



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**

<b>Name:</b> Dr William Milliken	<b>Address:</b> Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AB
-------------------------------------	--

**2. Stage 1 reference and Project title**

1965 - Forest Futures: Livelihoods and sustainable forest management in Bolivian Amazon

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

**Proposed start date:** October 1 2013 **Duration of project:** 3 years **End date:** September 30 2016

Darwin request	2013/14	2014/15	2015/16	2016/17	Total
	£	£	£	£	£259,033

**Proposed (confirmed and unconfirmed) matched funding as percentage of total Project cost:** 48%

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

Sustainable forest management developed and practised in four pilot communities in Pando, Bolivia including: 1) diversification of non-timber forest product (NTFP) resource collection and marketing; 2) agroforestry adapted to regional socio-economic context, contributing directly to poverty alleviation and biodiversity conservation; and 3) awareness of economic incentives for sustainable forest management and maintenance of ecosystem service values increased at a range of decision-making levels from community to governmental.

**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.**

<b>Country 1:</b> BOLIVIA	
------------------------------	--

## 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

The project will assist Bolivia in meeting its obligations under the CBD by addressing articles: 8. **In-situ Conservation** [promoting non-destructive forest management systems]; 10. **Sustainable Use of Biodiversity** [promoting sustainable forest product development]; 12. **Research and Training** [building knowledge of forest biodiversity and ecosystem services, and in-country research capacity]; 13. **Public Education and Awareness** [developing education and outreach programmes], 16. **Access to and Transfer of technology** [emerging agroforestry systems]; 17. **Exchange of Information** and 18. **Technical and Scientific cooperation.**

Principal Cross-Cutting Issues addressed by the project include: **Biodiversity for Development**; Communication, Education and Public Awareness; Ecosystem Approach; and Sustainable Use of Biodiversity.

The current Bolivian Government has incorporated the sustainable use of natural resources within the country's constitution and developed a new strategy to implement the CBD which was presented at COP (Convention of the Parties) 11. This consists of the Integrated Forests Management (IFM) concept that was legislated for within Bolivia in 2012 through the Mother Earth's Law. This project will provide knowledge (NTFPs, agroforestry techniques, agroforestry species, restoration techniques, forest ecosystem services value, forest biodiversity value), skills (agroforestry techniques) and alternative incomes (NTFPs) that will directly support this strategy.

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

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

We have contacted the CBD focal point in Bolivia: Sra Dedy Gonzalez Herrera at the Bolivian Ministry of the Environment and Water (DGB), to ensure that the project maximises its contribution to the CBD goals currently prioritised within the country.

*A letter of support for the project for the DGB is included with the proposal.*

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	Main project partner and co-ordinator in Bolivia	Forest inventory programme coordinator in Bolivia	Forest product trade and marketing coordinator
<b>Surname</b>	Milliken	Reyes	Araujo-Murakami	Turnbull
<b>Forename (s)</b>	William	Juan-Fernando	Alejandro	Andrew
<b>Post held</b>	Team Leader, Tropical America	Director	Director of the Herbarium	Trader, Ecologist & Corporate Social Responsibility
<b>Institution (if different to above)</b>	Royal Botanic Gardens, Kew	Herencia	Museo de Historia Natural Noel Kempff Mercado	Freeworld Trading
<b>Department</b>	Herbarium, Library, Art & Archives		Botany	
<b>Telephone</b>				
<b>Email</b>				

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
EIDPO026	Dr Kate Hardwick	A forest restoration research unit facilitating biodiversity recovery in Cambodia
17-021	Dr Kate Hardwick	Restoring Tropical Forests: a Practical Guide
16-012	Prof. Hugh Pritchard	Orchid Seed Stores for Sustainable Use (OSSSU)
15-036	Dr Paul Smith	Monitoring and Managing Biodiversity Loss in South-East Africa's Montane Ecosystems
15-035	Dr Steve Alton	Ex-situ Conservation of the Rare and Threatened Plants of Mauritius
15-034	Dr Yvette Harvey	Red List Plans of Cameroon

**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><b>Lead institution:</b></p> <p><b>Royal Botanic Gardens, Kew (RBG Kew)</b></p> <p>www.kew.org</p>	<p>RBG Kew's mission is 'to inspire and deliver science-based plant conservation worldwide, enhancing the quality of life'. RBG Kew is an international leader in plant conservation, research and taxonomy with broad experience developing and delivering projects in Latin America including Brazil, Peru and Bolivia. RBG Kew will provide overall project management/coordination, deliver technology transfer, undertake forest inventories for biodiversity and ecosystem service valuation, and provide technical expertise in agroforestry species and systems, NTFP research and environmental education. RBG Kew will also be responsible for integrating project data into global databases.</p> <p>RBG Kew has worked with all partners to develop the project and undertook a joint scoping visit to the region in 2010. <i>RBG Kew has a Memorandum of Understanding for collaboration with MHNNKM.</i></p>
<p><b>Principal Bolivia Partner:</b></p> <p><b>Herencia, Cobija</b></p> <p>www.herencia.org.bo</p>	<p>Herencia is a Bolivian NGO with a strong track record delivering sustainable development projects in Amazonian Bolivia and Peru since 1997. Herencia's mission is to work with local communities and stakeholders to promote sustainable development in the Amazon. Herencia is a key player in Bolivia's national contribution to the Millennium Development Plan for the Bolivian Amazon through the Articulaci3n Regional Amaz3nica transnational regional network. This seeks to conserve Amazonian forests and ecosystems, biotic and cultural diversity and the welfare of its inhabitants.</p> <p>Herencia's work has included community development, environmental education, capacity building, natural resource and climate change management. It has skills and experience in establishing institutional arrangements for forest management and will take overall responsibility for the engagement component within Bolivia. It will incorporate community management of agroforestry and forest products through its 'Bosque de los Ni3os' programme, and deliver the public awareness component jointly with MHNNKM and RBG Kew. Herencia will also oversee UAP's contribution to the project, including the establishment of the agroforestry and <i>Inga</i> control trials (Activity 2.2).</p> <p>Herencia has been engaged in project development from the beginning and has developed the community engagement and schools components of the project. <i>Herencia has an existing collaborative relationship with MNHNKM.</i></p>
<p><b>Have you included a Letter of Support from this institution?</b></p>	<p><b>Yes</b></p>

<p><b>Museo de História Natural Noel Kempf Mercado (MHNNKM), Santa Cruz, Bolivia</b></p> <p>www.museonoelkempff.org</p>	<p>MHNNKM is a department under the Autonomous University, Gabriel Rene Moreno in Santa Cruz, and one of Bolivia's leading biodiversity research institutes with experience in delivering applied projects and environmental education. MHNNKM has collaborated with RBG Kew and the University of Oxford on previous Darwin Initiative-funded conservation projects in Bolivia.</p> <p>MHNNKM is the lead in-country partner for the forest inventory component, which it will undertake jointly with RBG Kew. It will participate in the evaluation of ecosystem services, take responsibility for management and integration of botanical/ biomass data in Bolivia, and contribute to the development of schools education materials for wider dissemination of project findings and awareness-raising.</p> <p>MHNNKM has substantial experience working on the establishment/survey of forest plots in the Bolivian Amazon (RAINFOR), undertook a scoping visit jointly with Kew staff in 2010 and prepared the framework for the forest survey component. <i>MHNNKM has a Memorandum of Understanding for collaboration with RBG Kew.</i></p>
<p><b>Have you included a Letter of Support from this institution?</b></p>	<p><b>Yes</b></p>

