If you answered 'Yes', please go to Question 9 (and delete the boxes for Q8a, 8b and 8c)

9. Please list all the partners involved (including the Lead Institution) and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. This section should illustrate the capacity of partners to be involved in the project. Please provide written evidence of partnerships. Please copy/delete boxes for more or fewer partnerships.

Lead institution and website:	**Details (including roles and responsibilities and capacity to lead the project): (max 200 words)**
RBG Kew's (Kew) Millennium Seed Bank (MSB) https://www.kew.org/wakehurst/attractions/millennium-seed-bank http://brahmsonline.kew.org/msbp   	The MSB has a partnership network of 95 countries and overseas territories and >20 years' experience of project design and delivery. Well-established partnerships exist with the proposed partners. This project widens our existing collaboration to incorporate community engagement, local social scientists, and community participation in resource conservation and management. All partners have been closely involved in the development of this application. The Project Leader, Dr Elinor Breman, has an academic background in plant conservation. She has worked for Kew for four years and has two years' experience managing the MSB's seed conservation projects in the Caucasus, Europe, Middle East and Australia. She will be responsible for overseeing project progress and managing the Caucasus project coordinator who will maintain project partnerships, attend in-country meetings and trainings, and manage project and financial reporting. The MSB will be responsible for project coordination, including: disbursal of project funds to partners; procurement and shipping of equipment; hosting and supervision of visiting project staff and students; providing training by the Plant Assessment Unit; providing duplicate seed storage facilities; assessing the quality of duplicated seed collections and sharing results with partners; coordinating and conducting research activities; participating in a peer-reviewed research publication, red-listing report and newsletters.
Have you included a Letter of Support from this institution? If not, why not?	Yes

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
Nature Heritage, Armenia (NH) *Logo and website under construction*	The MSB has partnered with the Institute of Botany (IoB) since 2011 and has an ABSA in place (available upon request). The IoB recently developed Nature Heritage NGO (NH), who will be the project partner. Their team includes skilled IoB staff, many of whom are experts on the country's flora and have many years' seed-banking and research experience. The Institute and NH oversee the country's herbarium and laboratory facilities. NH will be responsible for delivering: collection of 61 wild F&N; coordination and implementation of in-country field collecting programmes; engagement of one social scientist to elect the target community, engage community members, deliver workshops and train one BC; engagement of one MSc student to be trained by partner staff and Kew and undertake research into eight Rosa taxa; processing collected seed and herbarium material; duplicating collections to the MSB; hosting MSB staff for meetings, collecting and training; ensuring appropriate permits are secured for all project staff; sharing data; participation in a peer-reviewed research publication, red-listing report, magazine articles and newsletters. NH are new to community work; they will be supported by experienced Georgian partners and local social scientists, developing their capacity to promote community-based biodiversity conservation.
Have you included a Letter of Support from this institution? If not, why not?	Yes

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
National Botanical Garden, Georgia (NBGG) http://www.nbgg.ge/ საქართველოს ეროვნული ბოტანიკური ბაღი	The MSB has worked with the NBGG in Georgia since 2006 and has an Access and Benefit Sharing Agreement (ABSA) in place (available upon request). Partner staff have strong, local taxonomic expertise and over a decade of seed banking experience, including with Crop Wild Relatives (CWR). The NBGG runs the seed bank at the botanical gardens, conducting cleaning, counting and viability testing of seed collections. Newly installed dry room facilities enable the NBGG to dry and store seed collections at the optimum temperature and relative humidity. The NBGG will be responsible for collaborating with the Institute of Botany to deliver: the collection of 90 wild F&N; the coordination and implementation of in-country field collecting programmes; engagement of one MSc student who will receive training by partner staff and Kew and undertake research for this project; processing the collected seed material and associated herbarium material; duplicating seed collections to the MSB; hosting MSB staff for meetings, collecting missions and training; ensuring appropriate permits are secured for all project staff; sharing data on useful plants; and participation in a peer-reviewed research publication, red-listing report, popular magazine articles and newsletters.
Have you included a Letter of Support from this institution? If not, why not?	Yes

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
Institute of Botany, Georgia (IoB) http://iliauni.edu.ge/en/	The MSB has worked with the IoB in Georgia since 2006 and has an ABSA in place (available upon request). Partner staff have strong, local taxonomic expertise and over a decade of seed banking experience. The IoB manages Georgia's herbarium, laboratory facilities and student attachments. The IoB will be responsible for collaborating with the NBGG to deliver: the collection of 90 wild F&N; the coordination and implementation of in-country field collecting programmes; engagement of one social scientist to elect the target community, engage community members, deliver workshops and train one biodiversity champion (BC); research into genus diversity and morphometric studies of four target taxa; hosting MSB staff for meetings, collecting missions and training; ensuring appropriate permits are secured for all project staff; sharing data on useful plants; and participation in a peer-reviewed research publication, red-listing report, popular magazine articles and newsletters.
Have you included a Letter of Support from this institution? If not, why not?	Yes

10. Key Project personnel

Please identify the key project personnel on this project, their role and what % of their time they will be working on the project. Please provide 1 page CVs for these staff, or a 1 page job description or Terms of Reference for roles yet to be filled. Please include more rows where necessary. These should match the names and roles in the budget spreadsheet.

Name (First name, surname)	Role	Organisation	% time on project	1 page CV or job description attached*?
Dr Elinor Breman	Project Leader	RBG Kew	10%	Yes
Dr Aisyah Faruk	Project Coordinator	RBG Kew	30%	Yes
Dr Tsira Mikatadze-Pantsulaia	Project Manager	National Botanical Gardens Georgia	6%	Yes
David Kikodze	Project Manager	Institute of Botany, Georgia	10%	Yes
Dr Anush Nersesyan	Project Manager	Nature Heritage NGO	20%	Yes
***If you cannot provide a CV, please explain why not.**				

11. Problem the project is trying to address

Please describe the problem your project is trying to address in terms of biodiversity and its relationship with poverty. 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?

(Max 300 words)

The Caucasus, one of the world's 34 most diverse, endangered hotspots, are home to approximately 6,400 plant species of which 25% are endemic[1]. Some 2,000 species have direct economic value, used for fire-wood, food, and medicine[2]; >15% are wild-growing F&N[3].

Rural communities in Georgia and Armenia are increasingly reliant on ecosystem-services due to recession and high unemployment in the Transcaucasus since 1991[4]. In Georgia, ~1,200 plant species are used medicinally[5], while in Armenia, F&N comprise 52% of frequently-collected forest products[6].

High levels of biodiversity underpin greater resilience in ecosystem services[7]. However, <12% of Caucasus vegetation remains unspoiled[8], putting great pressure on existing ecosystem-

[1] Caucasus Nature Fund (CNF, 2014) *Supporting people conserving nature in the Caucasus,* Brochure, http://caucasus-naturefund.org/wp-content/uploads/2012/10/brochureCNF2014_reduced.pdf, viewed July 2017

[2] Rukhadze, A. (2015) *Georgia's fifth national report to the Convention on Biological Diversity, "*United Nations Convention on Biological Diversity", viewed July 2017

[3] Food and Agriculture Organisation (FAO), 2006, *Better forestry, less poverty - A practitioner's guide; Food and Agriculture Organization of the United Nations*. Rome

[4] Bakkegaard, R. K. (2014) '*Executive Summary – Regional analysis of forest and environmental product use and dependence amongst rural households in South Caucasus, Eastern Europe and Russia*', in *Enpi East FLEG II*, http://www.enpi-fleg.org/site/assets/files/1532/forest_dependency_regional_executive_summary_publication_final.pdf, viewed July 2017

[5] Ministry of Environment and Natural Resources Protection of Georgia (MoE), *Georgia's Fifth National Report to the Convention on Biological Diversity*, 2014, https://www.cbd.int/doc/world/ge/ge-nr-05-en.pdf, viewed August 2017

[6] Mkrtchyan, A., Grigoryan, E. 2014. The World Bank (WB), European Neighborhood and Partnership Instrument East Countries Forest Law Enforcement and Governance II Program, *Forest Dependency in Rural Armenia*

[7] Folke, C., Carpenter, S., Walker, B., Scheffer, M., Elmqvist, T., Gunderson, L. and Holling, C. S. (2004) Regime shifts, resilience and biodiversity in ecosystem management. Annual Review of Ecology, Evolution and Systematics 35: 557-581.

