Submit by Monday 5 December 2016

DARWIN INITIATIVE APPLICATION FOR GRANT FOR ROUND 23: STAGE 2

Please read the Guidance before completing this form. 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

24-010 ref 3878

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:	Global Diversity Foundation
Address:	37 St. Margarets Street
City and Postcode:	Canterbury CT1 2TU
Country:	UK
Email:	
Phone:	

2. Stage 1 reference and Project title

Stage 1 Ref: 3878	**Title (max 10 words):** Mobilising useful plant conservation to enhance Atlas mountain community livelihoods

3. Project description (not exceeding 50 words)

(max 50 words)

Integrated conservation of 12 threatened culturally-important plant species and management of Important Plant Areas in the Atlas Mountains is achieved through community action and capacity building, accompanied by improved livelihoods through agroecological production, water resource rehabilitation, access to medical care, secondary education for girls and sustainable harvest of useful plants.

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: Morocco	**Country 2:**
Country 3:	**Country 4:**

5. Project dates, and budget summary

Start date: 1 April 2017		**End date:** 31 March 2020		**Duration:** 3	
Darwin funding request (Apr – Mar)	**2017/18 £105,405**	**2018/19 £115,030**	**2019/20 £92,225**	**2020/2021 £0**	**Total £312,660**
Proposed (confirmed & unconfirmed) matched funding as % of total Project cost					**67%**

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**
Surname	Martin	Rankou	Soraya
Forename (s)	Gary J.	Hassan	Mokhtari
Post held	Director	Director of Projects	Director, Toubkal National Park
Organisation (if different to above)	GDF	Moroccan Biodiversity and Livelihoods Association	High Commissariat for Water and Forests and Desertification
Department	N/A	N/A	Regional Directorate of Water and Forests – Haut Atlas-Marrakech
Email			

Details	**Project Partner 3**	**Project Partner 4**	**Project Partner 5**
Surname	Cherkaoui	Benlhabib	Aboufirass
Forename (s)	Mohamed	Ouafae	Mohamed
Post held	Professor	Professor	Director
Organisation (if different to above)	Faculté des Sciences Semlalia Marrakech, Université Cadi Ayyad	Institut Agronomique et Vétérinaire Hassan II, Rabat	Ressources Ingénierie (RESING)
Department	Laboratoire d'Ecologie Humaine	Département Production, Protection et Biotechnologies Végétales	N/A
Telephone			
Email			

Details	**Project Partner 6**	**Project Partner 7**	**Project Partner 8**
Surname	Carter	Amri	Khadari
Forename (s)	Lauren	Ahmed	Bouchaïb
Post held	Director, Climate Finance Initiatives	Deputy Director and Head. Genetic Resources Section	Associate Researcher
Organisation (if different to above)	Beya Capital	International Center for Agricultural Research in the Dry Areas	Agropolis Resource Center for Crop Conservation, Adaptation and Diversity (ARCAD)
Department	Atlas Innovations	Biodiversity and Integrated Gene Management Program	N/A

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)**? If so, please provide details of the most recent awards (up to 6 examples).**

Reference No	Project Leader	Title
20-013	Gary Martin	Medicinal root trade, plant conservation and local livelihoods in Morocco
162/13/009	Gary Martin	Ethnobiology of proposed traditional use zones of Crocker Range Park, Sabah, Malaysia
EIDPO020	Gary Martin	Participatory resource monitoring in Community Use Zones of Crocker Range Park, Sabah, Malaysia
17-030	Gary Martin	Participatory approaches to nominating Crocker Range Biosphere Reserve, Sabah, Malaysia
17-018	Gary Martin	Management Programmes for Indigenous Voluntary Conserved Areas in Oaxaca, Mexico
EIDPO042	Gary Martin	Implementing community-based landscape and resource monitoring to consolidate voluntary conservation, Oaxaca, Mexico

~~**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)**
Global Diversity Foundation www.global-diversity.org	GDF supports the resilience and wellbeing of local communities in the face of environmental and social change. It promotes agricultural, biological and cultural diversity around the world through research, training and practical action. Since 2002, GDF has developed a Mediterranean regional programme currently focused on Morocco. GDF-led activities in the region include the implementation of a CEPF-supported programme on *Integrated River Basin Management in Ait M'hamed and Imegdale rural communes*, a MAVA Foundation grant for an *Integrated Approach to Plant Conservation in the Moroccan High Atlas* and a Darwin Initiative project on *Medicinal root trade, plant conservation and local livelihoods in Morocco,* during which the concept for the present strategy emerged. GDF ensures overall coordination of the project. Project leader Gary Martin, a resident of Marrakech since 1996, has a decade of experience in managing successful Darwin Initiative and other projects as GDF Director. Emily Caruso, GDF's Regional Programmes Director, brings anthropological expertise, knowledge of community-based methodologies and fluency in French to the project. Project Director Mohamed El Haouzi has coordinated GDF field activities in Morocco since 2003, developing strong working relationships with the institutions and townships involved in this project.
Have you included a Letter of Support from this institution?	Yes, cover letter

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
Moroccan Biodiversity and Livelihoods Association (MBLA) www.mbla.com	MBLA is a Moroccan non-profit organisation created with sponsorship from GDF during our previous Darwin Initiative project. It will maintain a close working relationship with young researchers and postgraduate students – and their supervisors – who focus on plant diversity at the landscape, species and genetic level. Hassan Rankou, MBLA Director of Projects, coordinates its network, which comprises representatives of diverse research centres throughout Morocco, including University of Tetouan, Institut National des Plantes Aromatiques et Médicinales de Taounate, Institut Scientifique de Rabat, Institut Agronomique et Vétérinaire Hassan II, Rabat, Université Cadi Ayyad, Marrakech. MBLA leads interaction with small and medium sized enterprises and non-profit organizations (Casa Botanica, High Atlas Foundation, Jardin Majorelle, Terre d'éveil, Radiant Design) that seek to produce, add value to, and improve marketing and distribution of, plant products. In addition, it is the liaison with collaborating government agencies (Department of Environment, Ministry of Energy, Mines, Water and Environment; Division of Parks and Natural Reserves, High Commission of Water and Forests). From this network, Hassan will recruit emerging Moroccan postgraduate students, practitioners and professionals to participate in specific training events and species assessments, and to play a role in ensuring the project's legacy.
Have you included a Letter of Support from this institution?	Yes

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
Amazigh Community Organizations: Association de Bienfaisance et de Développement du Bassin de l'Ourika www.abdbo.com Imdoukal Znaga Cooperative – Imegdale (no website) Aska cooperative for women and children – Ait M'hamed (no website)	We have partnerships with Amazigh community organizations in the three rural communes, formalized by agreements and cooperation with rural commune authorities, who are popularly elected officials from the Amazigh community. We work closely with Imdoukal Znaga Cooperative in Imegdale and Aska cooperative for women and children in Ait M'hamed, and Association de Bienfaisance et de Développement du Bassin in Ourika, all of which comprise a large number of Amazigh people. We collaborate with specific village associations (*associations de douar*), which bring together the members of the small settlements that each commune comprises. The participation of Amazigh community partners is integral to the project: they authorize all aspects of the project, select community members who work as local researchers and contribute labor to build water infrastructure and nurseries. Representatives of these diverse community organizations regularly engage with participatory planning exercises, including selection of plant species and water projects appropriate for each village. In contrast to the situation GDF has encountered in its regional programmes in Latin America, Southeast Asia and Southern Africa, regional and national-level indigenous organizations in Morocco are primarily urban-based and lack presence and representation in the rural communes where we work.
Have you included a Letter of Support from this institution?	Yes, all three

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
High Commission for Water and Forests and Desertification Regional Directorate of Water and Forests – Haut Atlas-Marrakech www.eauxetforets.gov.ma/	The High Commission is the Moroccan agency responsible for implementing governmental policies in the domains of conservation and sustainable development of forest, wetland and silvopastoral resources in the forest domain and protected areas, and elaborating and implementing policies on anti-desertification and rural development. The Regional Directorate for Water and Forests (DREF) in Marrakech oversees the implementation of these policies in the High Atlas, including the main protected area, Toubkal National Park (TNP), which covers a total of 1,000km2 and where two partner villages are located. The DREF and TNP recently concluded a pilot project on co-management and valorization of medicinal and aromatic plants in other buffer communities, including initial activities on value-adding and commercialisation. We will collaborate closely with the offices of DREF and TNP for the implementation of key national legislation on the protection of wild species of flora and fauna and control of their commercialisation (29-05) and on protected areas (22-07) for which we will assist with a participatory strategy for local natural resource management around TNP. Our partners Moroccan Biodiversity and Livelihoods Association have signed a Memorandum of Understanding with the DREF, which will facilitate fieldwork throughout the High Atlas forest domain and TNP.
Have you included a Letter of Support from this institution?	Pending (expected mid-December 2016)

