Submit by Monday 3 December 2012

DARWIN INITIATIVE APPLICATION FOR GRANT FOR ROUND 19: STAGE 2

Please read the Guidance Notes 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.

ELIGIBILITY

1. Name and address of organisation (NB: Notification of results will be by post and email to the Project Leader)

Name:	**Address:**
Global Diversity Foundation	37 St. Margarets Street, Canterbury CT1 2TU, UK

2. Stage 1 reference and Project title

(max 10 words)
Medicinal root trade, plant conservation and local livelihoods in Morocco

3. Project dates, duration and total Darwin Initiative Grant requested, matched funding

Proposed start date: 1 April 2013 **Duration of project:** 36 months **End date:** 31 March 2016					
Darwin request	**2013/14** **£**	**2014/15** **£**	**2015/16** **£**	**2016/17** **£**	**Total** **£**
Proposed (confirmed and unconfirmed) matched funding as percentage of total Project cost: 33%					

4. Define the outcome of the project. This should be a repetition of Question 24, Outcome Statement.

(max 100 words)

Conservation assessment, sustainable harvesting, cultivation and protection of ten wild-crafted medicinal roots in two High Atlas Amazigh rural townships contributes to:

- viable income increases for medicinal plant collectors and supplementary livelihood benefits for other community members
- conservation of vulnerable plant species in protected areas, forest domains and *agdals* (community conserved areas) leading to effective management and governance of genetic, species and landscape diversity in Important Plant Areas representative of unique High Atlas Mediterranean vegetation types;
- nondirect benefits from Moroccan policy changes related to the Global Strategy for Plant Conservation;
- building of individual capacity and multi-institutional partnerships on conservation and sustainable livelihoods.

Figure 1. Medicinal plant harvesting in an *agdal*, an Amazigh community conserved area, in the High Atlas mountains (Photo: Abderrahim Ouarghidi).

5. Country(ies)

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

Country 1:	**Country 2:**
Morocco	N/A

6. Biodiversity Conventions

Which of the three conventions supported by the Darwin Initiative will your project be supporting? Note: projects supporting more than one convention will not achieve a higher scoring

Convention On Biological Diversity (CBD)	Yes
Convention on Migratory Species (CMS	No
Convention on International Trade in Endangered Species (CITES)	No

6b. Biodiversity Conventions

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

We will assist the Moroccan government as it implements the Global Strategy for Plant Conservation (GSPC), contributing to its revised National Biodiversity Strategy and Action Plan (NBSAP) and to achieving specific Aichi targets. Morocco's Department of Environment is keen to draw on the expertise of GDF, an institutional member of the Global Partnership for Plant Conservation, as it pursues GSPC targets. Our focus on medicinal roots harvested by Indigenous Amazigh collectors in the High Atlas mountains provides scalable field research and conservation action that will contribute in particular to Target 13, maintaining and increasing Indigenous and local knowledge, innovations and practices associated with plant resources to support customary use, sustainable livelihoods, local food security and health care; this target is closely linked to application of CBD article 8j. In addition, our Darwin project promises to deliver on Target 2, assessing the conservation status of plant species to guide conservation action; Target 7, conserving threatened plant species *in situ*; Target 9, conserving socio-economically valuable plant species, while respecting, preserving and maintaining associated

Indigenous and local knowledge; Target 11, ensuring that no species of wild flora is endangered by international trade; and Target 12, sourcing all wild-harvested plant-based products sustainably.
Is any liaison proposed with the CBD/CITES/CMS focal point in the host country? ☑ **Yes** ☐ **No** **if yes, please give details:** Three of the CBD National Focal Points noted on the CBD website (http://www.cbd.int/countries/nfp/?country=ma) are involved in our project. Prof. Mohamed Fennane, our main project partner, is the National Focal Point (NFP) for the CBD's Global Strategy for Plant Conservation for Morocco, which addresses the country's 4,500 plant taxa, of which 900 (20%) are endemic. Another project partner, Dr. Mostafa Madbouhi, is NFP for the Clearing-House Mechanism (one of the communication channels between the national and regional levels and the CBD Secretariat), and is thus responsible for promoting and facilitating activities in support of technical and scientific cooperation such as our proposed project. He is also the NFP for Access and Benefit Sharing and the Intergovernmental Committee for the Nagoya Protocol. He will represent Mme Latifa Lakfifi, CBD National Focal Point, in the project. Among his responsibilities in the Department of Environment is the reformulation of Morocco's NBSAP. A third *de facto* partner, Mohammed Ribi is the Protected Areas National Focal Point for Morocco.

7. Principals in project. Please identify and provide a one page CV for each of these named individuals. You may copy and paste this table if you need to provide details of more personnel or more than one project partner.

Details	**Project Leader**	**Project Partner 1 - Main**	**Project Partner 2**
Surname	Martin	Fennane	Ouhammou
Forename(s)	Gary J.	Mohamed	Ahmed
Post held	Director	Department Head	Associate professor and curator
Institution	GDF	Science Institute	Cadi Ayyad University
Department	**N/A**	National Herbarium, Deptartment of Botany and Plant Ecology	Regional Herbarium and Ecology & Environment Laboratory, Plant Ecology Team

Details	**Project Partner 3**	**Project Partner 4**
Surname	Ben-Meir	Madbouhi
Forename(s)	Yossef	Mostafa
Post held	Director	Head of Natural Sites
Institution	High Atlas Foundation	Ministry of Water and the Environment
Department	N/A	Environment Department

At the time of the submission of this proposal, we were still in the process of obtaining official approval (which can take some time for government institutions in Morocco) for including the following partner(s); the colleagues mentioned have agreed to participate as individuals in the steering committee for the project:

Details	Proposed Project Partner 5	Proposed Project Partner 6
Surname	Chafai	Ribi
Forename	Ali	Mohamed
Post held	National Coordinator, PAM project	Head, Division of Parks and Natural Reserves
Institution	UNDP	High Commission of Water and Forests
Department	Centre de Recherche Forestière	Directorate of the Nature Protection and the Fight against Desertification

8. Has your organisation received funding under the Darwin Initiative before? If so, please provide details of the most recent (up to 6 examples).

Reference No	Project Leader	Title
EIDPR071	Gary Martin	Ethnobiology, conservation and livelihood strategies in the Central Kalahari, Botswana
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

Sections 9a, b and c not relevant for the Global Diversity Foundation

10. 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 engage with the project): (max 200 words)**
Global Diversity Foundation www.global-diversity.org	Global Diversity Foundation works to promote and sustain cultural, biological and agricultural diversity around the world through the development and use of applied research, training and social action. Since 2002, through long-term social research and practical activities, GDF has developed a sound regional programme in Morocco. Relevant previous GDF-led activities in the region include livelihoods and education support for rural townships in the High Atlas and implementation of a project entitled *Threatened species in wildlife trade: Identifying rare and endangered species commercialized in the markets of southern Morocco,* from which the concept for the present project emerged. GDF will ensure overall coordination of the project. Ethnobiologist and project leader Gary Martin, a resident of Marrakech since 1996, has a decade of experience in managing successful Darwin Initiative and other projects as Director of GDF, and in working closely with communities, research institutes and government agencies on conservation and development issues in southern Morocco. Project manager Emily Caruso, GDF's Regional Programs Coordinator, brings anthropological expertise and fluency in French to the project. Biologist Mohamed El Haouzi has coordinated all GDF projects and field activities in Morocco since 2003, developing strong working relationships with the institutions and townships involved in this project.

