



Submit by Monday 2 December 2013

DARWIN INITIATIVE APPLICATION FOR GRANT FOR ROUND 20: 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 email to the Project Leader)

Name of organisation:	Address:
Prof. Yadvinder Malhi Oxford University Centre for the Environment	University of Oxford South Parks Road, Oxford OX1 3QY

2. Stage 1 reference and Project title

(max 10 words)

Application Ref: 2445. Biodiversity conservation through poverty alleviation: enabling sustainable forestry in Belize.

3. Project dates, and budget summary

Start date: April 2014		End date: March 2017		Duration: 3 years
Darwin request	2014/15	2015/16	2016/17	Total
	£111,605	£89,430	£87,778	£288,813
Proposed (confirmed and unconfirmed) matched funding as percentage of total Project cost: 25% (28% in budget form - LTS noted)				
Are you applying for DFID or Defra funding? (Note you cannot apply for both)		DFID Yes	Defra No	

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

(max 30 words)

The advancement of institutional and communal knowledge and technical capacity in forest management supports a shift to sustainable forestry which reduces overharvesting and forest degradation and promotes long-term economic welfare.

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: Belize	Country 2:
Country 3:	Country 4:

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)	Yes

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

(Max 200 words)

Making non-detrimental findings on exported tropical woods is essential to achieving the aims of Article IV of CITES; however, many range states, including Belize, have struggled to develop comprehensive guidelines for tropical timber tree species. Some example guidelines developed by CITES (eg. MWG2 Doc. 7) are not fully implemented due to lack of national capacity in forest ecology and management and lack of supporting data such as species growth and mortality rates. CoP14 Doc. 64 (Rev. 1) directs range states to increase capacity building related to making non-detrimental findings and promote national synergies by establishing competent committees to support the Scientific Authority with data. This project seeks to increase capacity to carry out stipulations of Article IV and gather the requisite forest ecology data.

Article 7, 8, 10 and 12 of the CBD speaks to biodiversity identification and monitoring, protection of threatened natural populations, encouragement of sustainable customary use and promotion of public/private sector cooperation in sustainable management, and establishment of scientific research and training programmes for the identification, conservation and sustainable use of biodiversity, respectively. Through a rigid programme of work this project proposes to increase compliance with these CBD articles as they pertain to the management and conservation of tree species and forests.

Is any liaison proposed with the CBD/CITES/CMS focal point in the host country?

Yes No if yes, please give details:

THE FOREST DEPARTMENT IS THE HOST INSTITUTION IN BELIZE AND IS ALSO THE FOCAL INSTITUTION FOR BOTH THE CBD AND CITES. THE FOREST DEPARTMENT HAS THE INSTITUTIONAL MANDATE TO CARRY OUT THE OBJECTIVES OF THE CONVENTIONS AND THUS IS KEENLY INTERESTED IN THE ACHIEVING THE AIMS AND OBJECTIVES OF THIS PROPOSED DARWIN PROJECT. WITH RECENT STAFF RETURNS FROM DOCTORAL STUDIES IN THE UNITED KINGDOM, THE FOREST DEPARTMENT IS ESPECIALLY EQUIPPED TO CARRY OUT THE PROPOSED PROGRAMME OF WORK AIMED AT INCREASING COMPLIANCE WITH CITES ARTICLE IV AND ARTICLES 7, 8, 10 AND 12 OF THE CBD.

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	Malhi	Cho	Kay
Forename (s)	Yadvinder	Percival	Elma

Post held	Professor	Forest Officer	Director (Terrestrial)
Institution (if different to above)	Oxford University	Belize Forest Department	University of Belize
Department	Centre for the Environment	CITES/Forest Management Research and	Environmental Research Institute

8. 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
14-028	Claudio Sillero-Zubiri	Conservation of Puna's Andean Cats across national borders
EIDP021	David MacDonald	Implementing an otter action plan for marine environments of Tierra del Fuego
EIPD0038	Claudio Sillero-Zubiri	High Andes Conservation without borders
18-013	Philip Riordan	Building capacity for wild cat conservation in China

9a. If you answered 'NO' to Question 8 please complete Question 9a, b and c.

If you answered 'YES', please go to Question 10 (and delete the boxes for Q9a, 9b and 9c)

9b. DO NOT COMPLETE IF YOU ANSWERED 'YES' TO QUESTION 8.

Provide detail of 3 contracts previously held by your institution that demonstrate your credibility as a research organisation and provide track record relevant to the project proposed. These contracts should have been held in the last 5 years and be of a similar size to the grant requested in your Darwin application.

9c. DO NOT COMPLETE IF YOU ANSWERED 'YES' TO QUESTION 8.