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
Laboratory of Human Ecology, Biology Department, Faculty of Sciences, Cadi Ayyad University www.ucam.ac.ma (general university website)	Cadi Ayyad University, established in Marrakech in 1978, comprises 13 institutions including the Faculty of Sciences Semlalia, home to a leading biology department in Morocco that attracts postgraduate students from throughout Morocco and Francophone Africa. The Human Ecology Laboratory, with ten faculty members, explores interactions between people and their environment through bio-demographic, epidemiological, genetic and nutritional approaches. The laboratory collaborates closely with the Centre Hospitalier Universitaire Mohammed VI and the Ministry of Public Health on various initiatives in Marrakech and its hinterland, including the target regions of this project. Dr. Mohamed Cherkaoui is a biological and medical anthropologist who conducts anthropometric research on diet, health and wellbeing. He collaborates closely with the Laboratory of Ecology and Environment and its eleven faculty members, including (1) Prof Ahmed Ouhammou, Director of the Regional Herbarium (MARK), which houses an important collection of over 15,000 plants primarily from southern Morocco. Prof Ouhammou will contribute to the expansion of our ethnofloristic surveys and the identification of plant specimens, and (2) Abderrahmane Romane, a phytochemist who conducts research on intraspecific chemical variability and antioxidant activity of North African plants. He will assist in assessing the quality of medicinal and aromatic plants cultivated in three rural communes.
Have you included a Letter of Support from this institution?	Yes

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
Association des Amis du Centre Hospitalier Universitaire Mohamed VI http://monasso.ma/association/association-des-amis-du-centre-hospitalier-universitaire-mohamed-vi	This association is dedicated to supporting the Centre Hospitalier Universitaire Mohamed VI through infrastructure development, awareness raising, and improvement of medical extension services in rural and deprived areas. In the High Atlas, the Association promotes integrated development to help improve livelihoods, including through implementation of drinking water and sanitation projects, education for nutrition and health, literacy improvement, and revenue-generating activities. They also organise regular medical trips (called 'public health caravans') to rural communities to screen for specific conditions (e.g. goitre, parasites, maternal health issues), providing *pro bono* surgical and medical intervention. The Association is also dedicated to monitoring health indicators in rural populations and providing capacity building and awareness raising on health and nutrition. They collaborate with Cadi Ayyad University's Human Ecology Laboratory, the directorate of the Centre Hospitalier Universitaire and the Ministry of Health. Dr Abdelhadi El Yacoubi, AA-CHU's Public Health Project Coordinator, will organize annual public health caravans to partner communities. Cadi Ayyad University Human ecologist Dr. Mohamed Cherkaoui, with his students and collaborators, will support the evaluation of the impact of the project on local wellbeing.
Have you included a Letter of Support from this institution?	Yes

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
Institut Agronomique et Vétérinaire Hassan II, Rabat http://www.iav.ac.ma/	Established in 1966, the Agricultural and Veterinary Institute Hassan II (IAV Hassan II) is a centre of excellence for training, research and development. It offers postgraduate degrees in four areas: agronomic and agroalimentary sciences, applied economic and social sciences, veterinary sciences, and engineering. The IAV's research activities are consolidated in 10 main multidisciplinary axes, including several relevant for our project: (1) landscape management, environmental preservation and rational exploitation of agricultural biodiversity for sustainable production; (2) efficient management of irrigation water, climate study and drought mitigation; (3) diversification of agricultural products and improvement of their competitiveness; and (4) knowledge of rural societies, design of local and regional development schemes, and development of tools and strategies for decision-making. Dr Ouafae Benlhabib and her colleagues have published on numerous relevant subjects related to our project, ranging from the yield and chemical variability of essential oils isolated from wild oregano to the improvement of Mediterranean cropping systems. She has worked closely with local communities of the High Atlas mountains for over 15 years, especially in the Oukeimeden rural commune, one of our field sites. She will lead analysis of the agronomic potential and quality of the twelve plant species, based on their integration in traditional agro-ecosystems.
Have you included a Letter of Support from this institution?	Yes

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
Ressources Ingénierie (RESING) http://www.resing.ma/index.php?lang=en	RESING is a Marrakech-based engineering consulting firm specialized in environment and sustainable development. Created by Mohamed Aboufirass (Ph.D. in Hydrology, University of California, Davis), it develops engineering solutions to address scarcity of water resources and environmental degradation in the context of climate change, marked in Morocco by increasing frequency of extreme events, including floods and droughts. RESING's expertise, delivered through technical assistance and training, ranges from environmental issues, rural development and agriculture to water resources (irrigation, drinking water supply and sanitation). RESING collaborates closely with GDF in fulfilling the goals of a three-year (2013-2016) project on "Integrated River Basin Management in Ait M'hamed and Imegdale rural communes, Morocco", funded by the Critical Ecosystems Partnership Fund. RESING implements a participatory water action plan for the two communes, developing specific infrastructure projects that improve water access for domestic use, agroecosystems and areas of wild plant harvesting in specific villages. In collaboration with MBLA, RESING is negotiating a grant from the Replenish Africa Initiative (RAIN) managed by the Global Environment & Technology Foundation (GETF) to cover the costs of specific drinking and irrigation schemes that will improve livelihoods and overcome the water barrier to increased production of useful plants in rural communes.
Have you included a Letter of Support from this institution?	Yes

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
BEYA Capital www.beya-capital.com	BEYA Capital is a Casablanca-based climate finance advisory firm specialising in the development and implementation of innovative and blended financial solutions to support projects that fight climate change. It is committed to unlocking climate finance flows to countries across Africa, the Middle East and the most vulnerable countries (V20). In addition to its primary work advising governments, private companies and investors on project pipeline development and project financing, Beya Capital runs Atlas Innovations, a social enterprise dedicated to transforming high-value local commodities, such as argan and cactus oils, into premium cosmetic and alimentary products and connecting them to US and European markets with the goal of maximising community benefits. Its current partnerships include L'Occitane, L'Oreal and Andros Foods. BEYA Capital will support this project through Atlas Innovations by contributing to market analysis and business plans for the derivative products of the 12 target plant species in collaboration with Shaden Bousteny, and leveraging its connections to promote them in markets in the US and Europe, both of which currently have free-trade agreements with Morocco. In addition, it will provide capacity building for producer cooperatives in the three rural communes, including a focus on micro-insurance, savings associations and adding value locally.
Have you included a Letter of Support from this institution?	Yes

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
Agropolis Resource Center for Crop Conservation, Adaptation and Diversity (ARCAD) http://umr-agap.cirad.fr/en/fields-covered/dynamics-of-diversity-and-domestication/projet-arcad Joint Research Unit on Genetic Improvement and Adaptation of Mediterranean and Tropical Plants (UMR AGAP) http://umr-agap.cirad.fr/en	ARCAD is devoted to the assessment and improved use of plant agrobiodiversity in Mediterranean and tropical regions. It focuses on the study of the history and patterns of crop domestication and adaptation and the analysis of key parameters underpinning adaptation and diversity, at various time scales, through studies of evolutionary genomics, population genetics and social sciences. Research sub-projects include population comparative genomics of cultivated species and their wild relatives and plant adaptation to climate change. Another major objective of ARCAD is to set up a demand-oriented capacity-building platform, based on the educational facilities provided by different universities in Montpellier, along with the development of specific training modules. ARCAD is part of the UMR AGAP, which works to understand the factors behind plant development and adaptation to environmental constraints, analyse the organization and diversity of genomes, and study agro-biodiversity. Bouchaïb Khadari, Laila Essalouh and their colleagues have published extensively on the role of traditional North African agroecosystems as conservatories and incubators of cultivated plant varietal diversity, including for apricots, figs, olives and other important resources. They will bring expertise in analysis of agroecosystems, agroecological assessment of cultivars and *ex situ* conservation of seeds to our applied research and training efforts.
Have you included a Letter of Support from this institution?	Yes

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
International Center for Agricultural Research in the Dry Areas (ICARDA) www.icarda.org	ICARDA was established in 1977 with a mandate to promote agricultural development and help reduce chronic poverty in dry areas. Since 2010, it is part of the CGIAR Consortium for International Agricultural Research Centers. Its principal activities revolve around problem-solving for resource-poor farmers through action research, focusing on water harvesting, conservation agriculture, diversification of production systems, integrated production systems, and empowerment of rural women. ICARDA specializes in delivering new technologies and methods to support sustainable agriculture and working in partnership with others to disseminate these technologies widely. The ICARDA genebank holds over 135,000 accessions from over 110 countries, and includes germplasm from traditional varieties and wild crop relatives. It has a strong capacity-building ethos, providing training at all scales in developing countries, including organizing training and knowledge exchanges for farmers. As part of this project, ICARDA will provide invaluable support for farmer field schools, seed conservation activities, and water resource management.
Have you included a Letter of Support from this institution?	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.