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
Université Mohammed V-Agdal, Rabat Institut Scientifique (Mohammed V-Agdal Rabat University Science Institute) Institut Scientifique: http://www.israbat.ac.ma/spip.php?article100 Department for Botany and Plant Ecology: http://www.israbat.ac.ma/spip.php?rubrique40	The Institut Scientifique of Rabat carries out basic research in the natural sciences, focusing in particular on flora, fauna and soil. It is responsible for creating a systematic register of Morocco's natural resources, developing the Natural History Museum collections, constituting a scientific library and maintaining research laboratories, observatories, buildings and stations. The IS's Department for Botany and Plant Ecology (DBPE) is responsible for the internationally-recognised National Herbarium and hosts the dynamic "Moroccan Flora" research team, led by Dr. Mohamed Fennane, a long-term collaborator of GDF in Morocco. He leads the production of the 3-volume Practical Flora of Morocco – which documents the country's 4,500 plant taxa of which 900 (20%) are endemic - and has published widely about the threatened flora of Morocco. He is the National Focal Point for the GSPC and heads up the Moroccan committee on Important Plant Areas. Dr. Fennane and Dr Mohamed Ibn Tattou (an eminent Moroccan flora specialist) – with the support of Dr. Jalal El Oualidi, DBPE director, and Dr. Mohamed Sghir Taleb, a specialist in the flora of the Atlas mountains – will contribute to floristic surveys in the study region, identification of specimens, and assessment of the conservation status of the target plants.

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)**
Regional Herbarium and Ecology & Environment Laboratory, Cadi Ayyad University www.ucam.ac.ma (general university website) http://sweetgum.nybg.org/ih/herbarium.php?irn=165036 (for the herbarium)	The Regional Herbarium (MARK) of Marrakech's Cadi Ayyad University, working in collaboration with national and international herbaria and botanic gardens, houses an important collection of over 15,000 plants from the Marrakech, Western High Atlas and southern Morocco regions. Prof. Ahmed Ouhammou, the director of MARK and a member of the Plant Ecology Team of Cadi Ayyad University, is a long-term GDF collaborator. He not only curates the voucher specimens, but is also responsible for awareness raising, education and research on regional flora. Prof. Ouhammou and his team will contribute to the ecological monitoring of targeted plant populations as well as floristic surveys in cultivated terraces, community conserved areas, forest domains and protected areas. Their input will be valuable for the participatory development of community-based ecological monitoring of medicinal species that have been identified as vulnerable in the conservation assessments. The project will focus specifically on building the capacities of students from the University Herbarium Club, one of whom comes from the Azilal region, a target area for this project. Student projects will address various research of interest, including the testing of which medicinal root species are most easily brought into cultivation (e.g. *Anacyclus pyrethrum* is already extensively cultivated in the Himalayas).
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)
High Atlas Foundation http://www.highatlasfoundation.org/	High Atlas Foundation (HAF) establishes development projects in Morocco that local communities design, manage, monitor and evaluate in partnership with government and non-government agencies. Based on past collaboration, Gary Martin asked HAF's Director Yossef Ben-Meir to assist in developing the project, enabling us to address Darwin Expert Committee recommendations that we strengthen our approach to plant conservation "through a programme of on-farm cultivation" and suggestions by the Darwin Initiative to partner with an organisation that has complementary skills and expertise to achieve ODA compliance. HAF will create fruit tree and medicinal plant nurseries in the target rural townships that enable terrace cultivation and enrichment planting of selected medicinal roots, providing a direct benefit for the livelihoods of rural families. Its expertise is conducting community participatory planning that generates socio-economic and environmental data to assist community decision-making throughout the project cycle, allowing a comprehensive assessment of livelihood impacts. Based on its experience in Morocco since 2000, HAF has obtained permission from local and national authorities, arranged for land to be dedicated to the plant nurseries and provided co-funding. Its record of having planted nearly 500,000 fruit trees confirms its ability to distribute the 40,000 saplings envisaged in this project.
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)
Department of Environment, Ministry of Energy, Mines, Water and Environment http://www.minenv.gov.ma/	Morocco's Department of Environment (DE) is one of the main state agencies responsible for implementing national policy on the environment and sustainable development. It was primarily responsible for the drafting of the 2004 National Biodiversity Strategy and Action Plan (NBSAP), and it is currently setting priorities according to the CBD's Aichi Targets and Objectives. Mostafa Madbouhi is our primary DE partner for this project. He works closely with the CBD's National Focal Point (NFP) Mme Latifa Lakfifi, is the Clearing House Mechanism NFP, and regularly attends CBD COPs as an official member of the Morocco delegation. A botanist and animal ecologist by training, Mostafa is committed to integrating the Global Strategy for Plant Conservation in the NBSAP and governmental priorities. He is leading the DE's initiative to create a National Biodiversity Information System that will provide online access to biodiversity records. His expertise and high degree of involvement in governmental policy will facilitate our project's policy-related objectives. He is also well acquainted with the Amazigh specialists on intellectual property and indigenous peoples' rights who will contribute to our ethics approach (section 17), ensuring goodwill in establishing high ethical standards from the outset.

Have you included a Letter of Support from this institution?	Yes

11. Have you provided CVs for the senior team including the Project Leader	Yes

At the time of the submission of this proposal, we were still in the process of obtaining official approval (which can take some time for government institutions in Morocco) for including the following partner(s); they will be represented in the steering committee for the project, acting as *de facto* partners. We have a reasonable probability of obtaining approval to add them as full partners, and supplying CVs and letters of support before the project begins:

Partner Name and website where available: Division of Parks and Natural Reserves High Commission of Water and Forests http://www.eauxetforets.gov.ma/fr/index.aspx	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)** The High Commission of Water and Forests (HCWF) is responsible for establishing and implementing national policy related to the conservation, sustainable management and ecological function of forests, grasslands, waters and protected areas. The HCWF is a key project partner given our focus of lands and resources held within protected areas, forest domains and *agdals* (community conserved areas), because of its support for shifts in national policy on plant conservation and protected areas. The HCFW partnership with the UNDP/GEF for an ambitious three-year project on Medicinal and Aromatic Plants begun in June 2012 (see section 15b) opens excellent opportunities for collaboration on achieving direct and non-direct benefits. The scale of these efforts is impressive: the UNDP program, for example, addresses the harvest of *Anacyclus pyrethrum* on 38,000 hectares of land in the Middle Atlas mountains; HCWF calculates that medicinal plant trade provides 500,000 days of work annually; and researchers estimate thousands of *agdals* in Morocco, many of them sites of medicinal plant harvest. The HCFW is represented in the project through its relationship with the High Atlas Foundation, building tree and plant nurseries to benefit the communities that neighbour Morocco's national parks. Mohamed Ribi will represent HCWF on the steering committee.
Have you included a Letter of Support from this institution?	**No**

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
UNDP/GEF Medicinal and Aromatic Plants Programme: *Integrating biodiversity in the value chains of medicinal and aromatic plants in Morocco* http://www.eauxetforets.gov.ma/fr/contenu.aspx?detail=yes&Rubrique=9&id=1219 Principle partner: Moroccan High Commission of Water and Forests http://www.eauxetforets.gov.ma/fr/index.aspx	A 3-year partnership between UNDP, GEF and the Moroccan High Commission of Water and Forests (HCWF) launched in June 2012, this programme aims to ensure sustainable use and value addition of medicinal and aromatic plants through sustainable resource use, conservation and capacity-building. The HCWF, with a significant in-kind contribution, will direct and implement the programme, while UNDP will carry out monitoring and evaluation. The programme innovates national-level processes such as FairWild® certification, setting standards for sustainable harvest and the implementation of a national Medicinal and Aromatic Plant Strategy with various stakeholders. Our community-based and multidisciplinary research approaches will complement the MAP programme, which focuses on broader programmatic, policy and certification processes, creating a unique and advantageous synergy between both. We will collaborate with Ali Chafai Elalaoui, the overall programme coordinator, and Myriem Ouchen Noussairi, in charge of programme quality, monitoring and evaluation, on community exchanges, management plans, and dissemination (see section 15b). We are particularly interested in working jointly on Mount Atlas daisy (*Anacyclus pyrethrum*) as the MAP programme is working on its sustainable harvest in 35,000 ha of communally-held lands and 3000 ha of forest domain in the Timahdit region of the Middle Atlas.