<p><b>Freeworld Trading, Edinburgh, U.K.</b></p> <p>www.freeworld-trading.co.uk/</p>	<p>Freeworld Trading is a UK-based commodities trading company specialising in food products. It has extensive experience of forest product development in the Bolivian Amazon, is currently Europe's largest Brazil nut trader, and is committed to promoting sustainable crop production and livelihoods in the region.</p> <p>Freeworld Trading will undertake NTFP inventory, market identification and analysis, ensuring that products conform with EU and UK legislation, e.g. the Novel Foods Act. They have identified and begun market-testing four pilot NTFPs (<i>Plukenetia volubilis</i>, <i>Bertholletia excelsa</i> shells, wild <i>Euterpe</i> sp. and wild <i>Theobroma cacao</i>) which will be included in this analysis. They will also develop production pipelines, marketing, communication and outreach promoting uptake of sustainable forest products.</p> <p>Freeworld Trading will also manage the relationship with the cooperative partners COINACAPA and ACEBA, the two biggest NTFP (currently Brazil Nut) cooperatives in the Bolivian Amazon.</p> <p>Freeworld Trading have contributed to development of the forest products component of this project including the Stage 2 Logframe.</p>
<p><b>Have you included a Letter of Support from this institution?</b></p>	<p><b>Yes</b></p>

**Subsidiary Partners**

These partners have contributed to the project design and will play a key role in the project's success but do not have a managerial role in the project. **No CVs are included for these partners.**

<b>Corporación Integral Agroextractivista Campesinos de Pando</b>  <b>(COINACAPA)</b>	COINCAPA is one of two main cooperatives involved in harvesting NTFP's - currently Brazil Nuts - in Pando. It consists of about 25 households. Together with ACEBA it will provide a focus for new NTFP harvesting, income diversification and improvement. COINCAPA will be responsible for communicating household income and harvest data.
<b>Have you included a Letter of Support from this institution?</b>	<i>Letter delayed: to be submitted separately.</i>
<b>Asociación de Comunidades Extractivistas del Bosque Amazónico</b>  <b>(ACEBA)</b>	ACEBA is one of two main cooperatives involved in harvesting NTFP's - currently Brazil Nuts - in Pando. Together with COINCAPA it will provide a focus for new NTFP harvesting, income diversification and improvement. ACEBA will be responsible for communicating household income and harvest data.
<b>Have you included a Letter of Support from this institution?</b>	<i>Letter delayed: to be submitted separately.</i>
<b>Universidad Amazónica de Pando (UAP), Cobija</b>  <a href="http://www.uap.bo/">http://www.uap.bo/</a>	UAP is part of Bolivia's national network of higher education and is committed to research and economic and social development in the Amazon region. Its School of Forestry has extensive knowledge and experience of applied forest management. UAP will provide the venue and research input for the experimental/ demonstration nursery and agroforestry trials in Cobija, including native <i>Inga</i> growth trials (for soil fertility improvement) and forest product integration.
<b>Have you included a Letter of Support from this institution?</b>	<b>Yes</b>

<b>11. Have you provided CVs for the senior team including the Project Leader</b>	<b>Yes</b>
---	------------

## TECHNICAL EXCELLENCE

### 12. Problem the project is trying to address

Sixty-nine percent of the forest-dependent population of Pando Department are unable to satisfy their basic needs<sup>1</sup> and 34% live in extreme poverty<sup>1</sup>. The Millennium Development Goals (MDG) for Bolivia<sup>2</sup> and the Bolivian Amazon<sup>3</sup> aim to reduce extreme poverty to 24% by 2015.

Immigration to Amazonia, driven by economic, political and environmental factors, has placed increasing pressure on forests (an issue identified through consultation with community organisations and governmental/NGO bodies in Bolivia). Pando forests support a large forest-dependent population (40% of the total), are important for biodiversity and ecosystem services and constitute important buffers for the eastern Andean catchments from predicted impacts of climate-change. Forest loss will reduce Bolivia's ability to meet its CBD/MDB obligations and increase vulnerability to climate change among the poor.

Mitigating these threats demands sustainable practices that reduce forest conversion, coupled with skills and knowledge of forest values for addressing poverty. Priorities identified by the Integrated Forest Management Plan (BAP) and Bolivia's Constitution include: diversification of forest-based incomes, adoption of sustainable forest management systems (Articles 33,108), protection and conservation of soils (Articles 380,386-9) and strategic importance of Amazon watershed for biodiversity and environmental services (Articles 390,391). The project aims to address these priorities.

1. Observatorio Bolivia Democrática. 2008. Fichas Municipales. La Paz. Ed. Viceministerio de Descentralización. Interactive CD.
2. UDAPE. 2005. Objetivos de Desarrollo del Milenio. Tercer Informe de Avance Bolivia, La Paz. 190 pp.
3. Reyes J.F., Herbas M. 2012. La Amazonía Boliviana y los Objetivos de Desarrollo del Milenio. Articulación Regional Amazonica- Herencia. Cobija. 80 pp.

### 13. Methodology

#### OVERALL APPROACH FOR ACHIEVING OUTCOMES/IMPACT

- Applying science to identified technical challenges and knowledge gaps;
- Adaptive management of field-tested approaches;
- Community-based pilots supported by training/monitoring systems;
- Engagement with existing/emerging markets and achievable outputs;
- Communication/awareness programmes and stakeholder workshops built into project activities;
- Bottom-up approach to influencing decision-making through proven ground-based success.

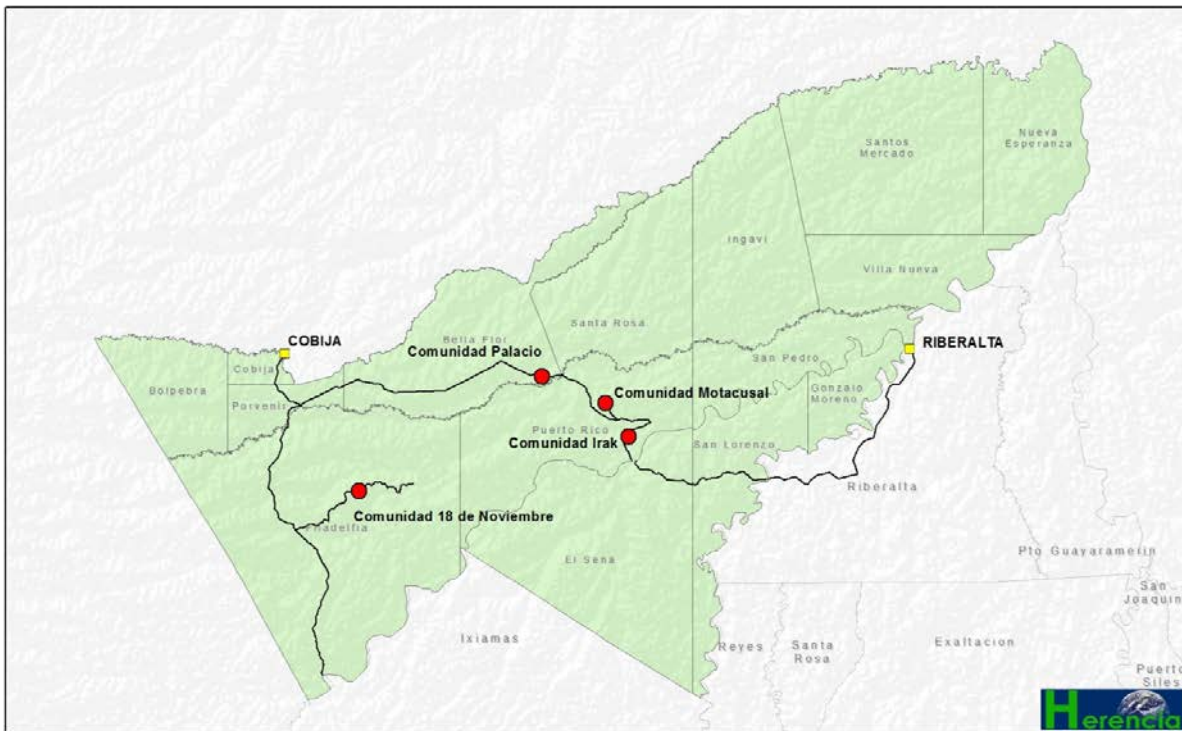
#### ***Identification/inventory of NTFPs and market engagement***