Name (First name, surname)	Role	Organisation	% time on project	1 page CV or job description attached?
Gary Martin	Project leader	Global Diversity Foundation	25%	Yes
Emily Caruso	Project director	Global Diversity Foundation	25%	Yes
Mohamed El Haouzi	Field coordinator	Global Diversity Foundation	50%	Yes
Chaden Boustany	Business coordinator	Global Diversity Foundation	12.5%	Yes
Hassan Rankou	Project coordinator	Moroccan Biodiversity and Livelihoods Association	33%	Yes
Jamila Boussetta	Community facilitator	Moroccan Biodiversity and Livelihoods Association	33%	Yes
Rachid Babahmad	Project researcher	Moroccan Biodiversity and Livelihoods Association	25%	Yes
Soufiane M'Sou	Project researcher	Moroccan Biodiversity and Livelihoods Association	25%	Yes

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?

If your project is working on an area of biodiversity or biodiversity-development linkages that has had limited attention (both in the Darwin Initiative portfolio and in conservation in general) please give details.

(Max 300 words)

We address inter-connected issues of plant conservation and poverty in the High Atlas biodiversity hotspot of Morocco: how can Amazigh people remain the custodians of Important Plant Areas and useful species while improving their livelihoods in a changing socio-economic context and under new national biodiversity laws?

In our previous Darwin project, we documented how smallholder farming and grazing traditionally contributed to livelihoods and biodiversity conservation, while collection of wild species provided additional sources of food, fodder, fuelwood and medicines that enhance local wellbeing. We gathered evidence of contemporary changes in practice including decreased cultivation of local crop varieties, overgrazing and unsustainable harvest of wild plants. Accentuated by climate change, these drivers threaten High Atlas biocultural landscapes, local livelihoods and unique biodiversity.

Socio-economic transitions bring affluence to some families, but provide limited benefits to most households, putting the most vulnerable at a disadvantage. This is exacerbated by limited access to education, diminishing agricultural production, and health problems related to poor hygiene and nutrition, resulting in high levels of outmigration which local informants affirm is a primary obstacle to community wellbeing.

To counter this trend, Amazigh communities seek to enhance their livelihoods by increasing access to rapidly expanding national retail, wholesale and export markets for plant products; adding value to traded products; and strengthening cooperatives to increase competitiveness. They strive to maintain the ecological integrity of Important Plant Areas where they harvest wild edible, medicinal and other useful plants that provide non-monetary benefits.

Our project strengthens these positive conservation and livelihood trends through participatory research and practical action, including conservation assessment and monitoring of flagship species, agroecological cultivation and enrichment planting of threatened plants, capacity-building on adding value and marketing plant products, and improving access to irrigation, schooling, adequate nutrition and healthcare, with a special focus on marginalized and vulnerable households.

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
Global Goals for Sustainable Development	Yes

12b. Biodiversity Conventions

Please detail how your project will contribute to the objectives of the agreement(s) your project is targeting and how your project will help to achieve the Global Goals for Sustainable Development (SDGs). 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

(Max 500 words)

The Marrakech delegation of the Moroccan Department of Water and Forests has requested that GDF collaborate on implementation of new national law (#29-05) on the protection of wild species of flora and fauna and control of their commercialization. The law, which entered into

force in January 2016, allows the Moroccan government to meet its obligations under the CBD, to which Morocco is a party since November 1995, and the Nagoya Protocol, ratified in December 2011. The Marrakech delegation asked for our collaboration on another new law (#22-07), on protected areas, by assisting with a participatory strategy for local natural resource management around Toubkal National Park, which borders two of the rural communes where we work.

With our focus on community-based conservation, agroecological production of valuable plant genetic resources, sustainable use and equitable sharing of benefits from these resources, we address important areas of convergence of the CBD, Nagoya Protocol and ITPGRFA. Target 9 and 13 of the CBD Global Strategy for Plant Conservation (GSPC), 'Aichi' Target 13 and ITPGRFA Article 5d and 6e use similar language to call for (a) promoting *in situ* and *ex situ* conservation and sustainable use of the genetic diversity of crops, wild relatives and other socio-economically and culturally valuable plant species while (b) respecting, preserving and maintaining associated indigenous and local knowledge to (c) support customary use, sustainable livelihoods, local food security and health care.

We will further contribute to the objectives of ITPGRFA by exploring collaboration on capacity building on *ex situ* conservation of crop genetic diversity with Dr Ahmed Amri, director of ICARDA's new seed bank in Morocco, which currently contains 38,000 seed samples, including wheat, barley, lentils and chickpeas resupplied by the Svalbard Global Seed Vault in Norway, a result of the transfer of some of ICARDA's operations from Syria to Morocco.

Addressing Darwin Initiative priorities regarding the Nagoya Protocol strategic framework for capacity building and development (cf. Learning Note), our project assists Morocco to 'develop endogenous research capabilities to add value to [its] own genetic resources and traditional knowledge' (NP art.22.4.d). We so this by working with local partners to (a) determine the conservation status, phytochemical attributes and ethnobotanical knowledge of key plant genetic resources, (b) train community members in value-adding and marketing activities to ensure commercial success of these plant resources, (c) develop guidelines for management and sustainable harvesting to conserve these resources *in situ* and *ex situ,* (d) further develop and share existing databases on Moroccan genetic resources, and (e) disseminate co-produced knowledge and information on the value and potential of genetic resources and traditional knowledge to enhance local Moroccan economies and wellbeing.

With our strong focus on enhancing livelihoods and wellbeing for Amazigh communities, we address several sustainable development goals on a small-scale, grassroots level, specifically (1) no poverty, (2) no hunger, (3) good health, (4) quality education, (10) reduced inequalities, and (15) life on land.

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

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

Building on relationships established in our initial Darwin project, we will liaise closely with the CBD, GSPC, ABS and ITPGRFA national focal points throughout the project to ensure full implementation of these conventions in Morocco. **Dr Mostapha Madbouhi,** the focal point for the CBD and Nagoya Protocol, was a project partner in our previous Darwin Initiative grant in Morocco and is a close colleague who will continue to be our primary liaison in the Department of Environment of the Ministry of Energy, Mines, Water and Environment. We collaborate closely with **Dr Mohamed Fennane** of the Institut Scientifique-Rabat, who is the current GSPC focal point and a partner on our previous project. **Dr Mohammed Sghir Taleb**, another colleague from Institut Scientifique-Rabat and co-author of our publication on plant conservation status in Morocco, will take over as GSPC focal point, ensuring continuity in our relationship. We have explored collaboration with the ITPGRFA national focal point, **Mr Amar Tahiri**, whom we originally met in October 2015. As he is the head of the Division de Control of Seeds and Plants, in the Ministry of Agriculture and Marine Fisheries, he is particularly interested in our development of community seed banks. The plant treaty is still at an early stage of implementation in Morocco, and we will invite Mr Tahiri to participate in training courses and other activities.

13. Methodology

Describe the methods and approach you will use to achieve your intended outcomes 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.)