[8] Caucasus Nature Fund (CNF, 2012) '*Flora Fauna and Threats: Biodiversity under Threat, the Caucasus',* http://caucasus-naturefund.org/the-caucasus/flora-fauna-threats/, viewed August 2017

services and wild-harvested resources. Since 1917, >40 vascular plant species have disappeared from Georgia and Armenia, and 250 species are in danger of extinction[9]. Major threats to wild fruit and nut populations include overharvesting, overgrazing, illegal-logging, climate-change[10] and a lack of scientific understanding of their status and vulnerabilities. Conservation of these resources is urgently required to protect and enhance livelihoods of rural communities.

Urban migration from rural communities is contributing to a loss of traditional knowledge around the sustainable harvesting and uses of F&N, compounding the threats facing F&N such as damaging harvesting techniques which lead to reduced re-growth[11].

These issues are of direct relevance to the two communities who are involved in this project. They were selected by the in-country partners because they engage in wild-harvesting of F&N. To our knowledge no study has previously investigated the species being targeted by these communities or helped the communities to utilise sustainable management and conservation practices which will enable them to continue utilising wild populations. Protection of ecologically and economically-important F&N in Georgia and Armenia will safeguard rural livelihoods and conserve these valuable genetic resources.

12. Biodiversity Conventions, Treaties and Agreements

Your project must support the objectives of one or more of the agreements listed below. Please indicate which agreement(s) will be supported and describe which objectives your project will address and how. Note: projects supporting more than one will not achieve a higher score.

Convention On Biological Diversity (CBD)	Yes
Nagoya Protocol on Access and Benefit Sharing (ABS)	Yes
International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)	Yes
Convention on International Trade in Endangered Species (CITES)	No

12b. Biodiversity Conventions

Please detail how your project will contribute to the objectives of the agreement(s) your project is targeting. You should refer to Articles or Programmes of Work here. Note: No additional significance will be ascribed for projects that report contributions to more than one agreement

[9] Food and Agriculture Organisation (FAO), 2010, *Gardens of Biodiversity, Conservation of genetic resources and their use in traditional food production systems by small farmers of the Southern Caucasus,* Rome

[10] Elizbarashvili, N. (2000). *Diversity of anthropogenic transformation of Georgia's natural landscapes and planning problems.* In: Biological and Landscape Diversity of Georgia.pp. 158-168.

[11] Bakkegaard, R. K. (2014) *Enpi East FLEG II*, 4

(Max 500 words)

The project furthers ITPGRFA's objectives for "conservation, documentation, sustainable use, and *ex-situ* collections of food and agriculture resources" through community collaboration for conservation of F&N CWR. Articles 5, 6, 9, 12 and 13 are addressed.

Project outputs advance:

- Armenia's Development Strategy 2014-2025, particularly Strategic Directions 2.4, flora species' assessments using IUCN criteria, and 3.2, identification and resource assessments of most-used, useful plant species;
- Georgia's National Biodiversity Strategy 2016-2020, particularly National Target C.2-01.18 for *ex-situ* conservation of >40% critically endangered plant species.

CBD strategic goals A-E are supported.

Aichi Targets (AT) 1 and 4 raise awareness of biodiversity value and conservation with stakeholders. Georgia's National Goals (NG) A1, A2 and E2, and Armenia's national CBD targets 25.1.b and 26.1.a inform public about biodiversity and threat mitigation, increasing local involvement in decision-making for sustainable biodiversity use by 2020. This project will inform local communities about biodiversity through established social science frameworks. Empowered steering-committees and BCs will enable conservation decision-making at the local level. Community action plans will help community stakeholders to work towards sustainable consumption (AT4).

Community engagement activities, including IUCN-accredited assessments of F&N, will help both governments to meet targets for reduced natural habitat loss (AT5) and help prevent extinction / improve conservation status of known threatened species (AT12). IUCN assessments and genetic research will be informed by mutual sharing of learning from these activities, seed conservation (AT19) and traditional knowledge (TK) (AT18). Both countries hope to reduce pressures on biodiversity and promote sustainable biological resource use: in Georgia through NG B1 for sustainable natural habitat management; in Armenia through target 24.1.c for enhanced conservation of CWR with socio-economic and cultural value, and target 23.1.a for biodiversity habitat conservation.

Seed conservation activities address Georgian NG C1 and C5 for the assessment of biodiversity status, maintenance of indigenous plant species, and safeguarding of genetic diversity; and Armenian target 23.1.b for *ex-situ* conservation of biodiversity. Conserving seeds in-country and duplicating collections provides a resource for research, restoration and reintroduction.

Georgia's NG C2 (AT19) requires improved species status, notably >75% of red-listed species. IUCN global red-listing will enhance understanding of economically-important species and build on national red-lists. Research will improve plant genetic knowledge, directly addressing Georgia's NG E1 for enhanced knowledge on the values and functioning of biodiversity. Training of local MSc students in advanced, transferable genetic research will address Armenia's target 26.1.b for enhanced training of specialists in biodiversity studies.

All project outputs contribute to GSPC Targets 8, 9, 13, 14. Conservation status will be informed regarding threats, population sizes and uses; seed collections and red-listing will contribute to Targets 8-9. TK is core to the project and will be treated with due respect; communities will be educated in the importance of plant diversity and its conservation (Targets 13-14).

Mutually-agreed ABSAs are in place with all project partners ensuring fair and equitable use of

project-related resources. This project addresses Nagoya Protocol's obligations on the use of genetic resources and TK. PIC will be obtained for all community data in compliance with the Protocol.

12c. Is any liaison proposed with the CBD / ABS / ITPGRFA / CITES focal point in the host country?

☒ **Yes** ☐ **No** **if yes, please give details:**

Project partners in Georgia already have a strong working relationship with the CBD focal point, Ms Nona Khelaia, based in the Biodiversity Division, Biodiversity and Forest Policy Department, Ministry of Environment and Natural Resources Protection, 6 Gulua st. 0114 Tbilisi, Georgia and have contact with Ms Khelaia via telephone (+995 32272 7231) and email (nonakhelaia@yahoo.com). The project has been discussed with Ms Khelaia and the support letter signed by the Deputy Minister of Environmental Protection and Agriculture is attached to this application. This contact will be maintained throughout the project and Ms Khelaia is expected to attend Georgia's Annual Biodiversity Conference 2020 in Tbilisi to hear about project progress, achievements and learning.

Georgia has not yet ratified the ITPGRFA so no focal point exists in-country.

The UK Embassy in Georgia has supported the Millennium Seed Bank Partnership (MSBP) in the region and in November 2011, the successful completion of the first phase of the MSB Project was celebrated in the Embassy. The embassy has been informed of this project.

CBD and ITPGRFA focal points in Armenia have been informed of the planned project, its aims and objectives, and activities. Dr Gayane Sargsyan of the National Focal Point to the ITPGRFA (P.ind. 0808 v. Darakert, Ararat Marz, Armenia, email@ biotechlab01@yahoo.com) and Mr Gagik Manucharyan of the Ministry of Nature Protection (3rd Government Building Republic Square, 0010 Yerevan, Armenia, email: interdpt@mnp.am) have expressed their support for the project and this contact will be maintained throughout the project. Dr G Sargsyan's letter of support is attached. The ITPGRFA have informally expressed an interest in financially supporting ongoing work in the project areas should this application be successful.

12d. Global Goals for Sustainable Development (SDGs)

Please detail how your project will contribute to the Global Goals for Sustainable Development (SDGs).

(Max 250 words)

This project addresses SDGs 1, 2, 12, 13 and 15.

Targets 1.4 and 1.5 focus on equal rights and control of economic resources and building the resilience of the poor. Targets 12.2 and 12.8 focus on sustainable natural resource use and raising awareness of such aims. Social scientists (see frames-of-reference) and partner staff address these by working with rural communities to raise awareness of improved harvesting techniques and biodiversity management. Focusing on threatened, economically-important species, partners will train community members in improved home-cultivation and species diversification in order to improve food security. Target 15.4 specifies the conservation of mountain ecosystems, within which the project will be working, for sustainable development.