Describe briefly the aims, activities and achievements of your organisation. (Large institutions please note that this should describe your unit or department)

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.

<p>Lead institution and website:</p> <p>Oxford University</p>	<p>Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)</p> <p>The current role of Oxford has been the scientific lead in project conceptualization and development. Oxford has the expertise in long-term forest monitoring and plot establishment and data analysis required for the type of forest dynamics and carbon monitoring work proposed under this project. In addition, Oxford has the international links to establish expertise exchange between Belize and countries such as Ecuador where local capacity exists in forest monitoring.</p>
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<p>Partner Name and website where available:</p> <p>Belize Forest Department (BFD)</p>	<p>Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)</p> <p>The Forest Department as the national CITES Management Authority, CBD focal point, and REDD+ focal point has been engaged in project conceptualization and development and proposal writing. It is the primary entity behind the project conceptualization and will be the principal organization to carry out the work of the project, with scientific guidance from Oxford and with collaboration of UB-ERI. It has not only capacity to carry out the work proposed under this project but also the institutional and legal mandate to carry out the work. The Forest Department is responsible for forest management throughout Belize, and is obligated under CITES to ensure the sustainability of harvest of listed species. Furthermore, recently the Forest Department on behalf of the government of Belize submitted a REDD+ Preparedness Proposal to the Forest Carbon Partnership Facility in an effort to seek participation in REDD+. The proposal was accepted and further work is needed in the area of forest carbon monitoring. The proposed project manager (a Forest Department staff) is well suited to oversee the carbon monitoring and sustainable forest management work having recently completed Doctoral research on long-term forest dynamics in Belize.</p>
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<p>Have you included a Letter of Support from this institution?</p>	<p>Yes</p>
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Partner Name and website where available:	Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)
University of Belize – Environmental Research Institute (ERI)	The UB-ERI has been involved in project conceptualization and proposal development. It has experience with managing Darwin projects in the past (the lowland savannah project 17012 and the large mammal project 17022) and will bring on board the necessary institutional financial management in-country to support Oxford University's project management in the UK. The ERI is also set to apply its expertise in biodiversity monitoring and will be engaged on multiple fronts with the propose project. In addition, the ERI's Terrestrial Director sits on the CITES Scientific Authority in Belize and shares responsibility for ensuring that the Scientific Authority fulfils its mandate of making non-detrimental findings and to build the necessary internal capacity to support the implementation of CITES in Belize.

Have you included a Letter of Support from this institution?	Yes
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11. Have you provided CVs for the senior team including the Project Leader	Yes
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12. Problem the project is trying to address

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

(Max 200 words)

Over-harvesting of tropical timbers is a major agent of forest and biodiversity degradation in Belize that increases vulnerability to deforestation. Two of the most sought after species for international trade are *Swietenia macrophylla* and *Dalbergia stevensonii*, both listed on CITES Appendix II; which requires non-detrimental findings to be made before export. However, the capacity, tools and data required for making non-detrimental findings is limited within the CITES Management and Scientific Authorities of Belize, and within private sector and community forestry entities. Recent CITES-related engagement with the private sector and experience with community forestry enterprise has brought these problems to the forefront. For example, in three indigenous Maya community forestry concessions granted by the Forest Department (CITES MA) basic forestry expertise for tree surveys is outsourced and the risk of over-harvesting of the target species due to the use of inappropriate yield models is high. Because expertise and data is lacking, it is difficult verify the sustainability of timber yields, and tools are unavailable to monitor harvest and export. Slash-and-burn farming in community owned forests often follows depletion of timber stocks. There is a clear need to quantify the carbon sequestration potential of logged-over forests in order to promote carbon conservation as an alternative to slash-and-burn.