We work with Amazigh communities in three High Atlas rural municipalities, drawing on our 2013-2016 Darwin project. In consultation with community members and local researchers, we identified priority species that are culturally important, locally threatened, easy to cultivate, and profitable. In Ait M'hamed, where silvopastoral production dominates, they include four tree species (carob, ash, evergreen oak, Mt. Atlas mastic), pellitory and rock-rose. In the agro-pastoral communes of Imegdale and Oukeimeden, we selected four wild species of aromatic herbs (thyme, lavender, sage, mints), local almond varieties and shrubby caper.[1]

We implement an integrated ex-situ and in-situ conservation and sustainable use strategy – expanding an approach successful for pellitory in our previous Darwin project – that includes (1) updated characterizations, conservation assessments and action plans; (2) seed and other germplasm collection to enable multiplication in community nurseries; (3) enrichment planting in agroecosystems and cultural landscapes to augment sustainable harvest; (4) capacity-building on sustainable harvesting and added-value transformation; (5) harvesting impact assessment in areas of enrichment planting; and (6) evaluation of the quality of harvested plants and derivative products.

Conducted with University Cadi Ayyad and MBLA researchers, ecological monitoring compares enclosures and open-access areas, and uses matrix modelling to determine if enrichment planting allows population regeneration and sustainable harvest over the short and long-term, while maintaining desired economic returns.

Through a participatory assessment, local producers use their own criteria, formalized in community research protocols, for selecting and evaluating the quality of plants grown. A similar process with buyers will draw on their experience in assessing the quality of the plant material they source. We will collaborate with Dr. Abderrahmane Romane of the Chemistry Department to set up quality control and standardisation protocols for community-produced medicinal and aromatic plants.

Based on these results, we distribute selected herbaceous and woody useful plants cultivated in rural nurseries, to households and monitor their survival rate and productivity. We collaborate with RESING to provide domestic water and irrigation infrastructure. With Beya Capital and Amazigh associations, we create business plans to add value, enhance market access and obtain higher prices for plants with commercial potential. To support the most vulnerable residents, who often depend heavily on wild plant harvest, we provide supplementary food during 'famine months', improved medical care from annual public health caravans and access to secondary school boarding houses for young women.

Finally, we engage with our partners to expand this conservation and sustainable use strategy to other promising species by launching a new cycle of floristic and ethnobotanical inventories, conservation assessments, market demand analysis, ex-situ cultivation, and plant distribution to community members. Our long-term goal is to expand the household basket of plant products that provide monetary and non-monetary benefits to vulnerable Amazigh households, allowing them to continue being the *de facto* stewards of Important Plant Areas and endemic flora.

Cadi Ayyad University researchers monitor and evaluate the impact of the project using initial, midterm and final household surveys, medical assessments and participatory appraisals, providing assistance to an external evaluator who compiles a formal mid-term and final evaluation.

[1]Scientific names: pellitory – *Anacyclus pyrethrum*; shrubby caper – *Capparis spinosa*; carob – *Ceratonia siliqua*; rock rose – *Cistus spp.;* ash tree – *Fraxinus dimorpha*; lavender – *Lavandula maroccana*; mints - *Menta suaveolens subsp. timija* and *M. gattefossei;* Mt. Atlas mastic – *Pistacia atlantica*; almond – *Prunus dulcis*; evergreen oak – *Quercus ilex*; sage – *Salvia* spp.; thyme – *Thymus satureioides.*

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 and b) in the long-term.

(Max 300 words)

By project end, the conservation and sustainable use of twelve flagship useful plants is measurably improved following a three-year participatory management strategy based on specific action plans for each species. Over time, plant population and harvest income increases are maintained through enrichment planting and sustainable collection, based on matrix model projections. Fifty additional species are characterized, expanding the regionally promoted household basket of plant genetic resources that generate monetary and non-monetary benefits.

Water harvesting infrastructure improves accessibility of safe drinking water for all residents and enhanced irrigation of 50ha of agricultural lands provides increased harvest of cereals, fruits, nuts, vegetables and fodder. Commercially valuable plants – on average 10 tree saplings and 100 herbaceous plants – are distributed annually to each household, leading to short and long-term monetary and non-monetary benefits, including a 20% increase in income derived from sale of medicinal and aromatic plants compared to baseline data. Seventy-five girls are admitted to boarding houses, enabling them to pursue secondary education and, with an additional 150 young women, to expand their knowledge of useful plant cultivation and transformation. In the future, they pass these skills on to other members of their communities. Improvements in health and nutrition of children as gauged by lower incidences of intestinal parasites, goiter and skin problems, as well normal measures of height and weight according to age. Ten community researchers improve their knowledge, skills and employability.

These livelihood benefits set in motion a virtuous cycle that improves livelihoods linked to biodiversity conservation. As income, education, health and nutrition improve, incentives increase for people to stay in their communities where they maintain beneficial land use practices that support sustainable resource management. This leads in turn to enhanced monetary and subsistence benefits that reinforce the cycle, with a diminished need for external support over the long term.

15. Pathway to poverty alleviation

Please describe how your project will benefit poor people living in low-income countries. Give details of who will benefit and the number of beneficiaries expected to be impacted by your project. 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 300 words)

By distributing commercially valuable plants for cultivation and sale, we improve the monetary income of 2500 Amazigh people in 400 households in 5 villages (Ait Leqaq, Igherm, Tiniskt, Tinileft and Wawraya) by 20% compared with current income from plants as compared to baseline household data collected through an adapted CIFOR PEN questionnaire in 2015 and 2016. Non-monetary benefits from these plants – from their use as fuel, food, medicine and fodder – contribute significantly to household wellbeing. In the long term, we estimate that household monetary income will double, and that subsistence benefits will grow accordingly as distributed plants and trees reach maturity.

Women, who traditionally manage and harvest over half the selected species, are economically empowered, including in Ait M'hamed, where an Amazigh women's association leads the commercialization process and is the primary beneficiary of training and institution-strengthening activities. Seventy-five boarding house girls receive educational opportunities that improve their socio-economic prospects upon graduation.

Children's improved health allows them to attend school regularly and actively participate in ensuring household wellbeing. In tandem with other interventions, food supplements for most vulnerable households during 'famine months' help reduce seasonal migration, allowing the creation of durable family economies. Water harvesting infrastructure provides safe drinking water and extends the irrigation season in community nurseries and smallholder plots, consolidating the project's health, food security and income results. Such direct support promotes greater intra- and inter-community equality, reducing conflicts.

Over the next decade we expand these benefits to 5431 households and 34,042 residents of the rural municipalities in which the target communities are situated: Ait M'hamed (3493 households and 23,696 residents), Imegdale (1156/5467) and Oukeimeden (782/4861). Approximately half of the beneficiaries are women. We disseminate lessons learned to High Atlas communities throughout Morocco.

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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 is a stand-alone project that dovetails with a broader and longer-term programme in Morocco (see 17a and http://www.global-diversity.org/mediterranean/), through which GDF will continue to support the scaling-up of outcomes both geographically and over time. These efforts are likely to be supported by other funders, especially the MAVA Foundation as it pursues its 2016-2022 Mediterranean strategy, and the Critical Ecosystem Partnership Fund, as it launches a new round of grants in the region from 2017. GDF will also approach the Prince Albert II of Monaco Foundation, which prioritizes safeguarding of Mediterranean basin biodiversity.

We envisage that stronger Amazigh cooperatives and a more versatile Moroccan Biodiversity and Livelihoods Association will continue to partner for the expansion of all project results. We expect that MBLA will train and employ more community researchers, and build capacity of cooperatives and SMEs, ensuring the project's legacy locally and nationally. We are confident that the dynamic team of Hassan Rankou, Jamila Bossatta, Rachid Ait Babahmad and Soufiane M'sou will steward MBLA's expansion and the delivery of quality biodiversity conservation and livelihoods projects throughout the High Atlas, and will be able to recruit additional young conservationists in the case that any one of them pursues other opportunities.