Target 2.1 aims for improved quality and quantity of food from ecosystems and 2.4, 13.1 and 13.4 highlight the need for strengthened resilience to climate-change. Targets 2.5 and 15.6 specifically intend to maintain plant biodiversity and ensure the benefits of genetic resources are shared equitably. Seed conservation will make genetically-diverse material freely available

for restoration, re-introduction and/or research. Communities and students will assist partners in submitting IUCN priority species risk-assessments (underlining potential conservation measures). In-depth research will highlight taxa-specific traits, informing improved community harvesting and cultivation choices long-term and protecting local biodiversity.

Targets 13.2, 15.1 and 15.9 focus on national and local-level climate-change and conservation policies. By working towards SDG goals with local people and government bodies the project will push these issues up the political agenda and help Georgia and Armenia to meet their targets.

13. Methodology

Describe the methods and approach you will use to achieve your intended Outcome and Impact. Provide information on how you will undertake the work (materials and methods) and how you will manage the work (roles and responsibilities, project management tools etc.).

(Max 500 words – this may be a repeat from Stage 1, but you may update or refine as necessary. Tracked changes are **not** required.)

Project managed using theory-of-change-driven log-frame.

Methods-of-verification detailed in 'M&E'.

Y1

	Method/approach	**Responsibility**
Communities	Social scientists (SS)	Partners – engage
	Non-technical community project-introduction leaflets (local languages)	Partners – create SS – distribute
	Workshops (SS frames-of-reference): project overview, partner support, questions	Partners – logistics SS – facilitate
	Community priority species/uses information-gathering	Partners – facilitate SS – interview
	Baseline-evaluation surveys: 1:1, community diversity, F&N livelihood-dependence	
	Volunteer steering-committees	Partners – minutes SS – facilitate
	Demonstration plots: location/development, community-led F&N choice	Partners – gain permission/train/provide plant material Communities – maintenance
	School-children	SS – classes/quizzes
	Community engagement-reports (CERs) – feedback used for planning	Partners, SS
Seed-conservation	Target F&N lists; collection timetables	Partners
	Staff training: seed-conservation	
	Pre-collection assessments	

Red-listing	Partner 5-day training course (Armenia)	Kew IUCN-accredited trainer/PC Partners – logistics
	Community-informed target-lists	Partners
	Desk-based data collation	
	Workshops: information gaps/collation	
Research	MSc students (MS)	Partners – engage/train
	Research plant material	Partners – collection
	Examination of extensively-harvested F&N for traits associated with resilience to climate change: Georgia 4 wild *Prunus spinosa* morphotypes; Armenia 8-10 wild-harvested *Rosa* taxa	MS, Partners – research Kew – advise
	Research report: progress/challenges	Partners – deliver Kew – assess
Project-management	Project-start/quarterly Skype/phone meetings	Partners – participate Kew – coordinate/participate
	One-day meeting (Armenia): 2018-19 planning	Partners – coordinate/participate Kew PC – participates
	Bi-annual financial/activity reports	Partners – deliver to PC Kew – assess/deliver to DI

Y2

	Method/approach	**Responsibility**
Communities	Bi-annual workshops/training (SS frames-of-reference): improved harvesting; new project learning	Partners – logistics SS – facilitate
	Volunteer Biodiversity Champions (BCs); information-dissemination coaching	SS
	Evaluations as Y1: focus harvesting/cultivation	
	CERs: as Y1	
Seed-conservation	Staff training: seed collection/processing/banking	Partners
	Seed-collection of economically-important F&N using MSB methodology[12] April-November	
	Collections counted/cleaned/ dried (MSBP Seed Conservation Standards)[13]	

[12] http://brahmsonline.kew.org/msbp/Training/Resources

Seed-conservation	65% collections duplicated (MSB)	Partners – coordinate Kew – take delivery
	Germination-testing/herbarium-voucher (identifying material) processing	Partners – deliver Kew – deliver
	MSBP Data Warehouse (DW) and MSB Seed List (seeds available for use)	Partner – provide data Kew – upload data
Red-listing	Field-assessments: IUCN methodology	Partners
	Desk-based data	
	Workshops: information gaps/collation	
	Complete assessments and submit – pathway to conservation policy change	
Research	Research: as Y1	
	Two-week training: advanced genetic analysis – climate-change-resilience traits	Kew – coordinate and deliver MS – participate
	Abstract to Georgia's Annual Biodiversity Conference (GABC); invite CBD focal-point	Partners
	Research report: as Y1	
Project-management	Quarterly Skype/phone project meetings	Partners – participate Kew – coordinate/participate
	Eight-day partner visit: join community workshop, assess progress of outputs to achieve project outcome	Partners – coordinate/participate Kew PC – participates
	Bi-annual financial/activity reports: as Y1	

Y3

	Method/approach	**Responsibility**
Community engagement	Bi-annual workshops/training (SS frames-of-reference): improved cultivation; new project learning	Partners – logistics SS – facilitate
	Final workshop: project summary; conservation action plans (CAPs)	
	Schools as Y1	
	Evaluations as Y2: assess change in practice	
	Non-technical community project-findings leaflets (local languages)	Partners – create SS – distribute
	CERs: as Y2	

[13] http://brahmsonline.kew.org/msbp/Training/Standards

Seed-conservation	Seed-collection and processing: as Y2	
	35% collections duplicated (MSB)	Partners – coordinate Kew – take delivery
	Germination-testing/herbarium-voucher processing: as Y2	
	DW and Seed List: as Y2	
Red-listing	Field-assessments; desk-based data, workshops, complete assessments and submit: as Y2	
Research	Research: as Y1	
	GABC (May)	Partners – coordinate; present
	Theses	MS – submit Partners – facilitate
	Research papers	Kew and Partners – write Partners – submit
Project-management	Project continuation proposal-planning using CAPs/ CERs	Partners – minutes/participate Kew – participate
	Final meeting (Georgia) assessing log-frame	Partners – coordinate/attend Kew – attend
	Final financial/activity reports: as Y1	

14. Change Expected

Detail the expected changes this work will deliver. 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). Please describe the changes for biodiversity and for people in developing countries, and how they are linked. When talking about people, please remember to give details of who will benefit and the number of beneficiaries expected. The number of communities is insufficient detail – number of households should be the largest unit used. If possible, indicate the number of women who will be impacted.

(Max 500 words)

The following changes will be delivered by the project[14]:

1. **Improved rural livelihoods**
    a. Practices relating to wild fruit and nut use start to improve based on informed decision-making and alternative options being available [a,C,N]
    b. Food security safeguarded by sustainable, stakeholder-led, wild resource management [a,b,C]
    c. Communities able to cultivate six important F&N that they currently harvest from the wild [a,b,C]
    d. The use of cultivated F&N reduces pressure on wild harvested resources [b,C,N,G]

[14] Key to abbreviations: Timeframe: a – within-project, b – post-project; Beneficiaries: C – community, P – partners, N – national benefit, Sc – scientific community, G – global benefit

e. Plant conservation ensures economically-important ecosystem-services for rural livelihoods are maintained and climate-change resilience in local plant diversity is enhanced, ensuring these resources are there for use into the future [b,C,N,G]

2. The conservation of threatened and economically important F&N

a. A reduction in use of damaging harvesting techniques and overharvesting [a,C]
b. Seeds of 122* priority F&N banked for long-term conservation (61 in Armenia, 90 in Georgia, of which 29 collected in both) and duplicated to the MSB [a,C,P,Sc,G]
c. Seeds available for use, both by local communities and globally enabling conservation, education and research [a,C,P,Sc,G]
d. Data associated with seed collections available on the DW a global resource for plant conservation [a,P,Sc,G]
e. 20* priority, economically-important F&N IUCN assessments submitted making detailed threat and status information available to the public and policy-makers [a,b,P,N,Sc,G]
f. Partner capacity increased by IUCN red-listing training and new skills implemented to ensure improved conservation of the fruit and nut populations [a,b,P,N,Sc,G]
g. Government strategy informed by research results on threats, status, genetics and uses of species contributes to maintaining the region's biodiversity, strengthening ecosystem-services faced with climate change [b,C,N,G,]

3. Increased awareness of the F&N, their uses and threats

a. Two MSc students receive qualifications in plant genetic research and conservation [a,b,P,Sc]
b. Trait information on 12* wild-collected priority species (Georgia x4, Armenia x8) shared with scientists and policy-makers, highlighting characteristics of value (e.g. pollution-tolerance) for food security, agriculture and health [a,b,Sc,N,G]
c. Important research gaps identified for future investigation [a,P,Sc]
d. *Ex-situ* conservation, IUCN assessments and community empowerment contribute to achieving national targets in Georgia and Armenia [a,b,N,G]
e. Scientific community informed of the importance of F&N, their threats and traits through research presentations and publications and IUCN red-listing [a,Sc,N,G]

**Species numbers based on capacity/experience.*

These changes will be achieved in collaboration with two target communities comprising 525 women, 473 men and 70 children (total permanent resident population of both communities). As a minimum this project will directly involve, and therefore impact on:

Armenia: 100 women, 100 men, 50 children;
Georgia: 35 women, 45 men, 20 children.