TECHNICAL EXCELLENCE

12. Problem the project is trying to address

Please describe the problem your project is trying to address. For example, what biodiversity and development challenges will the project address? Why are they relevant, for whom? How did you identify these problems?

(Max 200 words)

We address threats to the sustainable harvest of vulnerable plant resources in unique biodiverse Moroccan Mediterranean ecosystems. This is essential in maintaining the ecological integrity of Important Plants Areas (IPAs), ensuring the subsistence of millions of herbal remedy users, and sustaining commercial trade that contributes to the livelihoods of thousands of collectors, vendors and traditional practitioners. Our previous ethnobotanical research in southern Morocco, which identified more than 300 species of commercialized medicinal plants, led us to focus on medicinal roots, particularly vulnerable to unsustainable harvesting yet in high demand in domestic and international trade. We enhanced our understanding through interactions with colleagues from academic, government and non-governmental institutions, and through participatory research with rural collectors and urban herbalists.

This project also addresses poverty alleviation in Morocco. The 12th largest exporter of medicinal and aromatic plants (MAPs) in the world, Morocco faces the challenge of conserving biodiversity while encouraging rural peoples to benefit economically from wild-crafting and value-adding activities. According to the UNDP, the annual national income is nearly $25 million from cultivated MAPs and $37 million from wild-crafted species. Morocco is keen to expand its share of a $15 billion global market while mainstreaming biodiversity conservation throughout the value chain.

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 – repeat from Stage 1 with changes highlighted)

Following the advice of Darwin reviewers, we have refined the scope of our project to a tighter focus on selected wild-crafted medicinal roots intensively harvested in two rural townships of the High Atlas mountains and sold in the markets of Marrakech. Through participatory ecological and social research with collectors and vendors, we explore indicators and drivers of biodiversity loss such as economic transformations, habitat degradation and over-exploitation. Abderrahim Ouarghidi, a PhD researcher fluent in Amazigh, Arabic, English and French, will be responsible for fieldwork and interactive consensus-building in the townships. Drawing on skills in participatory ecological and social research acquired during his long association with GDF and HAF, he will enhance our understanding of the harvesting, trade and potential for cultivation of wild-crafted medicinal plants. He will continue the community-based monitoring of *Anacyclus pyrethrum* launched during his doctoral research – including assessment of plant density in ecological transects – and expand it to include the other species of concern. Mohamed El Haouzi will continue our participatory data collection with herbalists in the markets of Marrakech, and will support the High Atlas Foundation as it establishes community nurseries. In collaboration with Abderrahim Ouarghidi, Prof. Ouhammou's team will establish resilient community-based monitoring systems for the target plant species. Prof Mohammed Fennane of the Institut Scientifique in Rabat will provide expertise on the identification and conservation assessment of wild-crafted medicinal plants. Hassan Rankou, an Anglo-Moroccan IUCN Red List Authority Officer at the Royal Botanic Gardens, Kew and doctoral student, supervised by Dr Stephen Jury of the University of Reading School of Biological Sciences, will be responsible for the assessment of the conservation status of medicinal plants, following IUCN guidelines. As part of his evaluation, he will coordinate a Conservation and Management Plan (CAMP) workshop with Abderrahim Ouarghidi to bring together experts, including collectors, vendors, herbalists, representatives of academic institutions, cooperatives, the private sector, and government officials to consolidate new knowledge on local assessments of threat, resource availability and market chains of the selected medicinal roots. During the CAMP workshop, a network will be strengthened to continue data analysis and dissemination. We will support practical efforts, such as promoting sustainable harvesting, community-based cultivation, ecological monitoring of plant populations, added value measures and certification, to address threats to specific medicinal plants and important plant areas. Dr. Yossef Ben-Meir of HAF will lead his team in the creation of medicinal root and fruit tree nurseries in the two field sites. The community members involved in these nurseries will participate in cross-visits to learn from other community enterprises (such as *Anacyclus pyrethrum* harvesters in the Timahdit area of the Middle Atlas mountains) during which they will observe cultivation, processing and packaging processes. Mostafa Madbouhi will integrate project lessons and results in Moroccan policy processes, including embedding the GSPC in the NBSAP. Gary Martin and Mohamed Fennane will ensure the overall project coordination, including co-chairing a steering committee that includes all project partners listed in section 7.

Figure 2. *Anacyclus pyrethrum* harvesting in the Azilal region (Photos: Abderrahim Ouarghidi).

(As suggested by reviewers, the following elements of the original methodology have been removed to create a more focused proposal – and are not included in the 500 word limit):

~~As our field research and conservation assessments reveal herbal remedies of particular concern, Dr Yahia Cherrah, Director of the Laboratory of Pharmacology and Toxicology of the Faculty of Medicine and Pharmacy of the Mohamed V University in Rabat will begin an assessment of the quality and purity of selected wild-crafted medicinal plants in trade. Our field research team will ask vendors to assess the quality of herbal remedies, then Dr Cherrah's laboratory will analyse samples using chromatography and other low-cost and widely used assays. Prof Monique Simmonds, Head of Sustainable Uses of Plants Group of the Royal Botanic Gardens, Kew will provide expertise on assessing the quality of herbal remedies during capacity-building workshops in Rabat with the staff of Dr Cherrah's laboratory. Latifa Douch, an Amizigh lawyer, and Mohamed Handaine, an historian – both active in IPACC – will conduct a series of consultations and workshops on access and benefit sharing related to plant genetic resources in Morocco, especially in the ethnic Amazigh areas where many medicinal plants are harvested and traded. They will guide the formulation of processes of negotiating free, prior and informed consent with all stakeholders, and the development of biocultural protocols and community resource management plans with other participants in the project.)~~

14. Outcome

Detail what the expected outcomes of this work will be. The outcome should identify what will change and who will benefit. The outcome should refer to how the project will contribute to reducing poverty while contributing to sustainable development and management of biodiversity and its products. A summary statement of this outcome should be provided in question 4 and 24.