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) – Thoroughly reformatted

- 1) **Fill knowledge and data gaps on *D. stevensonii* and *S. macrophylla* ecology (growth, mortality, reproduction, taxonomy) and forest dynamics** through the re-measurement of 32 long-term forest monitoring plots (6 intensively), development of taxonomic guides and localized timber yield models. The plots are distributed nationally and utilize protocols similar to Amazonian plots. A South-Central American knowledge exchange will be facilitated by Oxford to re-measure plots and establish new ones in areas where the target species are threatened by degradation and deforestation. This phase will be carried by the project manager/Oxford. The end result will be an upgraded forest plot network that provides data needed for sustainable yield models and for estimating carbon sequestration potential of different forest types, the first of its kind in the region.
- 2) **Fill knowledge and data gaps on species population and forest carbon stocks.** Recent (nationwide) forest inventory data will be collated for estimation of species distribution, abundance and demographics and re-analyzed for carbon stock estimation of different forest types. Localized allometric models for timber and carbon estimation will be developed. New population surveys will be carried out in select protected areas where extant populations of the target species play a refuge role in the wider landscape. This work will complement a Forest Department inventory of *D. stevensonii* within commercially logged forests, to which the project will provide technical input for inclusion of carbon stock assessment. The end results are a national population assessment of the target species and carbon stock values for different forest types.
- 3) **Capacity for forest management will be built at the community level** through training in basic forestry planning (including computer skills) carried out by the project manager/ERI and a contractor (local NGO). To provide income diversification, community members will be trained in forest survey techniques required for the development of annual harvesting plans – a CITES requirement, and a database of indigenous para-technicians will be developed. Simple spreadsheet tools and guidelines will be developed to help indigenous communities determine sustainable CITES-compliant yields. Four indigenous Maya communities involved in logging will be assisted with organizational planning. It is anticipated that with improved community organization and capacity, the risk of overharvesting will be reduced, with benefits for the conservation of the target species and the forest.
- 4) **At the national level the project will build capacity in agencies involved in forest management and research** to carry out sustainable forestry and CITES non-detrimental findings in industrial and communal concessions. To this end the project will support the establishment of a committee for collaborative research among the private sector, forest consultants, academic institutions and government agencies to ensure standards are developed for sustainable harvest plans, clear guidelines are developed for allocation of CITES export quota and that biodiversity data and knowledge required for sustainable forest management are effectively transmitted among stakeholders.
- 5) **Overall project implementation and milestones will be monitored and evaluated** using theory-based evaluation and rapid appraisals based on focus group workshops. The project manager/ERI will hold focus group workshops to monitor project impact.

14. Change Expected

Detail what the expected changes this work will deliver. You should identify what will change and who will benefit.

- If you are applying for Defra funding this should specifically focus on the changes expected for biodiversity conservation and its sustainable use.
- If you are applying for DFID funding you should in addition refer to how the project will contribute to reducing poverty. Q19 provides more space for elaboration on this.

(Max 250 words)

With new demographic data on populations of *D. stevensonii* and *S. macrophylla*, sustainable forest management at the species and forest level is improved. Using a robust methodology, the sustainability of timber yields can be demonstrated. An upgraded long-term forest plot network will support the expansion of yield models to other species over time. The first national estimates of forest carbon stocks and intensified measurements of carbon fluxes will inform the country's developing REDD+ programme. This new data and knowledge will support a shift to sustainable forestry which encompasses carbon

conservation.

Management/research entities, the private sector, and indigenous communities will have an upgraded forest monitoring network and database, taxonomic manuals, growth and yield models, yield toolkits, allometric models and accompanying guidelines. With access to and capacity to use these project outputs, communities and companies will be conducting their own forest surveys, calculating CITES-compliant yields, reducing the need to outsource expertise and reducing overhead costs. At the national level a new committee of stakeholders will be sharing data, knowledge, and insights on a quarterly basis. Fitted with toolkits for yield estimation and making non-detrimental findings, the CITES MA and SA will be able to ensure that trade does not jeopardize target species while allowing economic prosperity.

Livelihoods of poor indigenous communities will be improved through additional income generation opportunities from skilled forestry work, and loss of income will be avoided as a result of improved management plans which demonstrate sustainable yields. Degradation and the risk for deforestation will be reduced.

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

This project represents a new initiative based on a comprehensive approach to improving sustainable forest management from the bottom up – by filling basic data and knowledge gaps, facilitating stakeholder cooperation, improving income security in poverty-stricken forest dependent communities as well as the private-sector and facilitating carbon conservation. Although community forestry in Belize is not a new initiative, this project aims to take further steps to build basic forestry capacity among community members so they can achieve a high level of independence, thereby reducing overhead costs. The concept and initiative behind a national forest management/research coordinating committee comprised of stakeholders is new to this project and stems from round table discussions between the CITES MA and industry stakeholders in 2013. This discussions revealed that capacity and data limitations regarding species ecology, distribution and yield are hindering the implementation the CITES convention pertaining to trade in *S. macrophylla* and *D. stevensonii*. The need for carbon stock and flux estimates originated from the development of Belize's REDD+ readiness proposal, but the initiative to couple intensive carbon stock measurements in the permanent plot network with a re-analysis of forest inventory data represents a new initiative under this project.

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:

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.