NTFP resources for sustainable harvesting will be identified selected through interviews with Brazil nut collectors/ community members, targeted population surveys (area/density using GIS and plots) and market research. Products identified in a preliminary analysis by Freeworld Trading (*Plukenetia volubilis*, *Bertholletia excelsa* shells, wild *Euterpe* sp. and wild *Theobroma*

cacao) will be included in this analysis. Incorporation of traditional knowledge will be subject to prior informed consent procedures. The project will engage cooperatives<sup>1</sup>, traders and collectors to complete development of collection/marketing production pilots and establish information dissemination channels for a Market Information System for non-timber forest products NTFPs adapted for local use. Success will depend on thorough understanding and management of the value chain, and exploitation of opportunities for local value addition.

### ***Development/adaptation of community-managed agroforestry***

Pilot agroforestry projects will be established at four sites where Herencia is actively engaged in supporting forest stewardship<sup>2</sup>. Systems tested in Honduras and Peru using *Inga* (Leguminosae) for soil improvement, shade and biomass will be adapted for local uptake. Pilots will incorporate food crops and timber/fuelwood species for subsistence together with potential cash-crop species (drawing on NTFP research). Pilots<sup>3</sup> will be complemented by agroforestry control/demonstration plots and growth/propagation trials of native *Inga* and NTFP species at UAP. Experience exchange (Peru) will promote long-term vision and lesson-learning. The leading expert in *Inga* utilization, Terry Pennington (Research Associate, Kew), will provide technical support.



Project area and communities currently engaged in Herencia's Bosques de los Niños programme

### ***Research/communication of forest ecosystem services/values***

Working with four pilot communities we will establish eight permanent forest plots in representative ecotypes quantifying plant diversity, carbon stocks and economic species, providing region-specific data with local ownership. Schools activities will establish educational approaches and develop materials to enhance knowledge, influence attitudes and behaviours toward biodiversity and ecosystem services, and identify factors determining how the effects of these approaches multiply within the community.

<sup>1</sup> Free World Trading (FWT) is engaged with two Fairtrade-certified cooperatives in Pando (COINACAPA and ACEBA).

<sup>2</sup> *Bosque de los Niños* programme: <http://www.herencia.org.bo/especiales/boni/index.php>

<sup>3</sup> Initial engagement approximately 320 people.



Findings will be communicated through inter-community exchange and local/national media for wider dissemination. We will develop/distribute targeted information resources and portals (Forest products; Agroforestry systems; Ecosystem services/biodiversity) supported by strategic training and capacity building workshops.

The programme will broaden its geographical impact through strategic engagement with regional programmes supporting integration of sustainable forest management and ecosystem values into decision-making, planning and practice (e.g. cross-border MAP programme), and experience exchange with local initiatives (e.g. WWF's Brazil nut harvesting/marketing programme in Manuripi (Pando) and NTFP diversification in Acre (Brazil)) and international programmes to develop agroforestry systems in Africa (e.g. Kew African Inga project).

Clear institutional roles and responsibilities have been developed for each component. Monitoring and adaptive management systems will be integrated into project activities with identification of SMART milestones and systematic testing of project assumptions against the logframe. Participating communities will be actively involved in monitoring and evaluation, ensuring knowledge/experience of stakeholders are built into evaluation processes and expected outcomes are achieved from the perspectives of all parties.

#### 14. Outcome

***Tools, skills and knowledge to alleviate poverty sustainably are developed and applied in the Bolivian Amazon, improving livelihoods and reducing deforestation:***

It is expected that diversification and expansion of NTFP collection/marketing from Pando will see the number and quantity of traded species increased, with improved household incomes and financial stability for harvesters (10% Yr3). Crucially this will make harvesters' livelihoods less vulnerable to market and productivity fluctuations and climate change. Information on NTFPs will be more accessible to the forest communities constituting 40% of Pando's population, helping harvesters react to market changes and opportunities. Harvesters working through cooperatives are currently allocated 500 ha of forest each: the impact will initially cover 147,500 ha (295 harvesters).

Adaptation of *Inga* agroforestry techniques, their promotion and adoption by four pilot communities, and subsequent outreach among the 220 forest communities in Pando, will increase capacity of the rural poor to meet their basic needs sustainably. This will result in 10% reduction in forest conversion through slash-and-burn subsistence agriculture among participating communities, with 15% agricultural productivity derived from agroforestry among 100 households (Yr3).

Awareness of biodiversity and ecosystem service values of natural forest (including carbon stock, forest products) will be raised amongst rural communities and policy-makers. In parallel with increased awareness of options for sustainable forest management and strategic engagement with regional programmes to ensure long-term impact, this will create incentives for reducing deforestation within the region. Bolivia will consequently be in a stronger position to meet its commitments to the CBD and National Biodiversity Strategy.

**15a. Is this a new initiative or a development of existing work (funded through any source)?**

*This is an entirely new initiative which builds partly on knowledge developed elsewhere in Latin America and pre-existing networks which give the project impact, sustainability and therefore legacy. Specifically:*

- The 'Bosque de los Niños' programme<sup>4</sup> established by Herencia in Bolivia, building community engagement and education for forest management.
- Freeworld Trading's forest product and community development programme, providing access to global markets.
- The RAINFOR network<sup>5</sup> of forest plots, contributing to the understanding of biodiversity and ecosystem services.

**15b. Are you aware of any other individuals/organisations/projects carrying out or applying for funding for similar work?**  Yes  No

PROMAB (Programa Manejo de Bosques de la Amazonia Boliviana), an international collaboration established in 1994 to promote sustainable forest management through the development of forest products and silviculture systems, took a less applied approach than we are proposing and has now finished. We have been in communication with involved parties to ensure that our proposed activities and outputs build on and learn lessons from its findings. There remains a clear need for further development of sustainable forest products and uptake of sustainable forest management systems in the region, based on improved knowledge of its biodiversity, ecosystem services and natural resources.

WWF Bolivia has a well-established programme supporting conservation and sustainable use in the Manuripi National Amazon Wildlife Reserve. It is currently working with local communities in the reserve to support the development of a sustainable Brazil nut industry, including strengthened access to markets and value addition through certification (Organic, Fair Trade, Origin). Whilst our project is focused on developing *other* forest products, there is a potential opportunity for mutual benefit sharing through the development of Brazil-nut by-products (shells), coordinated access to international markets, and expansion of range of certified products. We have agreed to explore these opportunities proactively, and also to engage with WWF's Sky Rainforest Rescue programme in Brazil (Acre) through community-level experience exchange.