Project communities will be empowered to engage with surrounding communities beyond the timeframe of the project to share their learning through BCs with the support of steering-committees and partners. Six neighbouring local communities, five in Georgia and one in Armenia (680 women, 620 men and 390 children - partner estimates) will benefit from increased understanding of sustainable harvesting, uses of and threats to F&N. This will positively impact diet and income, contributing to poverty alleviation in the wider region.

15. Gender

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.

(Max 300 words)

The project aims to increase the knowledge, and thereby confidence, of more disadvantaged community members to take decisions about the future of their natural resources.

Rural Caucasus populations are dominated by women (52% in Armenia[15] and Georgia[16]). However, traditional gender norms prevail, preventing their equal participation[17]. These communities are almost homogenous in ethnicity and religion[18]. Project partners are committed to equal opportunities and employ staff without regard to gender; eight of 12 key project roles will be held by women.

The project aims for gender equity and a "do-no-harm" policy; social scientists will use Yerevan University's Guidance for Social Workers in Armenia[19], and Porta and Keating's Approaches in the Social Sciences[20] in Georgia, to encourage equal participation. Workshops will allocate time to predominantly female activities, including fruit and nut collection and processing. Partners will build strong links with communities and encourage dialogue regarding unintended negative social consequences. These will be monitored in community engagement reports.

Education in schools will focus on the inclusion of girls, and workshops will act as safe spaces for female and male voices. There is a risk that women will lack the freedom to speak in the presence of men so social scientists will offer optional female-only workshops and conduct surveys in gender-specific focus groups. Female staff will help deliver all activities, acting as points of contact for women and girls.

Steering-committee and BC targets promote equal participation. These roles provide decision-making control over the implementation of learning and post-project plans for biodiversity conservation. Attendance, learning and the uptake of project roles will be disaggregated and monitored by gender, disability and age using community surveys, and steering-committee minutes will be used to assess equal participation in decision-making. Children will be educated about conservation, the beginning of a legacy for their future.

16. Exit strategy

State whether or not the project will reach a stable and sustainable end point. If the project is not discrete, but is part of a progressive approach, give details of the exit strategy and show how relevant activities will be continued to secure the benefits from the project. Where individuals receive advanced training, for example, what will happen should that individual leave?

(Max 200 words)

This project will reach a stable and sustainable endpoint, with F&N conservation enhanced in Georgia and Armenia by community members working together to strengthen economically-important ecosystem-services for rural livelihoods, helping build ecological resilience through knowledge and protection of plant resources. Community steering-committees and BCs will

15 National Statistical Service of the Republic of Armenia. 2015. Population. The Demographic Handbook of Armenia
16 National Statistics Office of Georgia, 2015. Women and Men in Georgia. Statistical Publication, Tbilisi
17 http://www.fao.org/3/a-i5575e.pdf
18 https://en.wikipedia.org/wiki/Demographics_of_Armenia
19 Harutyunyan, L. (2002) Social Work Methods and Research Methods in Social Work, Guidance for Social Workers. Yerevan State University, Yerevan
20 Della Porta, D and Keating, M. (2008) Approaches and Methodologies in the Social Sciences. Cambridge University Press

manage CAPs beyond the project life and disseminate findings to neighbouring communities to increase the impact of the project. Our methodology, addressing livelihood security, sustainable harvesting and conservation will be applicable across the region.

Partner training and experience will enable future delivery of similar projects, and funding will be sought to continue community-based work. Partners will maintain strong links with social scientists and CBD and ITPGRFA focal points, ensuring continuity of knowledge and capacity for further community engagement.

Red-listing and seed conservation training for a wide range of partner staff ensures that knowledge is not lost with staff turnover. Partners will continue red-listing plant species after the project.

Kew is committed to continued work in Georgia and Armenia through the MSBP and is keen to maintain conservation, training and research co-operation amongst regional partners. Further region-wide, community-focused projects are planned which will build on this initiative and incorporate learning from this project.

17a. Harmonisation

Is this a new initiative or a development of existing work (funded through any source)? Please give details

(Max 200 words)

This new project, focusing on community-centred conservation of F&N for improved livelihoods, builds on existing partnerships between Kew and project partners in Georgia and Armenia. Strong links exist with Convention focal-points and policy-makers, providing pathways for change for project outcomes.

Georgian partners manage three other projects which informed the design of this project, and will benefit from project learning:

The IoB's Mingrelian birch project targets rare woody species' preservation through community engagement and will incorporate additional communities and schools using this project;

The Rufford Foundation *Triticum timopheevii* project for reintroduction, *ex-situ* conservation and rural 'consciousness upliftment' trains locals in rare wheat cultivation;

The NBGG's *Prunus microcarpa* in eastern Georgia aims to improve species-specific knowledge and protect populations from habitat conversion and local over-collection for medicine. The NBGG is establishing viable sapling stock for population reinforcement and community training.

Community-centred conservation initiatives are rare in Armenia. Khachik village, the project community, is part of a WWF-Armenia project, Eco-Corridors, focusing on threatened animal conservation. NH staff have little experience of community engagement; they will be supported by Georgian partners, a social scientist and experienced WWF contacts and will promote the project to high-level stakeholders to encourage further such initiatives.

17b. Are you aware of any other individuals/organisations/projects carrying out or applying for funding for similar work? ~~**Yes/**~~**No**

If yes, please give details explaining similarities and differences. Explain how your work will be additional to this work and what attempts have been/will be made to co-operate with and learn lessons from such work for mutual benefits.

n/a

18. Ethics

Outline your approach to meeting the Darwin Initiative's key principles for research ethics as outlined in the Guidance.

(Max 300 words)

Kew's Access to Genetic Resources and Benefit Sharing policy (https://www.kew.org/sites/default/files/abs-policy.pdf) has been in place since 2001 and ensures project material is legally acquired and any benefits are shared fairly as agreed with partners in Access and Benefit Sharing Agreements. These are currently in place with all proposed project partners (available upon request).

Current partners identified a demand for this project as part of longer-term efforts to address the unsustainable harvest of F&N and there is, therefore, strong leadership and participation in-country. The project has been designed with significant input from partners, advised by social scientists, on the perspectives, interests and well-being of themselves and local communities. Local knowledge will be gathered to inform and enhance scientific research into F&N. This information will be gathered and utilised only with free prior informed consent following the international normative frameworks of the UN Declaration on the Rights of Indigenous Peoples and the CBD. All staff involved are familiar with the UK Government's human rights obligations and values and are committed to delivering a project which meets these requirements.

To ensure staff are fulfilling Health and Safety requirements, and CITES and CBD protocols, Kew's Overseas Fieldwork Committee reviews applications from all staff undertaking fieldwork. This includes reviewing national and local legislation on the collection and export of genetic resources and associated traditional knowledge.

The Project Leader is committed to ensuring all community engagement, conservation, research and red-list activities take place within national and international law. Safety of all project participants will be prioritised, and respect upheld for the culture and traditions of all those involved and the sovereign ownership by Georgia and Armenia of their biological resources, following established guidelines. Scientific research will be credited to those staff and students involved in preparing and delivering the work.