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)

The proposed work is good value for money because it aims to achieve outputs that will be long-lasting and will be enshrined in institutional procedures. For example, it aims to develop toolkits and procedures to be used by the CITES management and scientific authorities to make non-detrimental findings. Another example of long-lasting value is the collection and sharing of data and knowledge on species ecology that has so far not been generated and disseminated in Belize. Furthermore, new permanent forest

monitoring plots will be established and once established will remain a constant source of data on species population dynamics and forest carbon dynamics needed to amend management prescriptions and yield models. The country's REDD+ programme requires a long-term engagement in forest monitoring, and the long-term forest monitoring network enhanced under this project will be taken up under the national REDD+ programme. Also, community forestry operations will benefit from increased technical capacity through the development of easily implemented toolkits and procedures that will form the standard for any new community forestry operations. Lastly, the setting up of a committee of management, research and industry/community stakeholders to share knowledge and collectively engage in the development of standards related to the implementation of articles of the CITES and CBD conventions will allow the distribution of capacity and benefits from this project. Finally, because the knowledge, tools and resources will be developed on a first-hand basis by the Forest Department under this project, they will be more readily assimilated into the Department's work, thereby securing value for money.

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 Forest Department is the legal entity to carry out this type of work and is obligated under national law to ensure that its operations comply with relevant legislation. Because the project involves work on collecting data and developing practices to guide the utilization of biological resources, all such utilization will be required to follow national laws. Target communities will be approached through a local NGO experienced with working with indigenous communities and who has the mandate of community leaders. Field labour for work under the project will be sourced from among the target communities, thereby distributing benefits under the project to those directly affected. All national health and safety laws will be observed during field work and the necessary safety equipment will be utilized by employees. Research design and execution will follow the scientific process and be guided by Oxford's excellent research experience.

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 DFID funded projects). 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)

With regards to biodiversity conservation/sustainable use, the legacy of this project will be to provide the first assessment of national populations of threatened species (*D. stevensonii* and *S. macrophylla*). Furthermore, the legacy of toolkits and yield models will outlast the project and will contribute to long-term improvements to forest management in Belize. This project will actually build on the legacy of a previous DFID-funded project in Belize in the 1990s aimed at improving forest management and which included the establishment of 30 long-term forest monitoring plots. To ensure the long-term survival of forest monitoring efforts begun in the 1990s and revived under this project, this project will build the necessary capacity and set up the cross-institutional medium of dialogue and information sharing necessary to support a long-term forest monitoring work programme.

In particular, the data collected on forest growth and yield and carbon dynamics will enter the public scientific domain through published journal articles and deposition in long-term forest monitoring databases held at the Forest Department and ERI and also in databases managed by Oxford University. For the first time the forest carbon

dynamics of disturbed/degraded and intact tropical forests over limestone will be studied, quantified and characterized. This will contribute strongly to the country's effort to participate in REDD+.

The long-term benefits for poor people will be an improvement in their capacity to engage in forest management according to international standards and requirements, yet taking into account customary and traditional use. To this end, poverty-stricken indigenous communities will benefit from income security provided by sustainable harvesting as opposed to over-harvesting. Additionally, the skills to be imparted in indigenous community members will qualify them for employment in their forestry operations, with the additional benefit of reducing overhead costs. Generally, a greater awareness of the stipulations and procedures required under sustainable forest management will exist in target indigenous communities.

19. Pathway to poverty alleviation

Please describe how your project will benefit poor people living in low-income countries. All projects funded through DFID in Round 20 must be compliant with the OECD Overseas Development Assistance criteria. Projects are therefore required to indicate how they will have a positive impact on poverty alleviation in low-income countries.

(Max 300 words)