Experimental agroforestry systems using *Inga* have been developed in Central America and Peru, and other organisations (including the Inga Foundation) are continuing to develop pilot projects in Latin America. This approach has not previously been developed in Bolivia, and the project will work to integrate findings and lessons from these pilots into its agroforestry component and share findings for mutual benefit. This will be achieved via direct input from key specialists working in Peru (including Dr Pennington), and programmed experience exchange between projects.

Private-sector Brazil nut processing organisations in Bolivia (e.g. Manutata – one of the larger companies based in Riberalta – see *letters*) are researching new opportunities for cropping and production methods. The project will engage with these initiatives to ensure that development of alternative products is approached in a consistent manner, maximising the potential for mutual benefit and access to national and international markets.

The Nature Conservancy is running a project in the Bolivian Amazon promoting the role of women in sustainable forest management. We aim to draw on the findings from this project in the development of our community-based agroforestry and forest product trials, helping to

<sup>4</sup> Programme promoting the role of children in forest conservation and management.

<sup>5</sup> <http://www.geog.leeds.ac.uk/projects/rainfor/>

ensure equitable benefits.

Finally, we will maintain dialogue with CIPCA (Centro de Investigación y Promoción del Campesinato), a Bolivian NGO working to support sustainable development and indigenous rights in the Bolivian Amazon. CIPCA has previously run a programme in Beni Department promoting cocoa production among rural communities but is not working with NTFPs.

**15c. Are you applying for funding relating to the proposed project from other sources?**

Yes  No

Funds will be sought (£2,000 per year) from the Bentham Moxon Trust annually to support **additional** participation of specialist Kew staff in botanical field research. This will result in supplementary scientific outputs which, whilst contributing to the project's overall value, are not essential to its success. Results will be expected in November 2013, November 2014 and November 2015.

**16. Value for money**

By securing in-kind support as well as financial matching funds equivalent to 48% of the total cost, this project offers excellent value for money for the Darwin Initiative.

The project has been designed to draw on the existing strengths and infrastructure of appropriate organisations operating in the Bolivian Amazon, establishing a network capable of delivering significant outcomes with relatively little investment.

Engaging forest communities with whom Herencia already has collaborative programmes, and trade organisations with which Freeworld Trading is already working, will allow us to meet our objectives within three years. In other circumstances it would be impossible to deliver these outcomes within such a short space of time.

The impact of this project stands to be disproportionate to the investment made. This is partly due to the direct engagement with NTFP markets which will help to harness long-term, large-scale economic benefits for local communities. All elements of the project are designed to be scaled up beyond their initial pilots. The building of social capital through sustainable agricultural systems and new economically viable, sustainable marketing options for forest products will directly impact 160 households (295 harvesters, ca 1,100 people) and help 100 rural households (ca 700 people) meet their basic needs. The knock-on effects on neighbouring communities, which comprise 38,000 rural people and 1,600 harvesters, will offer added value for money as outputs are taken up, whilst strategic engagement with regional programmes will reduce fragmentation, duplication and waste through mutually supportive relationships for long-term impact in the region.

**17. Ethics**

This project specifically targets poverty reduction and sustainable use of biodiversity among the rural poor of Bolivian Amazonia. Communities with which the project will work are enthusiastic and ready to engage in all aspects including monitoring and evaluation (see letters from community leaders).

Kew has had a Policy on Access to Genetic Resources and Benefit Sharing since 2001 ([www.kew.org/conservation/docs/ABSPolicy.pdf](http://www.kew.org/conservation/docs/ABSPolicy.pdf)). All staff participating in overseas work go through Kew's Overseas Fieldwork Committee for permission to travel, ensuring compliance with requirements of CITES and CBD and national/local legislation on collecting and exporting genetic resources and associated traditional knowledge. This procedure also covers aspects relating to Health and Safety.

Kew has developed peer-reviewed standards for working with traditional knowledge and indigenous peoples (including Prior Informed Consent) and a suite of model agreements designed to ensure compliance with legal and ethical standards within collaborative partnerships, including standards for management of data and intellectual property. Herencia

has been developing active citizenship through its projects since 1997, and Freeworld Trading has established its own ethical standards which it shares with trading partners (in this instance CINACAPA and ACEBA). FWT also ensures that its suppliers, warehouses and transporters hold their own ethical trading policies and incorporate ethical codes into their auditing procedures.

Based on the above foundation, project leaders will ensure that legal and ethical standards, equal opportunities and substantial cross-sector participation are built into the core of all project activities, recognising and capitalising on the natural and social assets and skills of all involved in the project, including women and the most vulnerable. It will ensure equitable sharing of the information generated by the project and will recognise the value that traditional knowledge brings to the independent technical and scientific research. The application of health and safety to all project activities will be monitored and managed.

## PATHWAY TO IMPACT

### 18. Legacy

As a legacy of this project, pressure on natural forest will be reduced in Pando, with both NTFP harvesters (including town-dwellers) and rural communities better able to meet their basic needs through increased incomes (for harvesters) and increased productivity of marginal and abandoned lands (for rural communities), reducing poverty and improving food security.

These tangible benefits and incentives for sustainable forest management will be complemented by increased knowledge and awareness of the value of forest biodiversity and ecosystem services, together providing economic arguments and data supporting sustainable use and conservation of forest. This argument will have been disseminated to key decision-makers, the Government of the Pando, forest- and town-dwellers, and strengthened within the Millennium Development Goals for the Bolivian Amazon, altering long-term perceptions of the economic value of natural forest and enhancing cross-sector networks for improved decision-making.

The diversification of NTFPs will have a long-term and growing impact, not only reducing susceptibility of harvester incomes to market fluctuations and establishing models for incorporation of NTFPs into sustainable market systems, but also influencing a broader network of harvesters and development projects e.g. WWF's work with certification of Rubber and Brazil Nut to support protection of the Manuripi Reserve.

Increasing productivity of degraded or abandoned pasture through agroforestry will provide techniques whereby rural communities are better able to meet their basic food needs without resorting to forest clearance for up to 20 years, after which they can be thinned and re-planted or revert to forest. Establishing a cross-border network (Peru-Bolivia) for sharing knowledge will strengthen these systems. Furthermore, dissemination through NGOs additional to Herencia, such as the Campesino Centre for Research and Marketing (CIPCA) - an aid organization providing technical support and advice to farmers - will reduce risk by ensuring that uptake is not dependent on a single agent of change.

### 19. Pathway to poverty alleviation

The project will focus on capacity and knowledge building, generating tools to empower people living in or vulnerable to poverty (NTFP harvesters and subsistence farmers living in a matrix of deforested and forested agricultural landscapes) to increase the amount of revenue they obtain from their land for longer and in a more secure manner.

#### **Increase revenue**

- NTFP harvesters: increased diversity of NTFPs raises overall product turnover and income.
- Subsistence farmers: increased productivity of abandoned or very low productivity land through cash-crops and food production for family consumption in agroforestry plots.

#### **For longer**

- Supporting establishment of sustainable agroforestry production systems, reducing agrochemical input and maintaining soil fertility and integrity on abandoned or degraded pasture.

#### **In a more secure manner**

- Increasing resilience by establishment of more diverse productive systems that are less vulnerable to pest outbreaks, extreme weather and market price fluctuations than single product systems.