19. Raising awareness of the potential worth of biodiversity

If your project contains an element of communications, knowledge sharing and/or dissemination please provide a description of your intended audience, how you intend to engage them, what the expected products/materials will be and what you expect to achieve as a result. For example, are you expecting to directly influence policy in your host country or is your project a community advocacy project to support better management of biodiversity?

(Max 300 words)

Two communities will be empowered, through their steering-committees and BCs, to utilise and disseminate project learning amongst neighbouring communities, with support from project partners. Sustainable harvesting techniques for F&N transfer to other taxa and communities will be encouraged to take more control of local plant diversity management. Community conservation action plans, spearheaded by steering-committees comprising local people, will detail achievable objectives and activities towards these targets. Partners will fundraise support costs from local donors for further community work and species population monitoring. Long-term, improved populations of important species will support livelihoods based on fauna and flora.

The GABC in May 2020 will be used to share project learning with >110 regional scientists, members of the public and policy-makers including Tbilisi City Hall and the Environment Ministry. Partners in Georgia will present project findings and share their research paper, highlighting useful traits which have been uncovered. Outputs include published proceedings, media coverage and a photo exhibition.

Project findings will be published through the MSB publication, Samara, and Kew's blog. These reach out beyond the plant biology sector to include the general public, teachers and students, and scientists in different fields and policy makers. Highlighting the project to a wider audience will improve general knowledge of plant diversity conservation, support funding proposals by partners and Kew, and enable successes to be picked up by the media.

Specific dissemination of project learning to CBD (Georgia and Armenia) and ITPGRFA (Armenia only) focal point contacts will take place through GABC and direct email contact by partners. Strong links already exist with these Convention hubs which will channel project successes up to the policy decision-making level. Such expertise will provide support for partners during the project and a potential source of funding for post-project initiatives based on the learning from this project.

20. Capacity building

If your project will support capacity building at institutional or individual levels, please provide details of what form this will take and how this capacity will be secured for the future.

(Max 300 words)

Partner capacity to deliver regional plant conservation activities will be enhanced. Training in IUCN red-listing for partners will support continued red-listing work beyond the project, highlighting endangered species and enabling risk-based conservation priority strategies. Staff working with social scientists will improve their knowledge of community engagement and develop a strong base of experience within partner organisations. Community engagement reports will act as referral documents in the future, and the relationship built with the social scientists will enable successful community engagement projects to take place in the future.

Training in seed conservation by partners will build their staff capacity to deliver such programmes in a timely and efficient manner, protecting increasing numbers of plant species.

The procurement of important equipment (digital cameras, projectors, notebook computer) will ensure project delivery but also improve partner capacity going forward. Using these items, staff will be better able to record photos and data accurately as well as deliver effective training to communities and staff.

Community capacity building through training in sustainable harvesting but also in information dissemination will help local people to identify at-risk fruit and nut populations and to sustainably control the use of their ecosystem services. Training in the propagation of important species and the establishment of demonstration plots will build the capacity of communities to grow their own F&N where they need to reduce reliance on wild populations.

MSc students will receive training and their degree. Investing in the next generation of conservation scientists ensures skilled practitioners are available for the future.

This project will help partner organisations to develop strong relationships with their CBD and ITPGRFA focal points as well as national government due to the alignment with their objectives. Contacts made at CBD and ITPGRFA will be a source of advice, support and funding in the future.

21. Access to project information

Please describe the project's open access plan and detail any specific funds you are seeking from Darwin to fund this.

(Max 250 words)

Target audiences include the global scientific community, policy-makers at the local and national levels, rural communities in Georgia and Armenia, and the general public.

News and interesting findings will be shared through the MSB publication, Samara, on an annual basis at no cost. Samara has a mailing list of >1800 and is shared online with a wide readership. An article will be published on Kew's science blog, read by the general public and scientists in other fields. All project partners will also share information through regional publications and the DI newsletter.

Project learning from global red-list assessments, genetic research and community engagement will be shared with the Georgian scientific community through the GABC in 2021, where results will be disseminated, and details provided of future publications. No conference costs have been included in the budget as participants will be from Georgian partners already based in Tbilisi, the location of the event.

Kew will engage the UK public (at no cost to the project) through tangible and accessible *ex-situ* species displays in the gardens alongside community-informed ethnobotanical interpretation, accessing an estimated 300,000 visitors per year.

Information will continue to be shared after project end: two peer review papers co-authored by staff and MSc students (expected publication); two MSc theses published by the NBGG and Yerevan University; IUCN (expected) publication in their database of the assessments made of 20 F&N. These will reach policy-makers who refer to these sources for data, including CBD and ITPFRFA focal points, and the wider scientific community.

Project Monitoring and Evaluation

Measuring Impact

22. Logical Framework

Darwin projects will be required to report against their progress towards their expected Outputs and Outcome if funded. 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.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Ecosystem services of the Caucasus are utilised sustainably by national populations thereby contributing to rural poverty reduction, increased food security and protection of plant biodiversity. (Max 30 words)			
Outcome: (Max 30 words) **F&N conservation enhanced in Georgia and Armenia, by community members working together to strengthen economically-important ecosystem-services for rural livelihoods, helping build ecological resilience through knowledge and protection of plant resources.**	0.1 Best-practice harvesting techniques employed by 60% of adult community, 315 women and 284 men, by March 2021 to empower decision-making around sustainable resource management and protection of ecosystem services. 0.2 20% of adult community members, 105 women and 95 men, receive and apply practical training in the cultivation of six priority species across two demonstration plots by March 2021 0.3 Using learning from project research, two steering-committees agree in their final meeting in 2021 three community-led actions and identify six neighbouring communities for engagement to improve local collection and cultivation beyond project end 0.4 100% of seed collections are duplicated to two seed banks by March 2021, conserving a total of 122 F&N 0.5 20 global risk assessments of	0.1 Workshop attendance registers; community baseline and evaluation surveys 0.2 Training attendance registers; community baseline and evaluation survey sections on cultivation (demonstration plots); photographic evidence 0.3 Community action plan; steering-committee meeting minutes 0.4 Notification of Transfer documentation; DW data search 0.5 Field survey forms; IUCN red-list assessment submission receipt	Political climate continues to enable partners to access rural areas Political climate continues to enable the shipping of plant material to the UK Exchange rate variation (e.g. as Brexit progresses) remains within bounds that enable project work to be fulfilled Natural disasters which would prevent project delivery do not occur in the project region Target F&N produce sufficient mature seeds for project needs

	economically-important F&N submitted to the IUCN by March 2021, putting in place the pathway for their threat and status information to be shared with policy-makers and the public 0.6 Genetic research results for 12 taxa delivered to the regional scientific community through two MSc theses and the presentation of a partner-led research paper at Georgia's Annual Biodiversity Conference in May 2020. Two research papers, submitted to regional journals by March 2021, will communicate project findings to the wider scientific community as well as policy-makers.	0.6 Two partner research papers and 2 MSc theses in pdf format; receipts of submission to regional journals for former; receipt of submission of abstract to conference.	
Outputs: **1. Two rural communities trained in sustainable harvesting practices and empowered to deliver in-situ conservation of fruit and nut ecosystem services to enhance rural livelihoods**	1.1 60% of community members, 315 women, 284 men and 42 children under 18, are made aware by December 2018 of the project, and by March 2021 of the outcomes of shared learning on IUCN threat assessments, genetic research, and sustainable harvesting 1.2 Five members of each community (three of whom are women) take on roles as ambassadors for change in the form of a steering-committee of four people in 2018 and one BC in 2019 1.3 Two demonstration plots are established in 2018 in accessible, local areas with six priority F&N being cultivated by 20% of community members, 105 women and 95 men, by August 2019	1.1 Community survey section on household engagement at baseline then annual evaluations; leaflet distribution confirmed by signed declaration of delivery for each community by partner staff in 2018 and 2021; school quiz results baseline and end of project 1.2 Community engagement reports; community surveys; steering-committee minutes; letter accepting post as BC 1.3 Community engagement reports; community surveys; photographic evidence	All engaged community members remain in the region for the entire project period Access to communities remains politically and physically possible Environmental conditions enable sapling establishment successful within the project timeframe