THE FOREST DEPARTMENT HAS DECADES OF EXPERIENCE WITH INDIGENOUS COMMUNITIES WANTING TO PROFIT FROM THEIR COMMUNAL TIMBER RESOURCES. REQUESTS TYPICALLY COME FROM INDIVIDUALS WANTING TO CUT A FEW TREES TO PAY STUDENT FEES OR COVER MEDICAL EXPENSES. RECENTLY COMMUNITIES HAVE BECOME MORE ORGANIZED AND HAVE REQUESTED LONG-TERM TIMBER CONCESSIONS IN THEIR COMMUNAL FORESTS. HOWEVER, THIS DOES NOT GUARANTEE LONG-TERM ECONOMIC BENEFITS SINCE THE RATE OF HARVEST IS UNASSESSED AND OFTEN APPEARS TO BE UNSUSTAINABLE. THIS PROJECT WILL BENEFIT POOR INDIGENOUS COMMUNITIES BY COVERING THE REQUISITE TECHNICAL AND SCIENTIFIC STUDIES NEEDED TO DETERMINE SUSTAINABLE YIELDS AND WILL DEVELOP CAPACITY IN INDIGENOUS COMMUNITIES TO SEEK MEANS OF INCOME GENERATION OTHER THAN BY SELLING TIMBER, SUCH AS BY WORKING AS SKILLED FORESTRY WORKERS IN THEIR OWN CONCESSIONS, THEREBY REDUCING THE PAYOUTS TO OUTSOURCED EXPERTISE. THIS PROJECT WILL ALSO SEEK TO FURTHER DEVELOP THE CAPACITY OF INDIGENOUS COMMUNITIES TO ENGAGE IN FORESTRY OPERATIONS BY DEVELOPING MANAGEMENT PLANS AND FOSTERING ORGANIZATIONAL DEVELOPMENT. FOUR INDIGENOUS COMMUNITIES ARE TARGETTED FOR ASSISTANCE, WITH AROUND 6 HOUSEHOLDS IN EACH COMMUNITY DIRECTLY INVOLVED IN LOGGING. EACH FAMILY CONSTITUTES AROUND 5-8 INDIVIDUALS BUT CAN BE GREATER IF EXTENDED FAMILY IS CONSIDERED. IN SUM AROUND 120 TO 192 INDIGENOUS MAYA VILLAGERS WILL DIRECTLY BENEFIT FROM INCOME SECURITY THROUGH ASSISTANCE UNDER THIS PROJECT. FURTHER TO THIS, AT LEAST 18 INDIVIDUALS WILL BE TRAINED AS SKILLED FORESTRY WORKERS AND WILL BE ABLE TO SEEK EMPLOYMENT SURVEYING TREES IN THEIR OWN COMMUNITY FORESTRY OPERATION OR ELSEWHERE. INCREASED INTRA-COMMUNAL FORESTRY CAPACITY COUPLED WITH USER-FRIENDLY YIELD MODELS WILL REDUCE THE RELIANCE ON OUTSOURCED EXPERTISE, TYPICALLY FROM GUATEMALA. THE DIFFERENCE BETWEEN THE OUTSOURCED COST AND THE INTERNAL COST OF SKILLED EXPERTISE WILL REPRESENT SAVINGS OF £1,500 TO £3,000 POUNDS PER ANNUM PER OPERATION THAT CAN BE SHARED AMONG THE COMMUNITY.

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)

This project will contribute to a progressive approach at fulfilling obligations under CITES and CBD that will not conclude with the end of the project. Work begun under the project will continue using the methods, procedures, data and knowledge generated. For example, long-term forest monitoring will continue after the project is completed, through the oversight of the stakeholder committee set up under the project and with public and donor funds earmarked for this activity (for example REDD+ funds anticipated under a REDD+ country programme). The work of the CITES Management and Scientific Authorities, including the making of non-detrimental findings, will continue after this project, using the data and methods developed. Because the principal implementing organization, the Forest Department, is also the national entity designated with responsibility to implement CITES, CBD and REDD+ monitoring, there is no direct need for an exit strategy. In regards to the employees hired under the project, all efforts will be extended to ensure their assimilation into partner organizations. For example, a previous Darwin employee under the lowland Savannah project (17022), was hired by the ERI after the completion of the Darwin project.

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)

Knowledge sharing and dissemination is key to the success of this project. For instance, the committee of stakeholders involved in forest management and research will routinely share data and contribute expertise to the development and improvement of forest management in Belize, with particular benefits for the two target species. These stakeholders include the Forest Department, ERI, private sector companies, conservation-oriented non-governmental organizations and community forestry groups, as well as private forestry consultants. This committee will be engaged through quarterly meetings where information will be shared and disseminated in the form of seminar presentations, information booklets, and occasional series reports addressing a particular topic of interest.

Public information leaflets and media releases will also be made regarding the work to be done with *D. stevensonii*, since the harvesting and export of this species has garnered such immense public attention and scrutiny over the past two years. It is anticipated that a series of public lectures hosted by project partners and aimed at public information will be held under this project. The expected products included downloadable lectures as well as information sheets available for public distribution and review. It is expected that the public awareness campaign will further heighten the level of public interest and scrutiny of the management of the target species, as they are of national interest and economic importance. Public scrutiny and interest also ensures that management agencies and those benefiting from the exploitation of the target species are kept in the public eye and that regulations are enforced.

At the community level information will be disseminated in the local Maya language via pamphlets and community meetings organized by village leaders. Community meetings is the traditional mode of knowledge dissemination and communication in indigenous Maya villages.