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 initiative is rooted in ten years of applied research and training on ethnobotany and plant conservation in Morocco. Since 2013 we have fine-tuned an integrated agroecology-biodiversity-hydrology approach to resolving socio-ecological problems in the High Atlas. While these elements are inter-dependent and mutually reinforcing, we target each under separate projects:

The **agroecology and livelihoods** component, largely funded by Darwin Initiative, focuses on sustainable livelihoods, incorporating traditional practices and new environmentally-friendly technologies. Community nurseries, enrichment planting, and commercialisation are central elements. The **biodiversity** component, underwritten by MAVA Foundation, enhances knowledge and conservation of High Atlas plant biodiversity through conservation assessments, floristic and ecological surveys and monitoring, and strengthening of cultural practices of conservation and sustainable landscape management. The **hydrology** element, supported by the Critical Ecosystem Partnership Fund and RAIN, improves irrigation efficiency, water harvesting and drought-response, enhancing water flow to ecologically sensitive areas. Smaller grants, channeled through MBLA (see pt. 22), support this strategy. To consolidate this successful framework, this Darwin project centres on agroecology while providing co-funding for biodiversity and hydrology.

Our support for permaculture gardens and girls' education at Dar Taliba boarding house has been ongoing since 2003, and will continue after this project ends.

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 explaining how your work will be additional to tis work and what attempts have been/will be made to co-operate with and learn lessons from such work for mutual benefits.

Our initiative is unique in its efforts to increase livelihoods and wellbeing for Moroccan rural poor through conservation, sustainable use and commercialization of plant resources. However, we are in contact with numerous individuals and organizations involved in applied research and development projects that complement our proposed approach. These connections include:

- Collaborating with MAVA Foundation (and partners) as it develops its 2016-2022 strategy for the Mediterranean basin, in particular outcome 6 “The loss of land use practices that foster high biodiversity is halted in three selected landscapes”, by contributing research results from the previous and present projects, and implementing a Community Exchange on the topic of wild plant species conservation, community seed banks and nurseries.
- Engaging with the Moroccan office of the UNDP/GEF Small Grants Programme as it develops and implements its strategy to sustain Indigenous and Community Conserved Areas and Territories (ICCAs) and to expand the use of agroecology approaches for biodiversity conservation and livelihoods in Morocco. Our project provides tangible case studies and lessons learned on the management of cultural landscapes and community-based agroecology.
- Continuing to interact with Yossef Ben-Meir and his High Atlas Foundation (HAF) team, a partner in our previous Darwin project, which specializes in the production and distribution of fruit and nut trees in Amazigh communities, and in adding value through processing and organic certification.
- Coordinating efforts with Marcos Valderrabano of the IUCN Centre for Mediterranean Cooperation and Seona Anderson of Plantlife International, who are working to further the conservation of wild plants and their habitats in the southern and eastern parts of the Mediterranean, through the ‘Conserving wild plants and habitats for people in the South and East Mediterranean (IPA-Med)' project funded by the MAVA Foundation, one of our co-funders.
- Communicating with Olivier Hassinger, coordinator of the IUCN’s Plants for People (P4P) initiative to assess the threat status (using the IUCN Red List Categories and Criteria) of at least 1,500 highest priority species, including crop wild relatives and medicinal plants; we are coordinating selection of the species for which we are proposing to conduct Red List conservation assessments to avoid duplication of efforts and stimulate overall cooperation.
- Partnering with the Mediterranean Consortium for Nature and Culture, a MAVA-funded initiative coordinated by Liza Zogib of DiversEarth, which aims to support and celebrate the threatened cultural practices of the Mediterranean that benefit nature and biodiversity. Our project will provide insights into the mechanisms of agroecological and landscape management practices that support conservation, and contemporary challenges to their maintenance.
- Beginning to develop a partnership with the Botanical Gardens of Cagliari for building and sustaining community seed banks with the potential support of European Union funds.

18. Ethics

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

(Max 300 words)

GDF strives to exceed the exacting principles of the International Society for Ethnobiology’s Code of Ethics in all our projects. We implement a full Free Prior and Informed Consent (FPIC) process – building on initial community agreements – that continues throughout the project lifecycle through ongoing formal and informal communication and consultation processes. We pay particular attention to FPIC and community consensus regarding the withholding or sharing of Amazigh plant genetic resources and/or associated traditional knowledge. Principles for the

establishment of fair, equitable and prior agreements for the commercialisation of plant products will be agreed at early community workshops. Given our objective to generate revenue for communities, commercialisation will be led by communities themselves, ensuring they control benefit-sharing decisions while receiving expert support and supervision to ensure equitability and respect for international agreements.

In line with the ISE Code of Ethics, we surpass 'participation', to collaborate directly with communities on all aspects of project implementation through the medium of community research teams. With community consent, traditional knowledge and practices are highly valued and mobilized throughout project activities alongside 'Western' scientific practice.

Given our focus on Amazigh plant resources and associated knowledge, we ensure the UK and Morocco meet their international obligations regarding Access and Benefit-sharing (ABS). We provide capacity-building on the Nagoya Protocol to local actors and ensure that our project responds to the requirements for the Protocol's implementation at all scales (see section 12b).

While health and safety risks are minimal, all measures are taken to ensure that individuals involved are both fully insured and protected from harm.

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)

Morocco is a global environmental leader. In 2015 and 2016, the Climate Change Performance Index ranked Morocco among the top 10 countries making the most progress in addressing climate change and top among developing countries. In November 2016, Marrakech hosted the Climate Change COP22, giving Morocco greater visibility as a global actor and creating new opportunities for awareness raising. We work with an array of Moroccan actors to implement a broad communications programme that draws attention to Morocco's efforts in conservation and sustainable use of biodiversity.

GDF and MBLA will lead dissemination activities, interacting with government to ensure the project informs the implementation of national laws and international agreements that promote plant use to alleviate poverty. We expect to influence policy directly with a case study of the implementation of new law 29-05 on the protection and commercialisation of wild flora and fauna and (b) contributions to the implementation of the Nagoya Protocol.

Our dedicated capacity-building component establishes avenues for awareness raising and dissemination at diverse scales. In each community, MBLA will provide tailored training and information on how to improve livelihoods through sustainable plant harvesting and cultivation. The Dar Taliba gardens will become a regional demonstration site for the cultivation of useful, endemic and/or threatened species and a central locale for training workshops, thus also benefitting secondary school girls living at Dar Taliba. We expect this community outreach to impact local efforts in biodiversity management and sustainable livelihoods.

Project communications/dissemination materials include (c.f. point 21) peer-reviewed publications, publically available IUCN Redlist conservation assessments, a BRAHMS open access ethnofloristic database, a website on plant conservation and local livelihoods in Morocco, a popular manual in Arabic and French on High Atlas plants for livelihoods and wellbeing, and news and updates from the project shared through GDF/MBLA websites, community radio and social media.

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)

Capacity building at all scales is one of the central goals of our project. Community researchers are trained in nursery management, for which they learn new skills – such as permaculture

design, drip irrigation, seed saving and cultivation of wild species – to complement their traditional agroecological knowledge and practices. They are also offered workshops in sustainable harvesting, water harvesting and value-adding activities. Cooperative members receive training in management of water infrastructure; post-harvest processing and marketing of plants; and new Moroccan legislation governing the use and commercialisation of biodiversity. They are also continuously mentored in organisational and leadership strengthening. With partner ICARDA we implement farmer field schools whereby farmers learn about and test innovations in agroecological management and share their observations and the results of their experiments in an ongoing learning experience. Secondary school girls from Amazigh communities are taught value-adding processes for key plant species, diversifying their post-graduation opportunities and giving them transferable skills that benefit their families and communities.

In collaboration with the Moroccan Biodiversity and Livelihoods Association, we continue to organize events for young conservationists, biodiversity specialists, and early-career researchers for mutual learning and mentoring by mid and late-career professionals. With co-funding from MAVA Foundation, we host a stakeholders workshop to develop a project conceptual model for our integrated agroecology-biodiversity-hydrology approach. This creates a significant opportunity for all involved in the project to learn about conceptual models and theories of change.

Finally, as part of GDF's Global Environments Network training events (www.globalenvironments.org/gen/community-exchanges/), we organize a Community Exchange on the topic of wild plant species conservation, community seed banks and nurseries. The week-long Exchange will bring together leading young researchers, professionals and practitioners from the Middle East and North Africa, as well as Mediterranean Europe, to engage in peer-to-peer interactive learning and networking.