	1.4 20% of adult community members, 105 women and 95 men, are trained in sustainable harvesting techniques and the long-term consequences for important F&N by March 2021 1.5 Utilisation and threat data for 20 F&N for IUCN red-list publications and 12 research taxa is collected from 20% of adult community members, 105 women and 95 men, during one workshop in 2018 and one workshop in 2019 and fed into red-list assessments and genetic research 1.6 Steering-committees develop community-led conservation action plans (one in Georgia, one in Armenia) with at least three points to take forward by their last meeting in 2021 1.7 20% of adult community members, 105 women and 95 men, agree by March 2021 to continued conservation and dissemination to neighbouring communities of sustainable harvesting techniques of local F&N, led by the steering-committee and BC	1.4 Training attendance registers; community baseline and evaluation surveys; photographic evidence 1.5 Workshop attendance registers; workshop data forms; community surveys; IUCN red-list assessments; research report 1. 6 Two community conservation action plans 1.7 Two community conservation action plans; steering-committees meeting minutes; community engagement reports; end-of-project workshop attendance register	
2. Seeds of 122 wild fruit and nut species from the Caucasus are protected through *ex-situ* seed banking in-country and at the MSB	2.1 65% of seed collections are duplicated to two seed banks by December 2020 and a further 35% by March 2021, conserving a total of 122 F&N (61 in Armenia, 90 in Georgia – an overlap of 29 species) 2.2 Data on cleaning, counting and viability testing of 65% of collected species is available by March 2020 and	2.1 Field data sheets; cleaning/counting/testing data sheets; notification of transfer paperwork; photographic evidence 2.2 DW data search	Mature seeds are available for collection within the project timeframe. Partners and Kew able to continue to work under the current terms of their ABSAs for exchange of seeds Seed collection size is large enough to be divided and banked in 2 locations (i.e. contains >1,000 seeds, which can be a

	35% by March 2021, to the Millennium Seed Bank Partnership 2.3 Six partner staff, of which 50% women (three in Georgia and three in Armenia) are trained in seed collecting, processing and banking by December 2019	 2.3 Copies of training assessments and certificates; photographic evidence	problem for rare/endangered plants)
3. Global extinction risk assessments are completed and submitted to IUCN SIS for 20 of the target seed conservation species	3.1 14 partner-affiliated individuals (of which 50% women) are capable of conducting global red-list assessments to the standard of the IUCN by September 2018 3.2 Full assessment data are available for seven species by December 2019 and a further 13 species by December 2020 3.3 IUCN global-scale assessments are made and submitted to the IUCN SIS, detailing the threats to, and status of, each of the 20 F&N; seven assessments made and submitted by March 2020 and a further 13 made and submitted by February 2021 3.4 Relevant learning from global IUCN assessments integrated into community workshops in 2020 and incorporated in community conservation plans by March 2021	3.1 Training register of attendance; scan of competence certificate signed by IUCN-accredited trainer 3.2 Audited species data forms 3.3 IUCN red-list assessment submission receipt; final assessments 3.4 Community action plan; steering-committee meeting minutes; community surveys	Sufficient data can be found on the target species to conduct meaningful assessments Kew trainer is able to travel and deliver training in year one IUCN accepts and publishes data within 12 months of project end
4. Increased understanding of the genetic diversity and uses of 12 fruit and nut taxa, highlighting valuable traits for climate change resilience	4.1 Two MSc students (Georgia and Armenia) in post by March 2019, and capable of conducting genetic analysis for 12 fruit and nut taxa (8 in Armenia, 4 in Georgia) by March 2020	4.1 Signed MSc Student contract, training assessments; photographic evidence	Target species populations are of sufficient size to enable material collection Two suitable local students are found

	4.2 DNA extraction completed on 12 taxa (8 in Armenia, 4 in Georgia) by January 2020 and laboratory analyses completed on 12 taxa by December 2020 4.3 MSc and partner research findings disseminated to the scientific community and available to policy makers by March 2021 4.4 Two communities include relevant learning from research on traits related to climate change resilience for 12 F&N in their conservation plans by March 2021	4.2 Annual research reports; data from research 4.3 Two MSc theses in pdf format; receipt of abstract submission to conference; copy of presentation for conference; two partner research papers in pdf format; receipts of submission to regional journals; email exchanges with ITPGRFA focal point in Armenia 4.4 Community action plan; steering-committee meeting minutes; community surveys	within the project timeframe for completion of the Masters projects Results are sufficiently conclusive to provide new information to the scientific community Research proceeds according to plan and will be completed in time to feedback learning to communities before project end

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. Two rural communities trained in sustainable harvesting practices and empowered to deliver *in-situ* conservation of fruit and nut ecosystem services to enhance rural livelihoods

1.1 Two social scientists are engaged, one in Georgia, one in Armenia

1.2 Partners and social scientists conduct community assessments and engage members

1.3 300 project leaflets are prepared and distributed to 200 households, the target school and the church in each community

1.4 Partners and social scientists recruit volunteers for the steering-committees (consisting of 1 partner staff and four community members) and plan future meetings during the first workshop

1.5 Steering-committees, partners and social scientists meet for training and activity planning, including planning of demonstration plots

1.6 Presentations and quizzes are delivered to school-children during the school term in Y1 and Y3

1.7 Workshops for information sharing are conducted with community members

1.8 Land secured for two demonstration plots and signs created

1.9 Baseline/evaluation surveys conducted

1.10 Plant material for demonstration plots (three important F&N) collected and provided to each community (six species in total)

1.11 Practical and theoretical training is delivered by partners and social scientists on planting, cultivation and harvesting

1.12 Two BCs are engaged and coached in knowledge dissemination by the social scientists

1.13 Steering-committees, BCs and communities meet at partner-led workshop to develop a post-project community conservation action plan

2. Seeds of 122 wild fruit and nut species from the Caucasus are protected through *ex-situ* seed banking in-country and at the MSB

2.1 Final target species list is completed, including distribution data

2.2 Pre-collection assessments are conducted on the target species

2.3 Training is delivered by partner staff in seed collecting, processing and banking

2.4 Seeds, herbarium vouchers and data are collected in the field for 122 F&N

2.5 Seeds are counted, cleaned and viability tested in-country

2.6 Seeds of 122 F&N are duplicated to the MSB via DHL courier

2.7 Duplicated seeds are counted, cleaned and viability tested at the MSB

2.8 Data is shared by partners and the MSB on cleaning/counting/viability testing of seed collections

2.9 Data is uploaded to the DW

3. Global extinction risk assessments are completed and submitted to IUCN SIS for 20 of the target seed conservation species

3.1 IUCN-accredited Kew staff travel to Armenia to deliver training to all project partners in IUCN assessments

3.2 Training is delivered to 14 participants

3.3 Fieldwork is conducted for data collection

3.4 Desk-based research on 20 target-species is delivered
3.5 Community data-collection surveys are delivered
3.6 Red-listing workshops are conducted to analyse and summarise the gathered data
3.7 Red-list assessments are submitted to the IUCN SIS for publication after project end
3.8 Results from the red-listing assessments of 20 species are shared with communities at workshops and through steering-committee meetings through 2019 – 2021

4. Increased understanding of the genetic diversity and uses of 12 fruit and nut taxa, highlighting valuable traits for climate change resilience
4.1 MSc students engaged and trained by partner staff in genetic analysis techniques
4.2 MSc students two-week residential training at RBG Kew, delivered by Conservation Science Department
4.3 DNA extraction and PCR techniques are used to conduct research on 8 taxa in Armenia and on 4 taxa in Georgia.
4.4 CBD focal point contact invited to Georgia's Annual Biodiversity Conference 2021
4.5 MSc students complete theses and submit
4.6 Attendance by Georgian partners at Georgia's Annual Biodiversity Conference 2021
4.7 Presentation of latest research findings, including red-listing and community engagement learning, at Georgia's Annual Biodiversity Conference 2021
4.8 Research results of 12 taxa are shared with communities at workshops and through steering-committee meetings in 2021
4.9 Research paper finalised and submitted to regional journals;
4.10 IPTGRFA focal point contacted and made aware of the imminent publication

3. Provide a project implementation timetable that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project (starting from Q2 July 2018)

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 shade only the quarters in which an activity will be carried out. The workplan can span multiple pages if necessary.