22. 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. (See Section 9 of the Guidance Notes for further information)

(Max 250 words)

Since much of the information to be generated under the project will be collected by the Forest Department and ERI (both public institutions) the information will be free of cost to the general public. Scientific journal articles produced under the project will be published using the target journal's open access option which typically costs around £1,800 per article. At least two articles are planned for publication and thus around £3,600 to £4,000 will be sought from Darwin to cover this. Datasets generated and used in scientific journal articles will be made available online via appropriate data distribution facilities such as dryad. The cost for this is approximately £500 and is built into the project budget.

23. 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.

(Max 250 words)

DALBERGIA STEVENSONII IS ONE OF THE LEAST KNOWN TROPICAL TIMBER SPECIES BUT ONE OF THE MOST VALUABLE. IT IS OF SPECIAL INTEREST TO THE WIDER SCIENTIFIC AND CONSERVATION COMMUNITY, GIVEN THE RECENT SPATE OF LOGGING TARGETING THIS SPECIES. THE ECOLOGY, TAXONOMY AND COMMERCIALIZATION OF THIS SPECIES HAS HAD LIMITED ATTENTION IN BELIZE AND THROUGHOUT ITS HOME RANGE. THIS PROJECT AIMS TO BUILD A LARGE KNOWLEDGE-BASE ON *D. STEVENSONII* THAT WILL AID DECISION MAKERS IN THE SUSTAINABLE USE OF THIS SPECIES. IT IS ANTICIPATED THAT THE CITES TROPICAL TIMBERS WORKING GROUP WILL PAY KEEN ATTENTION TO THE INFORMATION OUTPUTS OF THIS PROPOSED PROJECT IN RELATION TO *D. STEVENSONII*.

24. 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:

The Forest Department and ERI will provide leverage funds towards the cost of the project including the use of office space, utilities, administration and the salaries of employees who will contribute time to the project. Forest Department funds for a population assessment of *D. stevensonii* in commercially logged forests is counted as levered funds since this project will provide technical input to the assessment and incorporate and disseminate the results.

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

PROJECT MONITORING AND EVALUATION

MEASURING IMPACT

25. 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 C 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.

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 30 words)

Compliance with CITES and CBD is increased in Belize through the strengthening of sustainable forest management, with greater recognition for the carbon role of forests and increased benefits for forest-dependent people.

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 30 words)

The advancement of institutional and communal knowledge and technical capacity in forest management supports a shift to sustainable forestry which reduces overharvesting and forest degradation and promotes long-term economic welfare.

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	By the end of year one, technical capacity is increased in private-sector and community forest management organizations as well as CITES MA and SA to carry out sustainable forestry and non-detrimental findings, respectively. Cross-sectoral/institutional knowledge and data sharing in support of sustainable forest management.
Indicator 2	By year two, logging concessions in Belize begin to calculate CITES-compliant annual sustainable yields and estimate carbon footprint of annual logging. New timber yields reflect an improvement (possible reduction) from pre-project state.
Indicator 3	By end of year two, indigenous Maya communities and private-sector companies are able to produce CITES-compliant wood for export, with export

	arrangements between private-sector and community producers in place by year three.
Indicator 4	By end of year two, livelihoods of poor indigenous Maya communities improves through additional income generation opportunities, reduction of overhead costs and income security. The number of indigenous Maya villagers conducting forest surveys independently in their communal concessions increases from zero to 18 or more. A new indigenous community is engaged successfully in community forestry.

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	Baseline and end of project Annual plan of operations compared and analysed. Baseline and end of project non-detrimental reports from CITES MA/SA compared and analysed. Committee meeting minutes.
Indicator 2	Film available for dissemination showing communities and companies conducting own forest surveys and yield calculation. Annual plan of operations reflecting sustainable yield and carbon footprint of logging. Peer-reviewed publications. Baseline and end of project timber yield compared and analysed. Post-harvest assessments.
Indicator 3	Baseline and end of project CITES export permits compared and analysed. Committee meeting minutes.
Indicator 4	Baseline and end of project employment surveys compared and analysed. New community forestry plan.

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	Project partners and stakeholders are able to work together and communicate effectively.
Assumption 2	Project manager is able to be seconded to the project.
Assumption 3	Target indigenous communities remain open to working with the project.
Assumption 4	The government remains a committed signatory to CITES and CBD and continues to support forest research.
Assumption 5	Natural disasters such as hurricanes do not impact long-term plots and forest management areas during 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	Training courses in sustainable forestry, yield models, making non-detrimental findings and sharing and reporting forest information effectively.
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	Operational committee of stakeholders for the sharing of forest information in support of sustainable forest management.
Output 2	A package for improved forest management including: completed population surveys; upgraded forest monitoring network and database; taxonomic manuals; growth and yield models; yield tools; allometric models; carbon flux models; carbon stocks of different forest types.
Output 3	Reinforcement of CITES compliance regarding trade in <i>S. macrophylla</i> and <i>D. stevensonii</i> .
Output 4	Improvement in livelihoods of poor indigenous Maya communities involved in community forestry.