- Increasing organisational capacity for monitoring, management and agricultural training.

Expanding the project's impact on poverty beyond its immediate target communities within Pando will be achieved through its education and outreach components, actively promoting uptake of sustainable NTFP harvesting and agroforestry.

However, we recognise potential opportunities for broader lesson-learning from the project's approach to poverty alleviation, including mechanisms promoting multiplication of attitudes, behaviours and management practices within other communities and stakeholder groups, and to the links between biodiversity, ecosystem services and poverty. We will actively explore and evaluate these connections through our research and monitoring programmes<sup>6</sup>, reporting findings and engaging with relevant development programmes in and beyond Bolivia.

*The project was assessed as ODA compliant at Round 1.*

## 20. Exit strategy

The project will achieve sustainable outcomes but not all components have stable end points. Development of management practices and market supply chains for NTFPs, and adaptation, demonstration and uptake of agroforestry systems, are intrinsically long-term processes. The project will integrate research, technology transfer and stakeholder participation through engagement with existing initiatives continuing beyond the life of the project. Adaptive management will be built into all aspects.

Specific elements of the exit strategy promoting long-term legacy include:

- *Active participation of trade organisations and engagement with market mechanisms, helping ensure financial sustainability.*
- Integrating short- and long-term benefits into community-managed components (e.g. agroforestry), incorporating traditional knowledge.
- Engaging with governmental organisations and policy to improve long-term delivery of CBD obligations.
- Training, capacity building and outreach integrated into all components.
- Building regional partnerships for ongoing collaboration.
- Engaging stakeholder organisations with long-term interests in sustainable NTFP trade.
- Delivering accessible technical information (including reproducible guides) through ongoing programmes beyond the life of the project.
- Integrating data into locally managed databases.
- Supporting certified status for forest management.<sup>7</sup>

The project will raise funds and build partnerships to extend its monitoring and extension activities beyond its initial three years.

<sup>6</sup> We will explore options for addressing these issues in more depth through a MSc thesis.

<sup>7</sup> The pilot communities are outside the protected areas network in Pando but working with NTFPs may enable their certification under Bolivia's Integrated Forest Management Plan.

## HIGHLY DESIRABLE

**21. Raising awareness of the potential worth of biodiversity**

***Raising awareness of the potential worth of biodiversity is fundamental to project outcome and intrinsic to two of its outputs (1 and 4).*** The project will engage a wide range of audiences, initially through project activities, including households of NTFP harvesters and populations of forest communities (including school children), NTFP cooperatives and traders. Initiation workshops for partners and stakeholders will define and establish a shared vision, set clear milestones and allocate roles and responsibilities. These workshops will also design a participatory system for project monitoring and evaluation.

The four forest pilot communities will receive integrated training and capacity building during establishment of agroforestry pilots and through participation in primary data generation in forest surveys. NTFP harvesters and cooperatives will likewise engage in data collection for the survey of potential products, and both groups in the experience exchange programme with Peru and Brazil (see Methodology). Relevant participant groups will take part in development and dissemination of key project communication outputs including the “1-Stop Guide” for sustainable NTFP collection and the Agroforestry booklet.

Awareness-raising beyond directly participating communities will be achieved through a combination of workshops, demonstrations and experience exchange bringing together farmers, collectors, traders, cooperatives and decision-makers. Schools education materials developed as part of Output 4 activities will engage Bolivian school teachers in the short term, but with wider-reaching indirect benefits through classes.

Similarly products from Output 3 (value of forest ecosystem services and biodiversity), communicated through printed, online and oral media, will immediately engage the above audiences whilst wider and longer-term impact will depend on successful engagement with a range of governmental stakeholders e.g. the Association of the Municipalities of Pando (AMDEPANDO), Ministry of the Environment, Biodiversity, Climate Change and Forest Management/Development (La Paz), and the Associations of Bolivian primary and secondary school teachers.

**22. Importance of subject focus for this project**

1. ***Restoration of abandoned/degraded pasture:*** *Inga* agroforestry has been shown (in Peru)<sup>1</sup> to establish on compacted, acidified soils characteristic of abandoned and degraded pasture above 1000m elevation. We will adapt this technique to much lower elevations using local species, thereby bringing unproductive or poorly productive land into production.

2. ***Lessons learnt on local adaptation of agroforestry*** can be applied to ongoing projects in Africa, e.g. RBG Kew's African *Inga* project which seeks to address slash and burn agriculture in western Central African forests by finding an African equivalent to *Inga* (by 2016).

3. ***Generation of biodiversity data*** for the poorly documented flora of the Bolivian Amazon: the Bolivian Amazon is the least documented flora in Bolivia and one of the lesser documented within the Amazon. We will contribute valuable distribution data on the rare and threatened species encountered as part of the forest inventories: data that will be important for their conservation.

1. The genus *Inga* Utilization. 1998. T.D. Pennington & E.C.M Fernandes (Eds). The Royal Botanic Gardens, Kew. 167 pp.

**23. Leverage****a) Secured****Confirmed:**

- £XX from the Kew Foundation (8% of total project costs (tpc))
- Partial funding for project management, specialist expertise, curatorial support and associated overheads will be provided by the Royal Botanic Gardens, Kew (26.5% tpc)
- Funding for specialist technical input for forest product development and market research/engagement will be provided by Freeworld Trading (6.5% tpc).
- Herencia will support the project by partial funding of institutional and staff costs and transportation (5.5% tcp).
- The Museo de História Natural Noel Kempff Mercado (MHNNKM) will contribute partial funding for specialist expertise/management and herbarium support (1.5% tcp).
- **Total = 48% tpc**

**b) Unsecured**

<b>Date applied for</b>	<b>Donor organisation</b>	<b>Amount</b>	<b>Comments</b>
<b>September 2013</b>	Bentham Moxon Trust	£XX	Supporting complementary botanical research – see 15c.
<b>September 2014</b>	Bentham Moxon Trust	£XX	
<b>September 2015</b>	Bentham Moxon Trust	£XX	



## PROJECT MONITORING AND EVALUATION

### MEASURING IMPACT

#### 24. LOGICAL FRAMEWORK

##### Impact

Locally viable sustainable forest management systems are adopted by the expanding rural population of the northern Bolivian Amazon contributing to poverty alleviation, maintenance of forest ecosystem services and biodiversity conservation.

##### Outcome

Sustainable forest management developed and practised in four pilot communities in Pando, Bolivia including: 1) diversification of NTFP resource collection and marketing; 2) agroforestry adapted to regional socio-economic context, contributing directly to poverty alleviation and biodiversity conservation; and 3) awareness of economic incentives for sustainable forest management and maintenance of ecosystem service values increased at a range of decision-making levels from community to governmental.

##### Measuring outcomes - indicators

Indicator 1	Collection and trade in NTFPs through at least two cooperatives and involving at least 160 households increased from one to at least three products by year 3.
Indicator 2	Household income derived from sustainable forest products increased by 10% among 160 NTFP harvester households by year 3, monitored through cooperatives.
Indicator 3	Enhanced agricultural output in 4 pilot communities using <i>Inga</i> agroforestry systems adapted to the region, with proportion of basic food needs met by agroforestry increasing to 15% (from nil) by year 3 among 100 households. <sup>8</sup>
Indicator 4	Annual forest clearance reduced by 10% in four pilot communities by year 3.
Indicator 5	Awareness of forest ecosystem services values and sustainable forest management opportunities and incentives increased at, community, school, NTFP harvester and regional decision-making levels by year 3.