21. Access to project information

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

Two peer-reviewed open access manuscripts – one on ecological/botanical results and the other providing ethnobotanical/agroecological analysis – are included in the project budget at £1000 each. The project's database, created with Darwin funding and housed at the Oxford University BRAHMS open access server (http://herbaria.plants.ox.ac.uk/bol/), is composed of three sub-databases: Imegdale flora, Ait M'hamed flora and Moroccan flora, and contains information on useful, endemic and threatened species. We will expand this database with additional information and the creation of a new a sub-database for Oukeimeden flora. The project contributes to the following open access databases: (i) IUCN Red List (www.iucnredlist.org), through the production of conservation assessments of useful plant species and the publication of species distribution maps of useful and threatened plants (maps.iucnredlist.org); (ii) the National Red List (www.nationalredlist.org), through the production of regional conservation assessments of Moroccan species; and (iii) the IUCN Red List of flagship species (www.iucnredlist.org/amazing-species), to which we submitted the conservation assessment of *Anacyclus pyrethrum* published under the previous Darwin project. We will also collaborate with the Ministry of Environment and the Scientific Institute of Rabat on the development of the Moroccan Red Book as an online open access database. This process was launched with the publication of the conservation assessments of the endemic Monocotyledons, funded by the previous Darwin project. Project results and selected publications will also be shared on both the MBLA website (in French and Arabic) and the GDF website (in English), ensuring wide dissemination.

22. 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.

Confirmed:

GDF's MAVA Foundation €XXX three-year grant began on 1 January 2016. Entitled *Integrated Approach to Plant Conservation in the Moroccan High Atlas*, it provides co-funding for conservation assessments, ecological monitoring, plant resource management, and international training events. It also funds the documentation, protection and promotion of cultural practices of plant conservation in the High Atlas.

In December 2016, RESING and MBLA were granted $XXX from The Coca-Cola Africa Foundation's Replenish Africa Initiative for a project on enhancing irrigation efficiency for community nurseries and smallholder plots in Ait M'hamed and Imegdale, and financing an irrigation system in the Dar Taliba girls' boarding house in the Ourika valley. It will provide the co-funding necessary for the construction of major water infrastructure. This project also has a strong training component, providing co-funding for capacity building surrounding value-adding and marketing activities as well as organizational strengthening of cooperatives.

The Salvia Foundation approved €XXX in core support for the Global Environments Network, allowing GDF staff to organize events such as a Community Exchange on the topic of wild plant species conservation, community seed banks and nurseries in early 2019 (co-funded through the MAVA Foundation and the proposed Darwin project).

As in all Darwin projects led by Global Diversity Foundation, we will have a significant in kind contribution from our organisation (in the form of three months of salary annually of GDF's Director, who is the Project Leader) and from our partner institutions.

22b) 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.

Date applied for	Donor organisation	Amount	Comments
5 December 2016	UNDP Morocco Small Grants Programme	$XXX	MBLA proposal for community seed banks and enrichment planting; the response is expected in February 2017.
Early 2017	USAID	$XXX	MBLA and RESING to submit a proposal to Middle East desk to fund sanitation projects in Imegdale and Ait M'hamed.
TBD	Rufford Small Grants Programme	£XXX	Hassan Rankou to apply for for a single plant species conservation project
TBD	Mohamed Bin Zayed Species Conservation Fund	$XXX	MBLA to apply for a grant to develop conservation action plans for threatened
TBD	Prince Albert II Foundation	TBD	GDF to apply for a grant to develop activities in the sphere of biodiversity conservation and climate change impacts

22c) None

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

(max 100 words) Not applicable

23) Risk

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)

Although this is a low-risk project, we have built risk reduction into its structure:

- Drought may affect nursery/smallholder cultivation: support for water harvesting and co-

funding for irrigation efficiency projects mitigate that risk.

- While we have ascertained the growth of Moroccan plant markets, they may not be as dynamic as predicted: additional livelihoods-related activities ensure significant co-benefits.
- Slow state bureaucracy may impact planned policy outcomes: this is unlikely given that the request for support on implementation of law #29-05 comes from the Marrakech delegation of the High Commission on Water and Forests, with whom our staff maintain an ongoing dialogue and excellent relationship.
- Political or religious events (local/regional elections; Ramadan; etc.) may impact on the ability of community partners to contribute to the project during specific periods: we have learned to establish project schedules that work around these, ensuring timely production of outcomes.
- Livelihoods and resource management projects run the risk of exacerbating or causing conflicts within the communities: we provide diverse means for enhancing livelihoods, support local religious benefit-sharing systems (Zakat), and provide additional contributions to the most vulnerable households.
- The risk of communities withholding their consent for project activities is mitigated by our comprehensive free, prior and informed consent process.

PROJECT MONITORING AND EVALUATION

MEASURING IMPACT

24. LOGICAL FRAMEWORK

Darwin projects will be required to report against their progress towards their expected outputs and outcomes if funded. This section sets out the expected outputs and outcomes 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: (Max 30 words) Atlas Mountains Amazigh people are empowered to expand their role as stewards of Important Plant Areas and plant genetic resources while improving their livelihoods in a changing socio-economic context.			
Outcome: (Max 30 words) Integrated conservation of regionally threatened culturally-important plant species and management of Important Plant Areas in the Atlas Mountains is achieved through Amazigh community action and capacity-building, accompanied by improved livelihoods.	0.1 Twelve regionally threatened plant species and varieties are assessed, cultivated, distributed, sustainably harvested and monitored over three years 0.2 In three rural municipalities of the High Atlas, 2500 people, including from the 50 most vulnerable households, benefit from modest income increases and improved wellbeing through useful plant cultivation and marketing, irrigation, access to secondary school for girls, health improvements and adequate nutrition. 0.3 Three hundred and twenty-five people benefit from capacity-building delivered in training courses, workshops, a community exchange, and on-the-job experience by project end 0.4 One detailed case study of implementation of the new national law #29-05 on the protection and commercialization of wild flora and fauna and its relationship to law #22-07 on protected areas developed and disseminated within Morocco, by year 3 0.5 A participatory process of characterizing 50 additional species for the household basket of useful plant resources that bring monetary and non-monetary benefits, launched by year 2	0.1 Conservation assessments, business plans, cultivation and distribution records, harvesting and monitoring data, peer-reviewed article 0.2 Project updates and photo essays, list of secondary school students, results of household surveys, medical assessments and participatory appraisals. 0.3 Exchange, training course and workshop reports with participant lists; photo essay on community researchers 0.4 Action plan, working paper and peer-reviewed article 0.5 Herbarium collections, database, popular manual and peer-reviewed article on cultural keystone species	Selected species are easily cultivated and resilient to attested harvest levels Community associations capable of consensus on the most vulnerable families in their villages Community members and students available and interested in participating in capacity-building events Government authorities open to collaboration on implementation of new law Sufficient candidate useful species
Outputs: 1. Conservation action plans for threatened useful plants implemented	1.1 Conservation assessments and action plans for 12 species of threatened useful plants updated and drafted in year 1; published in year 2 1.2 Collection and conservation of seed of these 12 species in community seed banks in year one 1.3 Market analysis and business plans for sustainable commercialization of the six most commercially promising species, by year 2	1.1 Updated assessments published and uploaded to IUCN Red List of Threatened Species 1.2 Seed collection protocols and community seed bank accession records for all species 1.3 Written business plans, incorporating market analysis	Government permission for collection of seed granted under new law #29-05 Viable seed or other germplasm available and not affected by drought, insect predation or other environmental factors