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	Number of training courses and number of attendees.
Indicator 2	Number of meetings and attendees at stakeholder committee meetings.

Output 2	
Indicator 1	Population and demographics of target species are quantified.
Indicator 2	Carbon stocks and fluxes of different forest types are quantified.

Output 3	
Indicator 1	Timber yields and exports comply with CITES.

Output 4	
Indicator 1	Baseline and end of project employment surveys compared and analysed. New community forestry plan.

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	Reports, attendance sheets and videos from training workshops. Published report on making non-detrimental findings in Belize.
Indicator 2	Databases, reports, spreadsheet tools, allometric models.
Indicator 3	CITES country report. Revised harvesting plans. Communications from the CITES secretariat.
Indicator 4	Database of para-technicians. Interview reports. Short videos.

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	Stakeholders are willing to participate in trainings and can communicate effectively and willing to share data.
Assumption 2	<i>S. macrophylla</i> and <i>D. stevensonii</i> are not black-listed before project outputs are realized.
Assumption 3	Indigenous communities remain committed to sustainable forest management and are willing to participate in the 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. Risks and assumptions should also be taken into account during project design.

Output 1	
Activity 1.1	Training of private sector/community forest managers in (a) sustainable forestry standards, (b) forest survey techniques, (c) use of yield models, (d) long-term forest monitoring, and (e) effective reporting and publication of forest research/data.
Activity 1.2	Develop guidelines, fitted into the national context, for making non-detrimental findings.
Activity 1.3	Training of CITES MA and SA in (a) use of yield models, (b) making non-detrimental findings.
Activity 1.4	Engage stakeholders and set up committee for the sharing of forest information in support of sustainable forest management.
Activity 1.5	Production of videos of training events for dissemination and public awareness.

Output 2	
Activity 2.1	Conduct population surveys of target species in protected areas.
Activity 2.2	Re-measure and restore 15 long-term forest monitoring plots.
Activity 2.3	Intensively measure 6 long-term forest monitoring plots to estimate carbon flux.
Activity 2.4	Produce taxonomic guide of timber tree species of Belize.
Activity 2.5	Develop growth and yield models and spreadsheet tool.
Activity 2.6	Develop local allometric model for carbon stock estimation and re-analyse nationwide forest inventory data to estimate forest carbon stocks.
Activity 2.7	Produce report on population assessment and forest carbon stocks.
Activity 2.8	Production of film showing methods used by communities and companies conducting own forest surveys and yield calculation.

Output 3	
Activity 2.1	Provide technical input for the revision of community forestry harvesting plans.

Activity 2.2	Provide technical input into the CITES country report, section on <i>S. macrophylla</i> and <i>D. stevensonii</i> .
Activity 2.3	Develop and promote non-competitive export facilitation between private-sector and indigenous community forestry operations.

Output 4	
Activity 3.1	Develop database of indigenous Maya para-technicians.
Activity 3.2	Community-based workshops in sustainable forestry and organizational capacity building for forest management.
Activity 3.3	Production of film showing social and ecological benefits of community forestry and carbon conservation.

26. 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 Training of private sector/community forest managers in (a) sustainable forestry standards, (b) forest survey techniques, (c) use of yield models, (d) long-term forest monitoring, and (e) effective reporting and publication of forest research/data.			X			X				X				X				X
1.2 Develop guidelines, fitted into the national context, for making non-detrimental findings.			X															
1.3 Training of CITES MA and SA in (a) use of yield models, (b) making non-detrimental findings.									X									
1.4 Engage stakeholders and set up committee for the sharing of forest information in support of sustainable forest management.			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1.5 Production of videos of training events for dissemination and public awareness.											X							
Output 2																		
2.1 Conduct population surveys of target species in protected areas, and provide technical input to BFD inventory.			X	X						X							X	
2.2 Re-measure and restore 15 long-term forest monitoring plots.			X						X								X	
2.3 Intensively measure 6 long-term forest monitoring plots to estimate carbon flux.			X	X					X	X	X	X	X	X	X	X	X	X
2.4 Produce taxonomic guide of timber tree species of Belize.									X									
2.5 Develop growth and yield models and spreadsheet tool.										X	X	X	X	X	X	X	X	X
2.6 Develop local allometric model for carbon stock estimation and re-analyse nationwide forest inventory data to estimate forest carbon stocks.										X	X	X	X	X	X	X	X	X
2.7 Produce report on population assessment and forest carbon stocks.																X	X	X