(Max 250 words)

The short-term outcome is conservation assessment, cultivation sustainable harvesting, and protection of ten economically and ecologically critical wild-crafted medicinal roots in two Amazigh rural townships of the High Atlas mountains. This leads to viable income increases for over 200 households of medicinal plant collectors and supplementary livelihood benefits for another 800 households. We set in motion a process, potentially scalable at a national level in collaboration with our partners, that promotes Indigenous knowledge, innovations and practices associated with plant resources to support customary use, sustainable livelihoods, local food security and health systems. The project contributes to the conservation of vulnerable plant species *in situ*, in government protected areas, forest domain and community conserved areas called *agdals*, leading to protection and effective management of a broad range of genetic, species and landscape diversity in Important Plant Areas representative of unique High Atlas

vegetation types. We engage in *ex situ* cultivation of medicinal roots in community nurseries, making selected species available for local recovery and restoration programmes. The project provides nondirect benefits for Morocco by supporting national policy changes – led by Moroccan government agencies – aimed at mainstreaming biodiversity values in medicinal and aromatic plant commercialization, certifying herbal remedies and integrating the GSPC in the NBSAP. We ensure the legacy of our approach by building the capacity and facilities of diverse stakeholders working on plant conservation and sustainable livelihoods, and establishing a multi-institutional partnership that continues to work on the implementation of the GSPC in Morocco.

15a. Is this a new initiative or a development of existing work (funded through any source)? Please give details (Max 200 words):

We build on fieldwork begun in 2003 with herbalists of the Marrakech souks and collectors in the High Atlas. It draws on applied research and participatory community development experience of Abderrahim Ouarghidi, Cadi Ayyad University doctoral candidate, GDF collaborator since 2003 and HAF's program and training coordinator since 2008.

This motivated us to work with Amazigh (Berber) of the High Atlas – an economically and socially marginalized population of 8 million indigenous people – and choose two strategically located rural townships: Ait M'hamed rural *commune* in Azilal province and Asni rural *commune* in El Haouz Province. These share four desired characteristics: (1) home to numerous active medicinal plant collectors; (2) near communally-managed *agdals* (community conserved areas), forest domains and protected areas (Toubkal and Western High Atlas National Parks); (3) within the hinterland that supplies Marrakech herbal markets with medicinal roots; and (4) in locations where HAF establishes community nurseries.

Previous research allowed us to select the vulnerable plant species that show potential for sustainable harvesting and cultivation: *Ammoides pusilla*; *Anacyclus pyrethrum* var. *pyrethrum*; *Aristolochia paucinervis*; *Bunium bulbocastanum*; *Carlina gummifera*; *Corrigiola telephiifolia* and *C. litoralis*; *Ferula communis*; *Mandragora autumnalis*; *Silene vulgaris* and *Valeriana tuberosa*.

Figure 3. Study areas and their proximity to the herbal markets of Marrakech, Morocco.

15b. 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, and explaining how your work will be additional to this work and what attempts have been/will be made to co-operate with and learn lessons from such work for mutual benefits.

Because Morocco is committed to improving local livelihoods through sustainable medicinal and aromatic plant harvesting, there are a number of opportunities to co-operate with individuals and organisations involved in similar work. Primary among these is a program – funded by a UNDP GEF medium-sized grant – called "Mainstreaming biodiversity into value chains for Mediterranean medicinal and aromatic plants" that is being implemented from 2012 to 2015. Our respective programs are highly complementary. The GEF-funded effort innovates national-level processes such as FairWild® certification, setting standards for sustainable harvest and the implementation of a national Medicinal and Aromatic Plant Strategy with various stakeholders. The program also engages in practical actions with MAP harvesters in the Middle Atlas, High Atlas, Rif mountains and Eastern Morocco. Our project complements this focus by integrating Indigenous knowledge and practices – as well as community-based monitoring of plant populations – in conservation assessments and sustainable harvesting. Our criteria for selection of target medicinal plant species is similar, combining ecological factors such as endemism, vulnerability to overharvesting, and current intensity of offtake; economic factors such as market demand, price and level of export; and social factors, particularly contribution to household income in the target areas. We share a focus on *Anacyclus pyrethrum*, which is highly exploited for its valuable and heavily exported medicinal root. We are interacting with Ali Chafai Elalaoui, program coordinator, and Myriem Ouchen Noussairi, in charge of program quality, monitoring and evaluation, to explore the following areas of collaboration: (1) exchanges between medicinal root harvesters of various regions; (2) elaboration of management plans for medicinal plant collection sites; (3) creation of small community enterprises for the transformation of medicinal and aromatic plants; and (4) dissemination of best practices for the sustainable harvesting of medicinal roots.

During the course of the project, we will also maintain contact with colleagues from the Moroccan National Institute of Medicinal and Aromatic Plants (INPMA: L'Institut National des Plantes Médicinales et Aromatiques) and the IUCN Centre for Mediterranean Cooperation – based in Malaga, Spain – which supports efforts to understand the links between Mediterranean biodiversity & livelihoods, and convened an expert meeting on this subject from 22-23 November, 2012 as part of its ongoing programme. As we were writing this proposal, Marcos Valderrabano of this Centre – who is developing a Darwin Stage 2 proposal on "Pastoralism in Important Plant Areas" – contacted us to explore possible collaboration between our projects. If both projects proceed, we will compare our geographical and thematic areas, and look for common ground.

15c. Are you applying for funding relating to the proposed project from other sources? ☑ **Yes** ☐ **No**

If yes, please give brief details including when you expect to hear the result. Please ensure you include the figures requested in the spreadsheet as Unconfirmed funding**.**

Global Diversity Foundation has been successful in securing co-financing for three Darwin projects and two Darwin post-projects approved for funding from 2004 – 2012. We will follow the same strategy for this project: providing matching funding from GDF non-restricted funds (salary of its Director and related costs), obtaining in-kind support from project partners (e.g. staff time, land use arrangements, travel and per diem), and applying for support for direct costs from foundations. As detailed in section 23, we are expecting to leverage funds from the MAVA Foundation, Critical Ecosystem Partnership Fund and UNDP Small Grants Program during the course of the project. In addition, we are exploring other leads such as the French Sud Experts Plantes programme (which is anticipating a second phase of operations) and a proposed Marie Curie Initial Training Network called "MedPlant: Exploring diversity of medicinal plants" in which GDF is an Associate Partner (proposal submitted 22 November 2012). As a UK charitable organisation and a US registered non-profit, we will seek individual donations to support community development aspects of the project, such as the plant nurseries.

16. Value for money

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

(Max 250 words)

Our measures to ensure the project provides good value for money include:

(1) In partnership with HAF, we invest in infrastructure – the community plant nurseries – that continue to be a permanent means of production for already marketed goods. This approach avoids subsidies for the production of goods, and the need to find new markets for new goods.

(2) We benefit a relatively large group of people by increasing the incomes of 200 medicinal plant collectors and providing supplementary benefits for over 800 households through distribution of fruit and nut saplings and orris root (*Iris germanica* L., widely used as a perfume fixative). Responding to ODA criteria, we note that the Indigenous Amazigh project beneficiaries are dispersed and live in a challenging agricultural landscape presenting an element of risk, justifying that this project is limited to two rural townships.

(3) Our approach is replicable at other field sites and scalable to a national level, which means a modest investment could have a relatively large impact, leading to direct benefits for a large population. Our ability to engage strategic partners will result in significant national policy ramifications, providing important nondirect benefits for Morocco.

(4) We have opted for community-based monitoring, proven to be a cost effective and resilient way of building on baseline surveys.

(5) We pursue extensive leveraging of the project by applying for supplementary grants and linking to other initiatives, such as a GEF medium-sized project running initially from 2012 – 2015, that provide ample opportunities for in-kind support.