	Activity	No. of	Year 1			Year 2				Year 3			
		months	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1	**Two rural communities trained in sustainable harvesting practices and empowered to deliver *in-situ* conservation of fruit and nut ecosystem services**												
1.1	Two social scientists are engaged, one in Georgia, one in Armenia	1											
1.2	Partners and social scientists conduct community assessments and engage members	1											
1.3	300 project leaflets are prepared and distributed to 200 households, the target school and the church in each community	2											
1.4	Partners and social scientists recruit volunteers for the steering-committees (consisting of 1 partner staff and four community members) and plan future meetings during the first workshop	1											
1.5	Steering-committees, partners and social scientists meet for training and activity planning, including planning of demonstration plots	1											
1.6	Presentations and quizzes are delivered to school-children during the school term in Y1 and Y3	2											
1.7	Workshops for information sharing conducted with community members	2											
1.8	Land secured for two demonstration plots and signs created	1											
1.9	Baseline/evaluation surveys conducted	3											
1.10	Plant material for demonstration plots (three important F&N) collected and provided to each community (six species in total)	1											
1.11	Practical and theoretical training is delivered by partners and social scientists on planting, cultivation and harvesting	5											
1.12	Two BCs are engaged and coached in knowledge dissemination by the social scientists	4											
1.13	Steering-committees, BCs and communities meet at partner-led workshop to develop a post-project community conservation action plan	1											

Output 2	**Seeds of 122 wild fruit and nut species from the Caucasus are protected through *ex-situ* seed banking in-country and at the MSB.**													
2.1	Final target species list is completed, including distribution data	1												
2.2	Pre-collection assessments are conducted on the target species	5												
2.3	Training is delivered by partner staff in seed collecting, processing and banking	3												
2.4	Seeds, herbarium vouchers and data are collected in the field for 122 F&N	12												
2.5	Seeds are counted, cleaned and viability tested in-country	8												
2.6	Seeds of 122 F&N are duplicated to the MSB via DHL courier	2												
2.7	Duplicated seeds are counted, cleaned and viability tested at the MSB	2												
2.8	Data is shared by partners and the MSB on cleaning/counting/viability testing of seed collections	2												
2.9	Data is uploaded to the DW	2												
Output 3	**Global extinction risk assessments are completed and submitted to IUCN SIS for 20 of the target seed conservation species**													
3.1	IUCN-accredited Kew staff travel to Georgia to deliver training to all project partners in IUCN assessments	1												
3.2	Training is delivered to 14 participants	1												
3.3	Fieldwork is conducted for data collection	4												
3.4	Desk-based research on 20 target-species is delivered	16												
3.5	Community data-collection surveys are delivered	1												
3.6	Red-listing workshops are conducted to analyse and summarise the gathered data	3												
3.7	Red-list assessments are submitted to the IUCN SIS for publication after project end	3												
3.8	Results from the red-listing assessments of 20 species are shared with communities at workshops and through steering-committee meetings through 2019 – 2021	3												
Output 4	**Increased scientific understanding of the genetic diversity and uses of 12 fruit and nut taxa, highlighting valuable traits**													

4.1	MSc students engaged and trained part-time by partner staff in genetic analysis techniques	9												
4.2	MSc students two-week residential training at RBG Kew, delivered by Conservation Science Department	1												
4.3	DNA extraction and PCR techniques are used to conduct research on 8 taxa in Armenia and on 4 taxa in Georgia.	24												
4.4	CBD focal point contact invited to Georgia's Annual Biodiversity Conference	1												
4.5	MSc students complete theses and submit	3												
4.6	Attendance by Georgian partners at Georgia's Annual Biodiversity Conference May 2020	1												
4.7	Presentation of latest research findings, including red-listing and community engagement learning, at Georgia's Annual Biodiversity Conference May 2020	1												
4.8	Research results of 12 taxa are shared with communities at workshops and through steering-committee meetings	4												
4.9	Research paper finalised and submitted to regional journals	3												
4.10	IPTGRFA focal point contacted and made aware of the imminent publication	1												

24. Project based monitoring and evaluation (M&E)

Describe, referring to the Indicators above, 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.

(Max 500 words)

Project M&E and bi-annual DI financial and activity reporting will be managed by the Kew Project Leader and PC. This will include key M&E data (e.g. numbers and gender of people engaged, changes in practice as a result of learning) and will be evaluated against the log-frame. Informal quarterly discussions will also be held (Kew, partners and SS) to assess progress towards outputs – findings will feed into following project years. Full assessments will take place at end-of-year meetings.

The project will be managed adaptively allowing project stakeholders and staff to adjust decision-making and respond to the results of feedback mechanisms (community engagement, annual surveys) and, where needed, reallocate resources. Log-frame assumptions will be examined regularly and, where necessary, updated. Lessons-learned will be shared between project members through quarterly skype meetings.

Potential negative impacts on community time and income, lesser-known species' populations, and harvesting techniques will be monitored through annual surveys and community engagement reports, with significant SS input. Should such issues arise, they will be recorded immediately, communicated to DI through standard reporting, and a strategy for their mitigation implemented within six months.

Project teams contain staff with significant experience of M&E and social scientists bring complementary expertise to the project specifically in the area of M&E around community engagement and livelihoods. Increases in partner capacity will be monitored by partner institutes and Kew through team communications and training assessments.

IoB, NBGG and NH project staff bring strong botanical expertise, relevant language skills and knowledge of community structures. Partners will coordinate community work, with regular input from social scientists on engagement and delivery. Attendance and impact (intended, unintended, direct and indirect) will be recorded in annual baseline/evaluation surveys, conducted 1:1 and disaggregated by gender. These will enable us to monitor trends in the application of learning. Data forms and meeting minutes will record information provided by communities as well as feedback on the project, both positive and negative. Summaries of community feedback will be included in the community engagement reports which will feed into end-of-project community action plans.

Partner and Kew staff are experienced in the coordination and delivery of seed collection and research activities, recorded through surveys (training) and data sheets. Annual research reports will highlight findings and progress towards project outputs. Knowledge-based activities will be monitored through database records and scientific reports.

Partners will be responsible for managing MSc student learning and progress, communicating any student concerns to the project team regularly. The GABC in May 2020 will be used to gather feedback for year 3 research.

Training participants will be required to apply for places in order for priority candidates to be chosen and training expertise and resources to be tailored to their needs. Training in red-listing and seed conservation will be delivered by Kew staff. Only participants deemed competent will be issued certificates and allowed to undertake red-list write-ups and seed conservation. Trainer learning will inform future training sessions.	
Number of days planned for M&E	80
Total project budget for M&E	£30,183
Percentage of total project budget set aside for M&E	8%

Funding and Budget

Please complete the separate Excel spreadsheet which provides the Budget for this application. Some of the questions earlier and below refer to the information in this spreadsheet. You should also ensure you have read the 'Finance for Darwin and Illegal Wildlife Trade Challenge Fund' document and considered the implications of payment points for cashflow purposes.

NB: The Darwin Initiative cannot agree any increase in grants once awarded.

25. Value for Money

Please explain how you worked out your budget and how you will provide value for money through managing a cost effective and efficient project. You should also discuss any significant assumptions you have made when working out your budget.

(max 300 words)

The project provides value for money (VFM) by maximising existing skills and equipment, and using the lowest realistic costs for all items - three quotes are obtained for flights and procurement and the most competitive is chosen. The budget was drawn up collaboratively between all the institutes with all costs calculated from first principals using actual costs (e.g. accommodation costs based on number of people x number of nights x cost per room). Exchange rate fluctuations were accounted for during compilation.

Making economies was considered in all budget areas, examples include:

Equipment, e.g. seed-collecting kits, reused where possible and items such as laptops shared between staff;

Shipping conducted through DHL using the MSB's discounted account; two alternate quotes verified VFM;

Accommodation for student visits to Kew, with competitively-priced B&Bs, is local to the laboratory to avoid transport costs;

IUCN-accredited Kew staff deliver red-listing training at significantly lower costs than an external consultant;

Pre-collection assessments combined with actual seed collecting to save staff time (salaries) and travel costs;

Collections at the MSB processed by experienced staff who work accurately and quickly, saving on staff and equipment costs.

Consultancy costs fund the engagement of SS in Armenia and Georgia to support community participation in the project using competitive, negotiated rates. SS augment in-country teams' community-engagement skills for livelihood outcomes.