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	1.4 Cultivation of at least 2000 plants of each of the 12 species in community nurseries by year 1, and enrichment planting by year 2 1.5 Participatory ecological monitoring and matrix modelling of population trends in enrichment planted areas by year 3 1.6 Journal article on outcome of conservation actions plans by year 3	1.4 Community nursery and enrichment planting records and photo documentation 1.5. Monitoring and matrix modelling data sets and photo documentation 1.6 Manuscript and confirmation email of article submission	Multiplication of threatened plants does not confront problems of seed dormancy or recalcitrance Community members agree to participate in enrichment planting trials on their lands
2. Livelihood improvements for Amazigh villages, households and residents achieved	2.1 Annual distribution of commercially valuable plants – an average of 10 useful trees (e.g. almond, oak, ash as well as carob, olive, walnut and others) and 100 medicinal and aromatic herbs (e.g cultivated thyme, mint, sage) – to 400 households in 5 Amazigh villages, compared with no distribution at present 2.2 Medicinal and aromatic plants (e.g. thyme, mint, etc) and produce of useful trees (e.g. almond, carob, etc.) are of suitable commercial quality, as tested through participatory processes with farmers and commercial buyers and laboratory-based phytochemical analysis, at end of year 1 and year 2. 2.3 Improved irrigation of 50 hectares of arable land benefitting a total of 5 Amazigh villages, 400 households and 2500 residents, on plots currently with insufficient water for cultivation, by year 2 2.4 Increase of 20% in annual income derived from sale of commercialized medicinal and aromatic plants from the baseline of 1000 – 2000 Dhs (£75 - £150) annually per household, by year three 2.5 Reduction, in children of 0 -15 years, by 75% in incidence of intestinal parasites (currently found in 30% of this age group), goitre (20% of the age group) and dermatological problems (3%) by year 3 2.6 Access to secondary school for 75 girls from 5 communities through residency in boarding houses over three years, compared to no girls in secondary school from these families 2.7 Annual supplements of locally-produced food provided to approximately 25 highly vulnerable households in February ‘famine period’ compared to no food relief presently	2.1 Plant distribution records 2.2 Community research protocols; reports on plant quality and commercial viability, including recommendations for adjustments to improve quality 2.3 Water engineering reports detailing irrigation infrastructure and m3 of water provided 2.4 Household surveys on income derived from sale of plant products 2.5 Reports from annual public health caravans, including sections from dermatologists, gastroenterologists and other specialists 2.6 Lists of boarding house residents with village of origin; student surveys 2.7 List of beneficiaries, and of contents of supplementary food packages	Sufficient and suitable useful plants can be grown in community nurseries or purchased at reasonable cost from commercial nurseries Drought conditions, limiting water availability and flow, do not prevail Irrigation leads to higher production of medicinal and aromatic plants; associations negotiate beneficial sale prices. Families willing to send children for medical visits and their girls to secondary school Most vulnerable families easily identified
3. Capacity-building for Amazigh associations,	3.1 Twelve leaders (50% women) of 3 community associations participate in 3 training courses on economical use of water, plant product marketing and new Moroccan laws on wild species	3.1 Training course reports, including participant list and evaluation	Association leaders, community members and students available to participate in training events

Project summary	Measurable Indicators	Means of verification	Important Assumptions
community members, community researchers and institutional representatives delivered	conservation and commercialization by year 3 3.2 Two hundred community members (40% women) participate in 12 workshops on water harvesting, sustainable harvest and adding value to plant resources by year 3 3.3 Ten community researchers (6 men/4 women) receive continuous on-the-job training over 3 years 3.4 Seventy-five girls in secondary school boarding houses participate in 2 workshops on transformation and adding value to plant products, every year 3.5 Twenty-five representatives of institutions working on biodiversity and livelihoods in Atlas Mountains throughout North Africa participate in a Community Exchange on the topic of wild plant species conservation, community seed banks and nurseries in year 2	3.2 Workshop reports, including participant list and evaluation 3.3 Community researcher work records; interviews and photo essays 3.4 Workshop videos; reports, including participant list and evaluation 3.5 Exchange video, photo essay and report including participant list and evaluation	Permission granted by participants to film and photographs events Sufficient co-funding obtained to allow candidates from other North African countries and areas of the Mediterranean to attend the Community Exchange
4. Case study on implementation of new national law #29-05 on the protection and commercialization of wild flora and fauna and its relationship to law #22-07 on protected areas submitted	4.1 Repatriation of 10 years of GDF data on local commercialization of fauna and flora to the Marrakech Delegation of Water and Forests 4.2 Action plan for participatory natural resource management strategy around Toubkal National Park under law #22-07 on protected areas developed with the Marrakech Delegation, by year 2 4.3 Permits under law #29-05 for seed collection, multiplication and sale for 12 wild plants species obtained, by year 1 4.4 Working paper on implementation of new national law #29-05 completed and disseminated to government agencies, academic institutions and non-governmental organizations, by year 3 4.5 Journal article on protection and marketing of wild flora submitted, by year 3	4.1. Fauna and flora market inventory database formatted for use by government agency 4.2 Written action plan, submitted in French 4.3 Copies of permit applications and approvals 4.4 PDF of working paper 4.5 Manuscript and confirmation email of article submission	Government authorities find database information relevant for implementation of law #29-05 Government authorities grant permission in a timely manner, as envisioned by law #29-05 Sufficient data available for publication by end of project Community permission granted to use local surveys and community research data in publication

Project summary	Measurable Indicators	Means of verification	Important Assumptions
5. Identification and characterization of additional plant genetic resources completed	5.1 Floristic and ethnobotanical surveys provide information on an additional 50 species of useful plants by year 2 5.2 Conservation assessments of 50 additional useful plants completed by year 3 5.3 Initial analyses of market potential prepared for at least 20 species by year 3 5.4 Seed collection, cultivation and distribution to community members, on a small experimental scale, of at least 10 additional species of high potential, by year 3 5.5 Popular manual, in Arabic and French, of the household basket of more than 50 useful plants that can improve local livelihoods and wellbeing, disseminated in High Atlas communities by year 3 5.6 Journal article on cultural keystone species of the High Atlas	5.1 Databases of floristic and ethnobotanical surveys; useful plant photos 5.2 Conservation assessments published and uploaded to IUCN Red List of Threatened Species 5.3 Report on market potential analysis 5.4 Collection and distribution records, photo essays 5.5 PDF of popular manual 6.6 Manuscript and confirmation email of article submission	Existence of at least 50 additional species about which community members share their knowledge Sufficient information available about market demand and commercial potential of selected species Collected seeds do not demonstrate excessive dormancy or recalcitrance Community permission granted to publish traditional knowledge about useful plants.

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)

Output 1. Conservation action plans for threatened useful plants implemented

1.1 Conservation assessments compiled and published, including GIS mapping of species and threats
1.2 Community seed banks established and seeds collected and stored
1.3 Market analyses and business plans elaborated
1.4 Cultivation of plants in community plant nurseries established
1.5 Quality of plants grown controlled through participatory processes and phytochemical analysis and necessary adjustments made
1.6 Enrichment planting implemented
1.7 Participatory ecological monitoring and matrix modelling completed
1.8 Peer-reviewed article on conservation actions submitted

Output 2. Livelihood improvements for Amazigh villages, households and residents achieved

2.1 Annual distribution of an average of 10 trees and 100 MAPs per household
2.2 Efficient irrigation systems for community nurseries and smallholder parcels established
2.3 Annual health caravans carried out
2.4 Annual food supplements distributed during ‘famine month’ to most vulnerable families
2.5 Annual selection of girls for entry to boarding houses completed

Output 3. Capacity-building for Amazigh associations, community members, community researchers and institutional representatives delivered

Project summary	Measurable Indicators	Means of verification	Important Assumptions
3.1 Training courses on economical use of water, plant product marketing and new Moroccan laws implemented 3.2 Community workshops on water harvesting, sustainable plant harvesting and adding value to plant resources implemented 3.3 Community researchers trained 3.4 Workshops for secondary school girls on transformation and adding value to plant products carried out 3.5 Community Exchange on wild plant species conservation, community seed banks and nurseries implemented **Output 4. Case study on implementation of new national law #29-05 and its relationship to law #22-07 submitted** 4.1 GDF database on commercialization of fauna and flora in Marrakech markets repatriated 4.2 Participatory action plan on natural resource management around Toubkal National Park elaborated 4.3 Permits for seed collection, multiplication and sale sought and obtained 4.4 Working paper on implementation of law 29-05 completed and disseminated 4.5 Peer-reviewed paper on protection and marketing of wild flora submitted **Output 5**. **Identification and characterization of additional plant genetic resources completed** 5.1 Floristic and ethnobotanical surveys conducted 5.2 Conservation assessments of 50 additional species completed 5.3 Initial market analyses of 20 species achieved 5.4 Seed of at least 10 species collected and cultivated; plants distributed 5.5 Popular manual completed and disseminated 5.6 Peer-reviewed paper on cultural keystone species submitted			

25. 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 (Q1 starting April 2017)