17. Ethics

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

(Max 300 words)

The International Society for Ethnobiology's Code of Ethics – a stringent set of principles for conduct in socio-ecological research – is the basic ethical standard for operation that GDF strives to exceed in all projects. We also fully adhere to the CBD's Tkarihwaié:ri Code of Ethical Conduct (COP 10 Decision X/42), which references the international binding and voluntary human rights instruments and research guidelines that collectively constitute the ethical obligations of the UK, Morocco and the institutions implementing the project. We will develop this aspect of our project with John Scott, Traditional Knowledge Programme Officer of the CBD Secretariat and his team in Montreal, Canada.

Seeking the Free, Prior and Informed Consent (FPIC) of communities involved is our first task, after which we continuously to apply international standards for community participation and consultation. A fully collaborative approach mainstreamed into all activities is a project cornerstone embraced by all local and national partners.

Given the project's focus on Indigenous knowledge and practice, special attention is given to intellectual property rights (IPR). Early in the project, we are organising an ethics workshop for institutional partners and participating communities, covering diverse aspects of IPR within the project and its engagements with relevant instruments, including the CBD, the UN Declaration of the Rights of Indigenous Peoples, ILO Convention 169 and TRIPS. We will collaborate with the Indigenous Peoples of Africa Coordinating Committee (IPACC) to lead the workshop – featuring Amazigh indigenous and intellectual property rights lawyer Latifa Douch and historian Mohamed Handaine – and provide follow-up support by guiding the process of FPIC and the development of Biocultural Community Protocols and community resource management plans.

While health and safety risks are expected to be minimal, all measures will be taken to ensure that individuals involved in the project are both fully insured and protected from harm.

18. Legacy

Please describe what you expect will change as a result of this project with regards to biodiversity conservation/sustainable use and poverty alleviation. For example, what will be the long term benefits (particularly for biodiversity and poor people) of the project in the host country or region and have you identified any potential problems to achieving these benefits?

(Max 300 words)

Legacy is ensured because the project provides a grounded and expandable contribution to conservation and development issues critically important to local people and the government in Morocco: the threats to medicinal plant sustainability and practical ways of improving local livelihoods derived from herbal trade. We build a unique partnership of skilled individuals committed to plant conservation, ecological integrity of Important Plant Areas, and robust implementation of MAP national strategy and the NBSAP. Representing two academic institutions, two non-governmental organizations and one government agency (with another *de facto* government partner), we engage in actions that have deep host country buy-in and will produce measurable direct and non-direct benefits well beyond the Darwin project. The partnership's creation – to be further consolidated by launching a Moroccan non-profit organisation focused on botanical resources and traditional ethnobotanical knowledge and practices – responds to GSPC Target 16, establishing and strengthening institutions, networks and partnerships for plant conservation nationally.

The proposed community plant nurseries are an effective, sustainable and highly scalable way of addressing GSPC Target 8, which seeks to ensure that at least 75 per cent of threatened plant species are in *ex situ* collections, preferably in the country of origin, and at least 20 per cent are available for recovery and restoration programmes, such as the enrichment planting scheme we propose. Nurseries are proven to alleviate poverty by giving communities a means of expanding their production of familiar goods (from medicinal roots to fruit and nuts) that have an expanding market in Morocco and internationally.

The largest challenge evoked by partners is a lack of support for students and young professionals interested in plant conservation. The project's capacity building focus addresses this concern and contributes to GSPC Target 15, increasing the number of trained people working with appropriate facilities to achieve the targets of the Strategy.

19. Pathway to poverty alleviation

Please describe how your project will benefit poor people living in low-income countries. Projects are required to show how positive impact on poverty alleviation will be generated from your project in low-income countries. All projects funded under the Darwin Initiative in Round 19 must be compliant with the Overseas Development Assistance criteria as set out by the OECD. The outcomes of your research must at the very least provide insight into issues of importance in achieving poverty alleviation.

(Max 300 words)

The *Moroccan High Commission for the Morocco Plan 2004* and other sources give a variable poverty level in the target rural townships. Baseline surveys at the project onset will update these figures.

Rural Township	Number of Households	Average annual income per household	Poverty (% of population in 2004)	Estimated number of plant collectors
Ait M'hamed	3190	£625	44.7%	120 - 150
Asni	1230	£1250	15.5%	40-50

Local partners confirm that medicinal plant wildcrafting is a local strategy for alleviating chronic household poverty. Current data indicate the poorest and most vulnerable households in these rural townships, whose livelihoods depend on seasonal medicinal plant collection, make on average £300 per annual harvesting season (~£3/day, late May - early September).

To ensure sustainability and local ownership of the project, we build on proven income improvement strategies. By cultivating medicinal plants and promoting culturally and ecologically appropriate harvesting techniques, we envisage raising by 50% the annual income from medicinal root trade for the ~200 collectors' households. To ensure wider livelihood benefits, we propose an additional income generating activity that is well established, enthusiastically adopted in High Atlas communities and compatible with medicinal plant cultivation. We dedicate a part of the nurseries to production of fruit and nut saplings and orris rhizomes for distribution to approximately 800 households that have available land and labour. Given low yields in current agricultural activities, we provide the necessary support to establish orchards, improve yields, and enhance post-harvest processing with HAF. Given a continuously growing local demand, we expect that distribution of around 20 productive fruit trees per household will increase annual income between 10% and 20%, enhancing economic security for medicinal plant collecting households and others.

Figure 5. Agricultural terraces and flowering fruit trees in the High Atlas mountains (Photo: Abderrahim Ouarghidi).

20. 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)

Our specific goals are achievable within three years, but because broader impact will take significantly longer our project is designed to be readily scalable to a national level. Part of our exit strategy is to implement activities that provide added value to ongoing initiatives, ranging from the community nurseries of HAF (eager for the opportunity to launch medicinal plant cultivation) to the biodiversity values mainstreaming of HCWF (keen to integrate traditional harvesting and cultivation techniques in their dissemination of best practices for medicinal plant management).

In 2013, GDF will foster the creation of a Moroccan non-governmental organisation to build robust institutional capacity at different levels in Morocco to pursue the research, practical activities and training opportunities launched with this project. Led by Moroccan academics and young professionals dedicated to environmental issues and sustainable livelihoods, it will be eligible for funding from numerous sources, including the UNDP GEF Small Grant Program. We expect young professionals like Abderrahim Ouarghidi and Hassan Rankou to maintain their commitment to biodiversity conservation and community development in Morocco, and we are training young postgraduate students at various institutions to nurture a future generation of environmental leaders.

Figure 6. *Anacyclus pyrethrum* roots harvested in the High Atlas mountains (Photo: Abderrahim Ouarghidi).

HIGHLY DESIRABLE

21. 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 there 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)

Our dissemination plans respond to GSPC Target 14, which seeks to communicate the importance of conserving plant diversity. Recognising the contribution of Indigenous knowledge and practice to realising biodiversity's potential value, we raise awareness of *agdals* and other widespread forms of community resource governance and management. We integrate insights on Indigenous plant management techniques in the dissemination of best practices for the sustainable harvesting of medicinal roots by drawing on community adaptive management strategies such as temporal collecting prohibitions, allowing seed set before harvest, replanting small pieces of freshly harvested roots, and locally established sanctions for poaching on communal lands. Our program allows us to develop and share information, research outputs, and methods, enabling diverse stakeholders to participate in the implementation of the GSCP, as Target 3 suggests.