"Other costs" for the lead institute include seed, voucher and data processing, and shipping costs for duplicate seed collections from partners. Consumables consist of collection bags, silica gel and agar to be sent to the partners, and associated freight costs. These items are shipped by the MSB due to economies of scale and discounts with established suppliers.

"Other costs" for the partner institutes include cost associated with community engagement and trial plots, MSc student development and publications, germination tests and international bank charges.

26. 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.

(max 150 words)

Planned capital equipment includes 6 laptop computers, 3 digital cameras, 2 projectors and screens, 1 microscope for research, 1 multifunctional printer, 7 GPS units. All these items are for project partners in host countries.

These items are only for use by host country partners for the duration of this project, and will remain with them afterwards. Items purchased using project funds fall under contracting agreements preventing the sale or transfer of any equipment without the express permission of the donor (DI).

Access to these items will reduce project operating costs during this project and enable community conservation work to be continued by partners beyond the project. In particular, the laptops, digital cameras and projectors will enable partners to engage communities during and after the project, and monitor project progress.

27. Match funding (co-finance)

a) Secured

Provide details of all funding successfully levered (and identified in the Budget) towards the costs of the project, including any income from other public bodies, private sponsorship, donations, trusts, fees or trading activity.

Kew funding has been committed to cover FEC overheads beyond the scope of the Darwin application. This is calculated at the above costs per year of the project for lighting, heating, office space, IT equipment and further overhead expenses.

NH contributions cover: a computer, a multifunctional printer, a GPS, bank account costs for money transfers, professional literature belonging to NH and its members, a workstation for the MSc student. A total of X,XXX,XXX AMD (X,XXX GBP)

NBGG contributions cover: printer cartridges, stationary, gardening tool sets, the provision of an off-road vehicle (including the driver's fee) for the transportation of social scientists and field research team, and a GPS. A total of X,XXX GEL (X,XXX GBP)

IoB contributions cover: the provision of an off-road vehicle (including fuel and the driver's fee) for the transportation of social scientists and the field research team, a GPS, a notebook computer for field data recording, the student's daily allowance, stationary, and translation services for materials between English and Georgian. A total of XX,XXX GEL (X,XXX GBP)

27b) Unsecured

Provide details of any matched funding where an application has been submitted, or that you intend applying for during the course of the project. This could include matched funding from the private sector, charitable organisations or other public sector schemes.

Date applied for	Donor organisation	Amount	Comments

27c) None

If you are not intending to seek matched funding for this project, please explain why.

(max 100 words)

Match funding being secured as detailed in 27a.

28) Financial Management Risks

Explain how you have considered the risks and threats that may be relevant to the success of this project, including the risks of fraud or bribery.

(max 200 words)

All finances will be managed by Kew's Finance Department and subject to rigorous controls.

Bi-annual project and finance reporting mitigate deviation from project timelines and partner payments are only made upon receipt of satisfactory reports. Should discrepancies arise, a strategy is immediately employed to return to plan, or adjustments will be made after discussion with DI. Kew staff regularly visit partners to assess project progress and check evidence of expenditure.

Fluctuating exchange rates pose a threat to project delivery. However, Kew has been working with the project partners for more than 10 years and has delivered all projects to date on time and on budget despite such fluctuations.

Kew-partner Grant Agreements state: "the Grant Recipient is not permitted to utilise the Grant against costs other than those to which is has been allocated …" and that the recipient will "comply with all anti-bribery and anti-corruption laws in connection with the Project and expenditure of the Grant and agrees not to accept or give…any kind of offer, gift, payment or benefits which would…be construed as illegal or corrupt practice…".

Kew and partners have a zero-tolerance policy towards fraud, bribery and corruption, with all suspected and reported cases investigated.

FCO Notifications

Please check the box if you think that there are sensitivities that the Foreign and Commonwealth Office will need to be aware of should they want to publicise the project's success in the Darwin competition in the host country. ☐

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) and attach details of **any advice you have received from them.**

Yes (no written advice) ☐ **Yes, advice attached** ☐ **No** ☒

Certification

On behalf of the trustees/company* of Royal Botanic Gardens Kew

(*delete as appropriate)

I apply for a grant of £357,268 in respect of **all expenditure** to be incurred during the lifetime of this project based on the activities and dates specified in the above application.

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 enclose CVs for key project personnel and letters of support.

I enclose our last two sets of signed audited/independently verified accounts and annual reports

Name (block capitals)	**PROFESSOR KATHERINE WILLIS**
Position in the organisation	**Director of Science, RBG Kew**

Signed**		**Date:**	**25/01/2018**

If this section is incomplete or not completed correctly the entire application will be rejected. You must provide a real (not typed) signature. You may include a pdf of the signature page for security reasons if you wish. Please write PDF in the signature section above if you do so.

Stage 2 Application – Checklist for submission

	Check
Have you **read the Guidance**?	Yes
Have you read and can you meet the current Terms and Conditions for this fund?	Yes
Have you provided **actual start and end dates** for your project?	Yes
Have you provided your **budget based on UK government financial years** i.e. 1 April – 31 March and in GBP?	Yes
Have you checked that your **budget is complete**, correctly adds up and that you have included the correct final total on the top page of the application?	Yes
Has your application been **signed by a suitably authorised individual**? (clear electronic or scanned signatures are acceptable)	Yes
Have you included a **1 page CV for all the key project personnel** identified at Question 10?	Yes
Have you included a **letter of support from your key partner organisations** identified at Question 9?	Yes
Have you **been in contact with the FCO** in the project country/ies and have you included any evidence of this?	Yes
Have you included a **signed copy of the last 2 years annual report and accounts** for the lead organisation?	Yes
Have you **checked the Darwin website** immediately prior to submission to ensure there are no late updates?	Yes

Once you have answered the questions above, please submit the application, not later than 2359 GMT on Monday 29 January 2018 to Darwin-Applications@ltsi.co.uk using the application number (from your Stage 1 feedback letter) and the first few words of the project title **as the subject of your email**. If you are e-mailing supporting documentation separately please include in the subject line an indication of the number of e-mails you are sending (eg whether the e-mail is 1 of 2, 2 of 3 etc). You are not required to send a hard copy.

Data Protection Act 1998 - Fair Processing Notice

The purpose of this Fair Processing Notice is to inform you of the use that will be made of your personal data, as required by the Data Protection Act 1998.

The Department for Environment, Food and Rural Affairs (Defra) is the data controller in respect of any personal data that you provide when you complete your application, the grant acceptance and the supplier forms.

Defra will use your personal data primarily for the purpose of processing your application for Darwin Initiative funding. By submitting an application, applicants have agreed to any disclosure of the information supplied (including the content of a declaration or undertaking) which Defra considers necessary for the administration, evaluation, monitoring and publicising of the Funds (as detailed in the paragraphs below).

A completed application form signifies agreement to place certain details of successful applications (i.e. name, title, total grant value, project summary, lead organisation and location of project work) on the Darwin Initiative websites listed below. A completed application form also signifies agreement to send data on the project proposals during the application process to British Embassies and High Commissions outside the UK, including those outside the European Economic Area.

http://www.darwininitiative.org.uk;

https://www.gov.uk/government/groups/the-darwin-initiative;

Application form data will also be processed by Defra contractors dealing with Darwin Initiative administration, monitoring and evaluation (working within relevant data protection rules).

Defra may be required to release information, including personal data and commercial information, on request under the Environmental Information Regulations 2004 or 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 Data Protection Act 1998. The Grantee shall assist and co-operate with the Department (at the Grantee's expense) to enable the Department to comply with its disclosure obligations under these enactments.

We may use information, including personal data, to test computer systems to ensure that they work effectively and efficiently and to develop new systems in order to improve efficiency and the service that we provide to you and other persons. Any use of information for testing or developing computerised systems will be conducted in a secure manner in accordance with the Data Protection Act 1998 to safeguard the privacy of the information that you have supplied.

Defra's Personal Information Charter, which gives details of your rights in respect of the handling of your personal data, is on the Defra section of Gov.uk. If you don't have access to the internet, please telephone the Defra helpline 08459 33 55 77 and ask to speak to the Data Protection Officer for a copy of the Information Charter.