##### Verifying outcomes

Indicator 1	Annual cooperative trade figures; pilot community annual collection and trade records. Baseline data on agricultural output submitted as part of first Half Year Report.
Indicator 2	Annual household economic surveys, focus group reports and records of sales through cooperatives and Freeworld Trading monitoring programme.
Indicator 3	Annual yield records from pilot agroforestry plots maintained by agriculture extension workers, school children, teachers, men and women in the four pilot communities. Households interviewed to establish the proportion of

<sup>8</sup> This is based on *Inga* agroforestry expert T. Pennington's estimate that 5 ha of agroforestry can provide the basic food needs of one household.

	basic food needs met by their community agroforestry plots.
Indicator 4	Mapping and remote sensing/GIS data indicate leverage of agroforestry cover of 3:1 with respect to the four community plots; focus group reports
Indicator 5	Baseline data and results of annual monitoring of awareness of ecosystem value of forest collected through value/culture surveys of communities and their leaders, schools and regional decision-makers.

### Outcome risks and important assumptions

Assumption 1	Pilot communities remain committed to sustainable forest management; micro-level (community-based) results influence macro-level (municipal/regional) strategies and decision-making. Risk minimised by focus on short-term delivery of benefits within a long-term strategy supporting regional coordination and cooperation, and multi-stakeholder engagement throughout the project life cycle.
Assumption 2	Options and market demand remain in place for available forest products; resources available in commercially viable quantities for sustainable management; products meet standards for local/international markets. Risk will be minimized through diversification of NTFP options.
Assumption 3	Land ownership system and political context continue to allow forest product extraction and agroforestry by communities. Maintaining an open dialogue with regional policy and decision makers throughout the project will help minimize this risk.

### Outputs

Output 1	Increased diversity of traded, sustainably harvested non-timber forest products (NTFPs) in Pando, supported by locally adapted information resources and delivery mechanisms, promoting sustainable forest management practice.
Output 2	Four community agroforestry pilot projects established, supported by technical research, generating increased uptake and agricultural output from locally appropriate systems promoting livelihoods and biodiversity.
Output 3	Knowledge of ecosystem services, biodiversity and associated values in Pando forests increased through eight permanent survey plots, including species diversity, carbon stocks and provisioning services (useful and marketable plants).
Output 4	Awareness of ecosystem and biodiversity values of local Amazonian forest increased among local farming and NTFP harvesting households, school children and local decision makers.

**Measuring outputs**

<b>Output 1</b>	
Indicator 1	Two NTFPs, not currently traded from Pando, have been traded in the EU for one year (Yr 3)
Indicator 2	Household income from sustainably harvested NTFPs increases in 160 participating harvester households from baseline of Bs 26,200 to 28,820 (+10%). (Yr 3)

<b>Output 2</b>	
Indicator 1	Number of local livelihoods incorporating <i>Inga</i> agroforestry strategies on their land increases from 0 to 100. (Yr 3)
Indicator 2	Area of agroforestry in pilot communities increased from 0ha to 20ha by Yr 3 and the number of participating communities increase from 4 to 16 during the course of the project (Yr 3)
Indicator 3	Surface area of <i>Inga</i> agroforestry in Bolivian Pando increases from current area of 0ha to 80ha. (Yr 3).
Indicator 4	Agroforestry system successfully adapted and at least six families in each of four communities trained in management and monitoring. (Yr 2)

<b>Output 3</b>	
Indicator 1	Value of forest ecosystem services (carbon, NTFP, timber) from plot survey and appropriate metric communicated to Local Government, local families, schools, NGOs and media through printed, online and oral media. (Yr 3)
Indicator 2	Value of biodiversity of local forests to regional and global conservation plans communicated to Local Government, local families, schools, NGOs and media through printed, online and oral media as appropriate. (Yr 2, 3)

<b>Output 4</b>	
Indicator 1	Output 3 results cited and incorporated into updated Bolivian Amazon Millennium Development Plan and conservation plans. (Yr 3)
Indicator 2	Educational programmes promoting understanding of ecosystem service and biodiversity value of natural forest included in school activities. (Yr 2, 3)
Indicator 3	Annual forest clearance in Pando reduced by 10% from current level of in four pilot communities. (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 (Output 1)	<p>1.1. Baseline data on collectors' income from NTFPs submitted with first Half Year Report, annual monitoring data submitted with Annual and Final Reports.</p> <p>1.2. NTFP trade figures by product for NTFPs from Pando compiled by project partner Freeworld Trading and submitted in Annual and Final Reports.</p> <p>1.3. Two new (for Pando) NTFPs available from a retailer in Bolivia and or the EU. Samples sent with Final Report.</p> <p>1.4 'One-stop guide' to sustainable forest products. Sample sent with Final Report.</p>
Indicator 2 (Output 2)	<p>2.1. Annual yield from demonstration <i>Inga</i> agroforestry plots documented and submitted as part of Annual and Final Reports.</p> <p>2.2. Mapping and quantification of <i>Inga</i> agroforestry, non-productive disturbed vegetation (e.g. degraded pasture) and natural forest using remote sensed data. Documented in a peer-reviewed publication, Annual Reports, local workshops and schools programme by Year 3.</p> <p>2.3. Number of families adopting <i>Inga</i> agroforestry techniques recorded as part of annual surveys.</p> <p>2.4. Field training/work attendance records by participating groups..</p> <p>2.5. Observation of practical field work, recordings in diaries, scrap books in projects activities and feedback from participating groups.</p> <p>2.6. Control trial (agroforestry and native <i>Inga</i>) experimental reports.</p> <p>2.6. Community Focus Group reports document awareness, understanding and motivation to adopt agroforestry techniques by Year 2.</p> <p>2.7. Biodiversity value of agroforestry systems documented and disseminated in a peer-reviewed publication, local workshops and schools programme by Year 3.</p> <p>2.8. <i>Inga</i> agroforestry booklet. Sample sent with Year 2 report.</p>
Indicator 3 (Output 3)	<p>3.1. Press releases, project website, social media, online clips, radio and face to face activities documented and included in Annual and Half Year Reports.</p> <p>3.2. Ecosystem and biodiversity value of natural forests documented in peer-reviewed publication.</p> <p>3.3. Forest biodiversity and ecosystem services booklet. Sample sent with Year 3 report.</p>
Indicator 4 (Output 4)	<p>4.1. Pre-project and annual awareness and value/culture surveys with schools, community leaders and regional decision-makers.</p> <p>4.2. Annual press review; independent stakeholder review; radio audience rating.</p> <p>4.3. Copy of education materials and activity timetables included in Annual and Final Reports.</p> <p>4.4. Assessment of remote-sensed data published in peer-reviewed publication and included in Final Report.</p> <p>4.5. Updated draft of 'Millennium Development Goals for the Bolivian Amazon' published submitted as annex to the Final Report.</p>