We co-sponsor an initial stakeholder workshop in Morocco with Suzanne Sharrock of Botanic Gardens Conservation International (BGCI), the Global Plant Conservation Partnership Secretariat, to build national capacity to use the GSPC toolkit. Through additional collaboration with Robert Höft, Environmental Affairs Officer of the CBD Secretariat, we will support government-initiated changes in plant conservation policy. We disseminate project results at international academic conferences and policy venues, including the 1st Mediterranean Symposium on MAPs in Cyprus, CBD COP 12 in South Korea, and International Society of Ethnobiology Congress in Bhutan.

By providing data from ecological and floristic surveys, we support the Environment Department's initiative to create a National Biodiversity Information System, which contributes *inter alia* to GSPC Target 1, creating an online Flora of all known plants. Conservation assessments of medicinal root species will be integrated in the IUCN Red List of Threatened Species, widely used by specialist groups and conservation biologists. We reach out to academics by publishing peer-reviewed articles that disseminate our research results, building on our previous publications (see GJ Martin's CV).

22. Importance of subject focus for this project

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.

We address four aspects of biodiversity conservation and community development that have received limited attention in the Darwin Initiative portfolio and conservation in general:

(1) Few Darwin projects have a specific focus on implementation of the Global Strategy for Plant Conservation in a country that has an explicit commitment to integrate the GSPC in its NBSAP, and has developed a National Strategy for Medicinal and Aromatic Plants.

(2) This project addresses a significant gap in our understanding of the sustainable harvesting of common property resources in communally-managed and governed areas such as *agdals*. These are a prime example of Indigenous Peoples' and Community Conserved Areas and Territories (ICCAs), a crucial form of natural resource governance requiring more case study research, which GDF is in an excellent position to provide as a founding institutional member of the ICCA Consortium (www.iccaforum.org).

(3) Our focus on medicinal plants is increasingly uncommon, as countries restrict collaborative research on highly contested biological resources until they implement access and benefit sharing protocols under the Nagoya Protocol. This project tackles this issue head-on by developing innovative, participatory mechanisms for protecting traditional knowledge and genetic resources.

(4) The Middle East and North Africa (MENA) region remains relatively neglected by conservation organizations, whose focus has tended to be on Sub-Saharan Africa and European countries in the Mediterranean biodiversity hotspot. This is especially paradoxical in the case of Morocco, which has a rich flora including many endemic species, and well-documented Important Plant Areas, most notably in the High Atlas.

23. Leverage

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: £XX in salary support for GDF's Director, who will dedicate 2 months a year to the project for 3 years; £1XX in additional overheads, and £XX in travel from our trading subsidiary Diversity Excursions Ltd and other sources.

HAF: in-kind support in obtaining land grant for the community nurseries and co-funding, value not calculated; there is also significant in-kind support from academic and government agencies.

BGCI will contribute £XX allocated by the CBD Secretariat for the GSCP toolkit workshop.

b) Unsecured

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

Date applied for	Donor organisation	Amount	Comments
15/12/2012	Critical Ecosystem Partnership Fund	£XX	Application to be submitted either by Hassan Rankou or Gary Martin
15/12/2012	MAVA Foundation	£XX will be requested	Application to be submitted by Gary Martin and Emily Caruso
Late 2013	UNDP Small Grant Programme	£XX	Back-up option: if MAVA Foundation or other co-funding proposals fail, GDF affiliate NGO in Morocco would apply for supplementary funds
During 2015	Individual donations		Fundraising campaign to raise matching funds for nurseries and plant distribution

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. Further detail is provided in Annex x of the guidance notes which you are encouraged to refer to. The information provided here will be transposed into a logframe should your project be successful in gaining funding from the Darwin Initiative. The use of the logframe is sometimes described in terms of the Logical Framework Approach, which is about applying clear, logical thought when seeking to tackle the complex and ever-changing challenges of poverty and need. In other words, it is about sensible planning.

Note from GJ Martin: Among other comments on the Stage 1 proposal, the Darwin Expert Committee noted: "the breadth is too wide and it may be that a greater impact could be achieved by focusing on assessing the conservation status / livelihoods rather than bringing in quality issues and chemical characterisation. It may also be that many species are excluded since the Nagoya Protocol focuses on genetic resources involving R&D".

Although the Darwin R19 Guidance notes request submission of “the logical framework submitted at Stage 1 with any amendments highlighted, and with the inclusion of a set of activities for each output” I include here a significantly reworked logical framework that reflects the important changes recommended by the Darwin Expert Committee, and includes a set of activities for the new outputs. Upon request, I can provide the Stage 1 logframe with the elements retained and eliminated highlighted.

Impact

The Impact is not intended to be achieved solely by the project. This is a higher-level situation that the project will contribute towards achieving. All Darwin projects are expected to contribute to poverty alleviation and sustainable use of biodiversity and its products.

(Max 100 words)

Drawing on Indigenous knowledge and practice, Moroccan medicinal plants are sustainably harvested and profitably cultivated, strengthening the ecological integrity of Important Plant Areas, subsistence practices of millions of rural and urban herbal remedy users, and commercial trade that improves livelihoods of thousands of collectors, vendors and traditional practitioners. Morocco incorporates the Global Strategy for Plant Conservation in its revised NBSAP and makes substantial progress on all five GSPC objectives, contributing to its efforts in achieving the Millennium Development Goals of halving poverty, improving health and enhancing environmental sustainability by 2015, and meeting Aichi Biodiversity Targets by 2020.

Outcome

There can only be one Outcome for the project. The Outcome should identify what will change, and who will benefit. The Outcome should refer to how the project will contribute to reducing poverty and contribute to the sustainable use/conservation of biodiversity and its products. This should be a summary statement derived from the answer given to question 14.

(Max 100 words)

Conservation assessment, sustainable harvesting, cultivation and protection of ten wild-crafted medicinal roots in two High Atlas Amazigh townships contributes to:

- viable income increases for medicinal plant collectors and supplementary livelihood benefits for other community members
- conservation of vulnerable plant species in protected areas, forest domains and *agdals* (community conserved areas) leading to effective management and governance of

genetic, species and landscape diversity in Important Plant Areas representative of unique High Atlas Mediterranean vegetation types;

- nondirect benefits from Moroccan policy changes related to the Global Strategy for Plant Conservation;
- building of individual capacity and multi-institutional partnerships on conservation and sustainable livelihoods.

Measuring outcomes - indicators

Provide detail of what you will measure to assess your progress towards achieving this outcome. You should also be able to state what the change you expect to achieve as a result of this project i.e. the difference between the existing state and the expected end state. You may require multiple indicators to measure the outcome – if you have more than 3 indicators please just insert a row(s).

Indicator 1	Assessment of the conservation status of ten wild-harvested medicinal roots includes perspectives of diverse stakeholders by year 2 leading to implementation of specific measures to reduce overexploitation by year 3.
Indicator 2	Marked decrease in population loss of target species in sampled transects in *agdals*, forest domain and protected areas accompanied by maintenance of overall floristic richness of Important Plant Areas and increased cultivation of medicinal plants by year 3
Indicator 3	In two participating townships, annual income from trade in roots increase by 50% for 200 households of medicinal plant collectors, and annual income increases by 10% - 20% for another 800 households, reducing poverty levels by year 3.
Indicator 4	GSPC embedded in the NBSAP by year 2 and progress in achieving the general objectives and specific targets of the GSPC by year 3.
Indicator 5	Creation of a multi-institutional partnership by year 1 creates increased dialogue among at least 25 representatives of academic institutions, government agencies and non-governmental organisations by year 3, resulting in consensus on conservation action.