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 months	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1	**Conservation action plans**																	
1.1	Conservation assessments compiled and published	9	■	■				■										
1.2	Community seed banks established and seeds collected and stored	9			■				■				■					
1.3	Market analyses and business plans elaborated	18	■	■			■	■			■	■						
1.4	Cultivation of plants in community plant nurseries established	12		■	■			■	■									
1.5	Quality of plants grown controlled	6				■				■								
1.6	Enrichment planting implemented	15			■	■			■	■			■					
1.7	Participatory ecological monitoring	12	■				■				■	■						
1.8	Article on conservation drafted	3									■							
Output 2	**Livelihoods improvements**																	
2.1	Annual distribution of 10 trees and 100 MAPs per household	9				■				■				■				
2.2	Efficient irrigation systems	9		■				■			■							
2.3	Annual health caravans carried out	9			■				■				■					
2.4	Annual food supplements distributed	9				■				■				■				
2.5	Annual selection of girls for entry to boarding houses	9		■				■				■						
Output 3	**Capacity-building**																	
3.1	Training courses	9				■				■				■				
3.2	Community workshops	9	■				■				■							

	Activity	No. of months	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3.3	Community researchers trained	9 in all																
3.4	Workshops for secondary school girls	9																
3.5	Community exchange implemented	3																
Output 4	**Case study of law 29-05**																	
4.1	GDF database repatriated	6																
4.2	Participatory action plan	6																
4.3	Permits for seed collection and multiplication	3																
4.4	Working paper on implementation of law 29-05	3																
4.5	Paper on protection and marketing of wild flora	3																
Output 5	**Additional plant species**																	
5.1	Floristic and ethnobotanical surveys conducted	9																
5.2	Conservation assessments of 50 additional species completed	15																
5.3	Initial market analyses of 20 species	9																
5.4	Seed of at least 10 species collected and cultivated; plants distributed	9																
5.5	Popular manual completed and disseminated	9																
5.6	Paper on cultural keystone species submitted	3																

26. 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)

At project start, partners receive a project summary, including specific proposal logframe sections pertinent to their role, and an outline of the project management system. Online management and file-sharing systems (Googledocs, Asana, Dropbox) help the full team keep track of objectives, indicators and timelines. Quarterly online voice/video meetings are held with key project staff in Europe and Morocco. Project Manager Emily Caruso is responsible for the overall M&E. Project Coordinator and MBLA Director of Projects Hassan Rankou is responsible for day-to-day M&E amongst partners and beneficiaries.

Our previous Darwin project was stewarded by a Steering Committee composed of all project partners. Given time and distance constraints, this group met formally only 4 times. However, regular informal meetings – at local level with community members, local authorities and community researchers, and at a national level with individual partners – allowed us to monitor and evaluate project implementation continuously, adjusting our approach based on issues or concerns raised. Given the success of the latter method for continuous monitoring and adaptive management, we utilise and enhance it with simple tools to ensure a systematic approach. The Steering Committee, composed of all partners, meets once a year at a project workshop to oversee the project's achievement of outcomes.

An external evaluator visits once a year: in year **1**, a short informal participatory appraisal ensures successful kick-off; in mid-year **2**, a mid-term evaluation sheds light on areas for improvement and provides actionable recommendations; at the end of year **3**, a final project evaluation provides an overview of project strengths, challenges and lessons learned. This approach allows us to adaptively manage and deliver the project, responding to new opportunities and addressing any unexpected negative impacts or suggested modifications during the project lifecycle.

Cadi Ayyad University researchers and the Friends of the University Hospital Center assist with M&E of socioeconomic indicators using initial, midterm and final household surveys, medical assessments and participatory appraisals. The external evaluator and the steering committee assess progress on additional indicators such as the number of promising useful plants grown in community nurseries, *ex situ* seed collections, conservation assessments, ecological monitoring results, expansion of herbaria, characterization of fruit and nut trees varieties, plant product business plans and conservation action plans. We monitor the quality of plants grown under nursery and field conditions using participatory and lab-based approaches, adjusting the selection of varieties and species – and methods of cultivation, harvest and processing – as needed.

Monitoring and evaluation is supported by the creation of a conceptual model integrating all GDF and MBLA projects funded by the Darwin Initiative, MAVA Foundation, RAIN, UNDP, etc. The conceptual model will be developed in a participatory manner with all stakeholders during a dedicated workshop in 2017 that will establish a long-term monitoring and evaluation approach that will be part of the legacy of the Darwin project.

Number of days planned for M&E	28 days per year, spilt among community participatory assessment and external evaluator
Total project budget for M&E	£21,500 over three years in confirmed co-funding
Percentage of total project budget set aside for M&E	6.8%

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' document and considered the implications of payment points for cashflow purposes.

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

27. 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)

We explored budget needs in detail with all partners. Their needs are very modest, as they mostly require support for in-country fieldwork related to floristic and seed collections, medical caravans and field visits for other purposes. We have also allocated funds for supplies for the herbaria and *ex situ* wild species seed bank at Cadi Ayyad University to enable its full participation in the project, as it plays a key role in plant conservation work nationally, but is chronically underfunded. There is significant buy-in from government agencies, which provide in-kind support rather than requesting funds for activities, which all felt was a proper arrangement for this important part of the project. Our dedication to working primarily with Moroccan partners and staff is an important part of the capacity building and host-country support that is a hallmark of all GDF projects. All salaries and consultancies supported by Darwin are allocated to Moroccan nationals or residents except the GDF project director, and short-term consultants from the Conservatoire Botanique National Méditerranéen de Porquerolles (an ARCAD partner), who are also Moroccan nationals. As with previous GDF-led Darwin projects, we propose to spend the majority of funds in the host country, with the only additional external expenses being international travel to disseminate the results of the project in international venues. GDF keeps its overheads low (less 12.5%) because it raises non-restricted funds through it trading subsidiary, Diversity Excursions Ltd., and from other sources. We have leveraged significant match funds, and feel our assumptions of co-funding from other non-confirmed sources are valid.

28. 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)

We do not plan purchase of capital items, as irrigation infrastructure and others items are covered by co-funding from other grants.

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** ☐

We met with Anne Aichroth, Head of Political & Economic Team of the British Embassy in Rabat and with John Mitchell, head of the British Council in Morocco in February 2015 to discuss the Darwin Initiative in general and GDF's current and proposed projects in particular.

Yes (written advice)

We recontacted Anne Aichroth and Smita Rossetti, Deputy Head of Mission, British Embassy Rabat, immediately preceding submission to reconfirm her previous advice: "On security – there is no advice against travel to any part of the country, but it's worth taking a quick look at the latest Travel Advice https://www.gov.uk/foreign-travel-advice/morocco. I can't think of any sensitivities regarding publicising the project if it were successful, on the contrary, we'd welcome that opportunity. If you send the project proposal through, one of the team will take a look at it."

We have shared the final proposal with them.

CERTIFICATION

On behalf of the trustees of Global Diversity Foundation

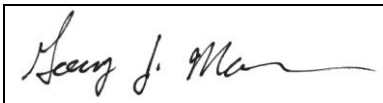
I apply for a grant of **£312,660** in respect of **all expenditure** to be incurred during the lifetime of this project based on the activities and dates specified in the above application.

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 most recent signed audited/independently verified accounts and annual reports

Name (block capitals)	Gary Martin
Position in the organisation	Director

Signed**  **Date:** 5 December 2016

Stage 2 Application – Checklist for submission

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

Once you have answered the questions above, please submit the application, not later than 2359 GMT on Monday 5 December 2016 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: Applicants for grant funding must agree to any disclosure or exchange of information supplied on the application form (including the content of a declaration or undertaking) which the Department considers necessary for the administration, evaluation, monitoring and publicising of the Darwin Initiative. Application form data will also be held by contractors dealing with Darwin Initiative monitoring and evaluation. It is the responsibility of applicants to ensure that personal data can be supplied to the Department for the uses described in this paragraph. A completed application form will be taken as an agreement by the applicant and the grant/award recipient also to the following:- putting certain details (ie name, contact details and location of project work) on the Darwin Initiative and Defra websites (details relating to financial awards will not be put on the websites if requested in writing by the grant/award recipient); using personal data for the Darwin Initiative postal circulation list; and sending data to Foreign and Commonwealth Office posts outside the United Kingdom, including posts outside the European Economic Area. Confidential information relating to the project or its results and any personal data may be released on request, including under the Environmental Information Regulations, the code of Practice on Access to Government Information and the Freedom of Information Act 2000.