### 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	<ol style="list-style-type: none"> <li>1. Of the potential species selected for initial market testing (<i>Plukenetia volubilis</i>, <i>Bertholletia excelsa</i> shells, wild <i>Euterpe sp</i>, wild <i>Theobroma cacao</i>) two will be successful or substitutable by successful alternatives.</li> <li>2. Functional trade links in the edible NTFP market are maintained between the EU market and Bolivian Amazon processors, wholesalers and cooperatives.</li> </ol>
Assumption 2	<ol style="list-style-type: none"> <li>1. There remains a need/demand amongst farmers to improve livelihoods (Pando has amongst the highest proportion of people vulnerable to poverty in Bolivia).</li> <li>2. Land remains available for agroforestry plots and trials, and agroforestry systems are not adversely affected by natural disasters.</li> </ol>
Assumption 3	<ol style="list-style-type: none"> <li>1. Sites remain available for establishment of forest plots.</li> <li>1. Natural forest carbon stocks can be realistically estimated from data on species composition, associated wood anatomy and biomass.</li> <li>2. NTFP and timber value can be realistically estimated from species composition and biomass.</li> <li>3. Research and specimen export regulations allow Kew to support species diversity, sampling and mapping component.</li> </ol>
Assumption 4	<ol style="list-style-type: none"> <li>1. The “<i>El Bosque de los Niños</i>” programme and participating communities remain active and in collaboration throughout the project; community members (male and female), school children and NTFP harvesters happy to pass on knowledge. [Risk minimised by engagement workshops to define/agree shared vision/priority/product and the implementation of an integrated participatory monitoring and evaluation techniques as a learning tool].</li> <li>2. Herencia’s role in local community engagement and regional development strategy through Articulación Regional Amazonica (ARA) maintained (ARA is a transnational regional network of NGOs which seek to conserve Amazonian forests and ecosystems, biotic and cultural diversity, and the welfare of its inhabitants).</li> <li>4. Deforestation in Pando is driven by poverty and lack of existing alternative forest-based incomes.</li> </ol>

## 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.

<ul style="list-style-type: none"> <li>Secure written MOU between partners</li> </ul>
<ul style="list-style-type: none"> <li>Planning workshop with partners; review risks and assumptions, define strategy for coordination; review monitoring/evaluation programme</li> </ul>
<ul style="list-style-type: none"> <li>Planning workshop with stakeholders; review risks and assumptions, define strategy for coordination; review monitoring/evaluation programme</li> </ul>

### Output 1

Increased diversity of traded, sustainably harvested non-timber forest products (NTFPs) in Pando, promoting sustainable forest management practice

Activity 1.1	Identification & resource inventory of potential NTFPs incorporating field, desk-based and market components
Activity 1.2	Market-testing, marketing, promotion and production pipeline of two selected NTFPs
Activity 1.3	Monitor diversity & economic value of NTFPs harvested and sold against a baseline
Activity 1.4	Disseminate findings through Brazil experience exchange, workshop and production of 'One-stop guide' to sustainable forest products.

### Output 2

Four community agroforestry pilot projects established, supported by technical research, generating increased understanding, uptake and increased agricultural output from locally appropriate systems promoting livelihoods and biodiversity.

Activity 2.1	Establish agreements, infrastructure and pipeline for the seed acquisition, propagation, and distribution of tree seedlings to supply demo plots and community uptake.
Activity 2.2	Establish four community and one university <i>Inga</i> agroforestry demo plots and experimental growth trials including native <i>Inga</i> species and requisite agreements (prior informed consent, ABS etc).
Activity 2.3	Experience exchanges with Peruvian <i>Inga</i> agroforestry programme (yr 1, yr 2).
Activity 2.4	Analyse data from experimental trials, combine with experiences in Honduras and Peru to produce agroforestry guide for Amazonian Bolivia.
Activity 2.5	Use the agroforestry plots to apply participatory monitoring and evaluation techniques and assess effectiveness of training activities to build local awareness, capacity and uptake in the use of <i>Inga</i> agroforestry techniques.
Activity 2.6	Monitor uptake of agroforestry practices by local farmer community and increase in forest cover against an initial baseline.

<b>Output 3</b>	
Knowledge of local forest ecosystem services, biodiversity and associated values assessed through eight permanent survey plots, including species diversity, carbon stocks and provisioning services (useful and marketable plants).	
Activity 3.1	Desk based review of ecosystem services (carbon stock related to wood density, wood density related to species, biodiversity value, NTFPs etc).
Activity 3.2	Quantitative forest surveys of forest species composition, structure and biomass (integrated with 3.1 to generate quantified values for carbon stock, NTFPs etc).
Activity 3.3	Dissemination of above information tailored to project audiences: local communities, local policy makers, scientific community.

<b>Output 4</b>	
Awareness of ecosystem and biodiversity values of local Amazonian forest increased among local farming and NTFP harvesting households, school children and local decision makers.	
Activity 4.1	Publicity & dissemination through YouTube, Twitter, other social media, website and local media (print & radio), national press releases, and conference participations.
Activity 4.2	Annual press review; independent stakeholder review; radio audience rating.
Activity 4.3	Workshops and capacity building of farmers, local government officials, published guides, talks.
Activity 4.4	Monitoring impact as awareness of environmental and economic value the forests of Pando amongst the project audiences: local communities, local policy makers, local scientific community.
Activity 4.5	Development and delivery of schools programme and educational materials.



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				Year 4		
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Secure written MOU between partners	3													
Planning workshop with partners	½													
Planning workshop with stakeholders	½													
<b>Output 1 Increased diversity of traded, sustainably harvested non-timber forest products (NTFPs) in Pando, promoting sustainable forest management practice</b>														
1.1 Identification and resource inventory of potential NTFPs incorporating field, desk-based and market components	6													
Key milestones: Survey complete														
Two NTFPs selected														
One year's harvest and trading data for the two new NTFPs														
1.2 Market-testing, marketing, promotion and production pipeline of two selected NTFPs	30													
Key milestones: Market testing complete														
1.3 Monitor diversity & economic value of NTFPs harvested and sold against a baseline	36													
Key milestones: Household income of participating collectors from sustainably harvested NTFPs increases 10% from baseline of Bs 26,200 to 28,820														
1.4 Disseminate findings through Brazil experience exchange, workshops and production of 'One-stop guide' to sustainable forest products.	15													
Key milestones: Brazil experience exchange														
Publication of 'One-stop guide'														

<b>Output 2 Four community agroforestry pilot projects established, supported by technical research, generating increased understanding, uptake and increased agricultural output from locally appropriate systems promoting livelihoods and biodiversity</b>																	
2.1	Establish agreements, infrastructure and pipeline for the seed acquisition, propagation, and distribution of tree seedlings to supply demo plots and community uptake.	18															
Key milestones:	Nursery facilities established and Inga seeds sourced and collected and propagated for 1 <sup>st</sup> planting and 2 <sup>nd</sup> planting, respectively	9															
2.2	Establish four community and one university <i>Inga</i> agroforestry demo plots and experimental growth trials including native <i>Inga</i> species and requisite agreements (prior informed consent, ABS etc)	36															
Key milestones:	Five demo plots planted 1 <sup>st</sup> , 2 <sup>nd</sup> time and 3 <sup>rd</sup> time Five plots pruned and herbs harvested 1 <sup>st</sup> , 2 <sup>nd</sup> , and 3 <sup>rd</sup> time																
2.3	Experience exchange with Peruvian <i>Inga</i> agroforestry programme	1															
Key milestones:	Peruvian <i>Inga</i> agroforestry extensionist visits the five Bolivian sites Bolivian project extensionist, trial manager, and four community facilitators visit Peruvian sites																
2.4	Analyse data from experimental trials, combine with experiences in Honduras and Peru to produce agroforestry guide for Amazonian Bolivia	24															
Key milestones:	Data from trials analysed and fed into four community demo plots Agroforestry guide published, distributed, and used in community agroforestry workshops and visits to plots																