Verifying outcomes

Identify the source material the Darwin Initiative (and you) can use to verify the indicators provided. These are generally recorded details such as publications, surveys, project notes, reports, tapes, videos etc.

Indicator 1	Written conservation assessments for 10 species prepared according to IUCN guidelines; community management plans that specify conservation measures for each species
Indicator 2	Results of ecological surveys, floristic inventories and community-based monitoring; nursery production records specifying number of plants produced and distributed; results from in-field cultivated plant sample surveys.
Indicator 3	Socio-economic surveys demonstrating income change and poverty reduction as compared to new and existing baseline studies.
Indicator 4	5th national CBD report (due in March 2014) and mid-term review of the GSPC in 2015, both including case studies and recommendations from the Darwin project.
Indicator 5	Reports from steering committee meetings and stakeholder workshops; roster of participants in all events.

Outcome risks and important assumptions

You will need to define the important assumptions, which are critical to the realisation of the *outcome and impact* of the project. It is important at this stage to ensure that these assumptions can be monitored since if these assumptions change, it may prevent you from achieving your expected outcome. If there are more than 3 assumptions please insert a row(s).

Assumption 1	Sufficient data available through scientific literature, field research and stakeholder consultation to complete conservation assessments and reach consensus on measures to reduce overexploitation.
Assumption 2	Academic institutions provide sufficient expertise, field research and student supervision to achieve ecological surveys and floristic inventories; communities motivated to engage in periodic monitoring.
Assumption 3	Governmental and communal authorities grant land and authorisation for nurseries, and permission provided for research, monitoring and evaluation.
Assumption 4	Households motivated to plant and tend seedlings and saplings, continue sustainable harvesting techniques and embrace new practices as necessary.
Assumption 5	Current level of national government commitment to implementation of GSPC and its integration in the NBSAP maintained throughout project.
Assumption 6	All stakeholders find common ground and purpose when establishing action partnership over the course of the project.

Outputs

Outputs are the specific, direct deliverables of the project. These will provide the conditions necessary to achieve the Outcome. The logic of the chain from Output to Outcome therefore needs to be clear. If you have more than 3 outputs insert a row(s). It is advised to have less than 6 outputs since this level of detail can be provided at the activity level.

Output 1	Understanding of change in abundance, distribution and harvest of 10 species of medicinal roots and in overall plant diversity of communal lands, forest domains and protected areas in two rural townships
Output 2	Participatory planning conducted in two townships, generating socio-economic and environmental data to assist community decision-making throughout the project cycle and delivering a comprehensive assessment of livelihood impacts by project end
Output 3	Two community plant nurseries established, leading to production of 40,000 individual seedlings and saplings, and their distribution to 1000 households engaged in terrace cultivation and enrichment planting.
Output 4	Policy guidelines developed based on international expertise and practical case studies to advise government agencies and other stakeholders responsible for implementation of the GSCP, NBSAP, National Strategy on MAPs and other instruments related to the environment and sustainable development.

Measuring outputs

Provide detail of what you will measure to assess your progress towards achieving these outputs. You should also be able to state what the change you expect to achieve as a result of this project i.e. the difference between the existing state and the expected end state. You may require multiple indicators to measure each output – if you have more than 3 indicators please just insert a row(s).

Output 1	
Indicator 1	Baseline studies of abundance, distribution and harvest of medicinal root species produced by yr 1 and reviewed by steering committee
Indicator 2	Overall plant diversity surveys of communal lands, forest domains and protected areas near two rural townships completed over two seasons by yr 2 and reviewed by steering committee
Indicator 3	Changes in abundance, distribution and harvest of medicinal roots and overall plant diversity documented by yr 3
Indicator 4	Conference on ethnobotany, plant diversity and ecology hosted by Herbarium Club at Cadi Ayyad University for students, researchers and other stakeholders in yr 3
Indicator 5	Paper on change in medicinal root harvesting and plant diversity under different governance scenarios submitted for peer review by yr 3

Output 2	
Indicator 1	Compilation of existing socio-economic and environmental assessments by middle of yr 1
Indicator 2	Baseline surveys conducted by end of yr 1 used to update existing data and explore trends
Indicator 3	Community evaluation of participatory planning conducted by middle of yr 2 reviewed by steering committee
Indicator 4	Working paper on change over time in socio-economic and environmental parameters submitted to Department of Environment and High Commission on Water and Forest by yr 3

Output 3	
Indicator 1	Two nurseries, with 180 m^2 greenhouses, fencing and irrigation installed by yr 1
Indicator 2	Production and distribution of a total of 20,000 plants per rural township by yr 3
Indicator 3	Overview of periodic supervisory field visits submitted at end of yr 1, 2 and 3; reviewed by steering committee
Indicator 4	Community exchanges organised among key participants from target rural townships and from the MAP Programme site in the Middle Atlas
Indicator 5	Income derived from medicinal root trade increased 50% to £450/yr for 200 collector HH; income for 800 HH increased on average by £125/yr (10%-20%) from cultivation and processing of fruits, nuts and orris roots by yr 3
Indicator 6	Summary analysis of survival rate of seedlings and saplings compiled by end yr 3

Output 4	
Indicator 1	Three stakeholder workshops conducted by end of yr 2
Indicator 2	Project results disseminated in four international academic and policy venues by end of yr 3
Indicator 3	Steering committee established by month 3 leading to formulation of a broader working group on plant conservation
Indicator 4	Case studies and expert opinions submitted to the Department of Environment, High Commission for Water and Forest and Institut scientifique for inclusion in revised NBSAP, MAP National Strategy and reviews of Important Plants Areas study and GSPC implementation in Morocco by yr 3

Verifying outputs

Identify the source material the Darwin Initiative (and you) can use to verify the indicators provided. These are generally recorded details such as publications, surveys, project notes, reports, tapes, videos etc.

Indicator 1	Analysed data sets and draft reports of ecological and floristic surveys; conference proceedings; draft manuscript for review
Indicator 2	Compiled assessments, surveys and evaluations; draft working paper
Indicator 3	Photo essay of nursery construction; project notes from supervisory visits, survey data of seedling and sapling survival rates; economic data on HH income improvement; video of community exchanges
Indicator 4	Case study working drafts; expert opinion submissions; final modified versions of government policy instruments; external evaluations

Output risks and important assumptions

You will need to define the important assumptions, which are critical to the realisation of the achievement of your outputs. It is important at this stage to ensure that these assumptions can be monitored since if these assumptions change, it may prevent you from achieving your expected outcome. If there are more than 3 assumptions please insert a row(s).

Assumption 1	Students available to assist in scientific research and are diligent in finishing projects in a timely manner
Assumption 2	Agreements reached with local and national authorities on community nurseries and research protocols
Assumption 3	Staff turnover manageable and project partners maintain participation for three years
Assumption 4	Free, prior and informed consent given by community for all development and research activities
Assumption 5	Agroforestry products (fruits, nuts) and roots (medicinal and orris) continue to be easily marketed and maintain monetary value throughout project

Activities

Define the tasks to be undertaken by the research team to produce the outputs. Activities should be designed in a way that their completion should be sufficient and indicators should not

be necessary. Any risks and assumptions should also be taken into account during project design.