2.8	Production of film showing methods used by communities and companies conducting own forest surveys and yield calculation.											X					
Output 3																	
3.1	Provide technical input for the revision of community forestry harvesting plans.					X									X		
3.2	Provide technical input into the CITES country report, section on <i>S. macrophylla</i> and <i>D. stevensonii</i> .								X				X				
3.3	Develop and promote non-competitive export facilitation between private-sector and indigenous community forestry operations.							X									
Output 4																	
4.1	Develop database of indigenous Maya para-technicians.													X			
4.2	Community-based workshops in sustainable forestry and organizational capacity building for forest management.							X				X		X			X
4.3	Production of film showing social and ecological benefits of community forestry and carbon conservation.														X		

27. 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 projects 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)

Overall project implementation and milestones will be monitored and evaluated using theory-based evaluation and rapid appraisals based on focus group workshops. The project manager/ERI will hold focus group workshops to monitor project impact. The focus group workshops will take the venue of stakeholder (forest management/research) committee meetings since many of these stakeholders will be involved in one way or the other with the project and may be receiving benefits or be affected. Stakeholder committee meetings are scheduled to take place quarterly (Activity 1.4) thus monitoring will take place quarterly and reports of the focus group workshops will be produced and circulated by the project manager/ERI. Presentations will be made by the project manager to the stakeholder committee on the progress of the project according to the indicators outlined above. Standard monitoring questionnaires will be developed for circulation at focus group meetings to receive feedback on progress presentations and to assess for any negative impacts or perverse outcomes for stakeholders. Questionnaires will feed into a monitoring database developed for the project.

Analysis of the monitoring database will reveal indications of positive or negative impacts which will be reviewed at subsequent stakeholder committee meetings by project partners and consequently feed back into project management through adjustments to the work plan, administration, or increased consultation where necessary.

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.

28. Value for Money

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

(max 300 words)

The budget was worked out based on estimated costs of equipment, fuel, labour including a 3% per annum inflation rate. The cost of the work on the permanent plots was estimated from recent experience by the BFD staff member on the project, and so reflects the most updated and cost effective estimate for this type of work in Belize. Some carbon flux and permanent forest plot measurement equipment are to be sourced in the UK and shipped to Belize, and these costs are reflected in the budget. Other capital equipment such as a project 4x4 will be sourced in Belize from local dealerships, and donated to a partner organization after completion of the project. Travel costs were estimated based on round-trip airfare from the UK to Belize at 'high-season'. Salaries were estimated based on current emoluments and annual incremental adjustments of the respective organization. Overhead costs were based on direct estimations provided by lead and partner organizations. Oxford's overheads are assessed using FEC and are to be covered by project funds. The BFD's overhead costs for running its share of the project is earmarked as in-kind contribution to the project, whereas the other in-country partner ERI's overhead costs are to be covered from project funds. Oxford will be the primary recipient of funds with transfers to ERI for fund management of in-country expenses. ERI has a record of managing Darwin funds under two previous projects in Belize. Safeguards for protecting project equipment and resources will be in place for the duration of the project work, and most equipment will be stored at ERI or BFD's compound when not in use.

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

Yes (no written advice) Yes, advice attached No

CERTIFICATION

On behalf of the trustees/company* of The Chancellor, Masters and Scholars of the
(*delete as appropriate) University of Oxford


I apply for a grant of £288,813 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 project principals and letters of support.
- Our most recent audited/independently verified accounts and annual report are also enclosed/can be found at:

http://www.ox.ac.uk/about_the_university/facts_and_figures/financial_statements.html

Name (block capitals)	Ken Bedding Research Funding Manager	
Position in the organisation	Research Services, University of Oxford	

Signed



Date:

2/12/2013

Stage 2 Application - Checklist for submission

	Check
Have you read the Guidance Notes ?	X
Have you provided actual start and end dates for your project?	X
Have you indicated whether you are applying for DFID or Defra funding. NB: you cannot apply for both	X
Have you provided your budget based on UK government financial years i.e. 1 April – 31 March and in GBP?	X
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?	X
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?	X
Have you included a letter of support from the <u>main</u> partner(s) organisations identified at Question 10?	
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 copy of the last 2 years annual report and accounts for the lead organisation? An electronic link to a website is acceptable. http://www.ox.ac.uk/about_the_university/facts_and_figures/financial_statements.html	X
Have you checked the Darwin website immediately prior to submission to ensure there are no late updates?	X

Once you have answered the questions above, please submit the application, not later than midnight GMT on Monday 2 December 2013 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.