Output 1	
Activity 1.1	Baseline studies of medicinal roots produced
Activity 1.2	Initial plant diversity surveys completed
Activity 1.3	Final ecological and floristic surveys conducted
Activity 1.4	Conference organized
Activity 1.5	Peer review paper submitted

Output 2	
Activity 2.1	Socio-economic and environmental assessments compiled
Activity 2.2	Baseline surveys conducted
Activity 2.3	Community evaluation conducted
Activity 2.4	Working paper submitted

Output 3	
Activity 3.1	Nurseries established
Activity 3.2	Seedlings and saplings produced and distributed
Activity 3.3	Periodic supervisory field visits made
Activity 3.4	Community exchanges organised
Activity 3.5	HH income surveys completed
Activity 3.6	Plant survival rate assessed

Output 4	
Activity 4.1	Workshops conducted
Activity 4.2	Presentations made
Activity 4.3	Steering committee and working group established
Activity 4.4	Case studies and expert opinions submitted
Activity 4.5	External midterm and final evaluation

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.

	Activity	No of Months	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1														
1.1	Baseline studies of medicinal roots produced	6												
1.2	Initial plant diversity surveys completed	6												
1.3	Final ecological and floristic surveys conducted	6												
1.4	Conference organized	3												
1.5	Paper submitted for peer review	3												
Output 2														
2.1	Socio-economic and environmental assessments compiled	3												
2.2	Baseline surveys conducted	6												
2.3	Community evaluation conducted	1												
2.4	Working paper submitted	3												
Output 3														
3.1	Nurseries established	6												
3.2	Seedlings and saplings produced and distributed	12												
3.3	Periodic supervisory field visits made	5												
3.4	Community exchanges organized	3												
3.5	HH income surveys completed	3												
3.6	Plant survival rate assessed	3												
Output 4														
4.1	Workshops conducted	8												
4.2	Presentations made	6												
4.3	Steering committee established, meet regularly	3												
4.4	Case studies and expert opinions submitted	4												
4.5	External evaluations conducted	2												

26. Project based monitoring and evaluation

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 projects monitoring and evaluation. 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. Monitoring and evaluation 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)

We employ a robust mixture of ecological, oversight, participatory and socio-economic modes of monitoring and evaluation combined with an adaptive management approach for addressing any possible complications or negative impacts that arise. Our project team incorporates natural and social scientists, ensuring a rigorous multidisciplinary perspective. Obtaining free, prior informed consent (FPIC) from target communities for new activities is a first priority. GDF envisions FPIC as an ongoing dialogue that allows local people to continually reassess if their needs and concerns are addressed.

Baseline studies of medicinal roots in communal lands, forest domains and protected areas – along with the conservation assessments and general floristic surveys conducted by Hassan Rankou, Mohamed Fennane and Ahmed Ouhammou – will be the benchmark for assessing change in ecological parameters. The Conservation Assessment and Management Plan workshop, which provides a comprehensive means of testing the applicability of the IUCN criteria to threatened taxa, is an opportunity for broader evaluation of the conservation assessments late in year 2. Floristic and ecological surveys in the final two summers of the project provide the data to confirm positive or negative trends in medicinal root populations.

The compilation of existing socio-economic data in enhanced community ethnography profiles, along with baseline surveys, will be the benchmark for assessing livelihood impacts. HAF will play a special role in conducting community participatory planning that includes local evaluations of the project's impact. This approach, tried and tested by HAF in all previous rural development programmes and tailored to address local conditions, generates socio-economic and environmental data to assist community decision-making throughout the project cycle, allowing a comprehensive assessment of livelihood impacts.

The success of cultivation and enrichment planting of medicinal plants is monitored by field surveys that document the survival rate of a sample of out-planted medicinal roots. The same approach is used to measure the survival rate of fruit and nut saplings and orris rhizomes in community terraces of selected households. Actions to remedy any problems will be designed and implemented through community workshops with project partners.

The steering committee plays a critical role in monitoring progress, evaluating the quality and of each output and reviewing the expended budget by meeting every six months, alternating between Marrakech and Rabat. It forms the core of a broader working group that envision how to take initiatives forward, assuring legacy. The steering committee and working group have a special role in monitoring the contribution of our project on efforts to embed the GSPC in the NBSAP, and to implement the National Strategy on Medicinal and Aromatic Plants.

In the spirit of adaptive management, these approaches to monitoring and evaluation will be explored further in the GSPC toolkit and Intellectual Property Rights workshops, and adjustments made as necessary. Finally, we will ask Botanical Gardens Conservation International, as secretariat of the GPPC, to conduct a midterm and final evaluation of the project, including visits to Morocco in months 16 and 34 of the project.

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.

NB: Please state all costs by financial year (1 April to 31 March) and in GBP. **Budgets submitted in other currencies will not be accepted.** Use current prices – and include anticipated inflation, as appropriate, up to 3% per annum. 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 discussed budget needs with all partners. For the plant nurseries, we explored various estimates with HAF, and settled on a reasonable one that included well-deepening, pump and irrigation pipes, greenhouse construction, and soil, manure, plastic bags and other materials for plant cultivation. We have also included funds for field visits to the nurseries and technical supervision, all co-funded by HAF. The needs of Cadi Ayyad University and the Institut Scientifique were very modest, as they mostly requested support for in-country fieldwork related to floristic and ecological surveys. We have also allocated funds for equipment, supplies and interns for the herbaria to enable their full participation in the project, as these institutions play key roles in plant conservation work nationally, but are chronically underfunded. There is significant buy-in from government agencies, and this collaboration is an important part of the project. Our budget discussions revolved around in-kind support rather than co-financing of activities, which all felt was a proper arrangement. 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 except the GDF project manager, and two short-term consultants from UK institutions (BGCI and the University of Reading). 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 for bringing UK expertise to Morocco and disseminating the results of the project in international venues. GDF keeps its overheads low (less 10%) because it raises non-restricted funds through it trading subsidiary, Diversity Excursions Ltd., and from other sources. We feel our expectation of co-funding from other non-confirmed sources is a valid assumption.

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 the local UK embassy or High Commission directly to discuss security issues (see Guidance Notes) and attach details of any advice you have received from them.

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

CERTIFICATION 2013/14

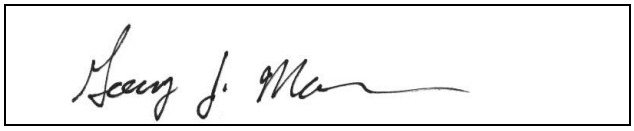
On behalf of the trustees of Global Diversity Foundation

I apply for a grant of £279,950 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 lead institution to submit applications and sign contracts on their behalf.)*

I enclose CVs for project principals and letters of support. Our most recent audited/independently verified accounts and annual report can be found at http://www.charity-commission.gov.uk/Showcharity/RegisterOfCharities/CharityWithoutPartB.aspx?RegisteredCharityNumber=1080731&SubsidiaryNumber=0

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

Signed  **Date:** 3 December 2012

Stage 2 Application - Checklist for submission

	Check
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 in the email)	✓
Have you included a **1 page CV for all the Principals** identified at Question 7?	
Have you included a **letter of support from the main partner(s) organisations** identified at Question 10?	
Have you **checked with the FCO** in the project country/ies and have you included any evidence of this?	✓
Have you included a **copy of the last 2 years annual report and accounts** for the lead organisation? An electronic link to a website is acceptable.	✓
Have you **read the Guidance Notes**?	✓
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 midnight GMT on Monday 3 December 2012 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.