<p>2.5 Use the agroforestry plots for participatory monitoring and evaluation techniques and assess effectiveness of training activities to build local awareness, capacity and uptake in the use of <i>Inga</i> agroforestry techniques</p> <p>Key milestones: Four community and one university agroforestry demo plots established. Training and capacity building provided for primary school teachers/facilitators and school children in field study skills, plot sowing and maintenance, harvest value of biodiversity, interpretation, participatory E&amp;M and project management. Amount of agroforestry on participating community grounds increased from 0 to 20 ha.</p>	<p>36</p>														
<p>2.6 Monitor uptake of agroforestry practices by local farmer community and increase in forest cover against an initial baseline</p> <p>Key milestones: Baseline mapping and quantification of <i>Inga</i> agroforestry, non-productive disturbed vegetation and natural vegetation complete Mapping and quantification of agroforestry cover updated to quantify uptake and practice against baseline. This documented in peer-reviewed publication, Annual Reports, workshops, and school curriculum</p>	<p>36</p>														
<p><b>Output 3 Knowledge of local forest ecosystem services, biodiversity and associated values assessed through eight permanent survey plots, including species diversity, carbon stocks and provisioning services (useful and marketable plants)</b></p>															
<p>3.1 Desk based review of ecosystem services (carbon stock related to wood density, wood density related to species, biodiversity value, NTFPs etc)</p> <p>Key milestones: Reviews complete and have informed actions related to activities 3.2 and 3.3</p>	<p>6</p>														
<p>3.2 Quantitative forest surveys of forest species composition, structure and biomass; integrated with 3.1 to generate quantified values for carbon stock, NTFPs etc)</p> <p>Key milestones: Eight permanent plots established Data collected from eight plots</p>	<p>24</p>														

	Data analysis complete																			
3.3	Dissemination of above information tailored to project audiences: local communities, local policy makers, local scientific community	9																		
Key milestones:																				
Value of forest ecosystem services and biodiversity continuously disseminated through press releases, project website, social media, radio, face-to-face activities																				
Value of forest ecosystem services and biodiversity documented in project reports																				
Value of forest ecosystem services and biodiversity documented in peer-reviewed publication																				
<b>Output 4 Awareness of ecosystem and biodiversity values of local Amazonian forest increased among local farming and NTFP households, school children and decision makers</b>																				
4.1	Publicity & dissemination through YouTube, Twitter, other social media, website and local media (print & radio), national press releases and conference participations	36																		
Key milestones:																				
12 local radio features/interviews, 2 press releases local and UK, 2 newsletter (c. 5000 circulation each), 1 video on YouTube by each of yrs 1, 2, 3																				
4.2	Annual press review; independent stakeholder review; radio audience rating	27																		
Key milestones: Annual reviews complete and disseminated																				
4.3	Workshops and capacity building of local farmers, students, teachers, local government officials, published guides, talks	36																		
Key milestones:																				
Output 3 results cited and incorporated into updated Bolivian Amazon Millennium Development plan																				
Forest values booklet published and distributed																				

<p>4.4 Monitoring impact as awareness of environmental and economic value the forests of Pando amongst the project audiences: local communities, local policy makers, local scientific community</p>	<p>36</p>																
<p>Key milestones: Baseline survey Knowledge, behaviour and attitudes towards value of biodiversity and ecosystem services surveyed among audiences of the NTFP and agroforestry components increased at the end of yr 1,2,3 Workshop targeted at local and regional decision makers through Articulación Regional Amazónica and Pando municipal bodies.</p>			<p>✗</p>	<p>✗</p>	<p>✗</p>	<p>✗</p>			<p>✗</p>					<p>✗</p>	<p>✗</p>		
<p>4.5 Development and delivery of schools programme and educational materials. Key milestones: Educational materials complete and incorporated in schools activities</p>	<p>12</p>								<p>✗</p>								

## 26. Project based monitoring and evaluation

The project will be subject to Kew's established project evaluation and financial accounting protocols and the Darwin Initiative's internal reporting system. SMART indicators and milestones within the logical framework provide the principal basis for project-level monitoring. However, it is recognised that regular (provisionally 6-monthly) testing of the project's assumptions will be required, incorporating the perspective of stakeholders, which is likely to necessitate periodic adjustments to activities and indicators. Monitoring and evaluation are therefore built into the project as specific, [monitored] activities (1.3, 2.5, 2.6, 4.4) and have been set their own milestones.

Thus monitoring and evaluation are embraced as positive tools to ensure that expected outcomes are achieved from the perspective of all stakeholders. Adaptive management is essential in the context of a project aiming to deliver tangible benefits for local communities and biodiversity, which demands not only effective monitoring and evaluation but also mechanisms for applying lessons learned to the adjustment of planned activities, outputs and approaches through the life of the project.

In order to achieve this, baseline needs assessments, status evaluations (e.g. knowledge, engagement [by gender, age]) and workshops have been built into the initial phase of each component of the project. During these activities quantitative and qualitative indicators will be revised, incorporating the perspectives of relevant stakeholder groups, and mechanisms and roles for continuous and programmed monitoring and evaluation will be refined and agreed. Community-based monitoring will principally be targeted at activity and output level (e.g. development and productivity of agroforestry pilots etc.), and will require specific orientation and training. This activity will be supported and monitored closely throughout the course of the project, helping to mitigate risk by facilitating timely interventions.

Budgetary monitoring will be designed to reflect changes in levels of activity and performance (see Question 27) in order to control costs and ultimately to manage the achievement of Indicators. As such, some flexibility will be required in the budget to change courses of action when necessary and plan ahead for next financial year. The overall responsibility for monitoring and evaluation will fall under the remit of the project leader. However, responsibilities will be shared among the principals of each partner organisation according to their roles in the project.

Outcome-level indicators will be monitored against baseline data. In some cases these already exist, e.g. NTFP trade figures (cooperatives) and household incomes in pilot communities (Herencia). In others, such as agricultural production and levels of understanding of forest biodiversity and ecosystem values, they will require specific testing through focus groups and the workshops outlined above. Spatial monitoring (e.g. rates of forest conversion and uptake of agroforestry) will draw baseline data from field surveys and satellite imagery.

<b>Outcome indicator</b>	<b>Monitoring responsibilities</b>
1: NTFP collection	Freeworld trading, cooperatives
2: Household income from NTFPs	Cooperatives, Herencia
3: Agricultural output from agroforestry	Herencia, communities
4: Annual forest clearance	RBG Kew, communities
5: Knowledge of forest values	Herencia, NHNNKM, schools

Impact-level monitoring will require long-term data on take-up of the approaches developed by the project and its positive/negative impact on poverty and biodiversity.

## FUNDING AND BUDGET

### 27. Value for Money

#### Balance of funding

UK salary costs have been minimised, covering project management and essential specialist technical input only. Kew will provide funding for 50% of UK salary costs and 80% of associated overhead costs. The one UK specialist consultant engaged in the project will also be 50% funded by Kew. Staff time for Bolivian participants (17.9 person/years) substantially exceeds UK staff time (2.1 person/years), constituting a major saving whilst maximising local ownership and legacy.

#### Development

The budget has been developed through a series of discussions with project partners in order to identify opportunities for cost saving and allocate realistic costs to activities and salaries. We have assumed an average 3% annual increment in salary costs and have incorporated taxation into the figures as appropriate. We have also assumed stability in inflation and exchange rates between the Boliviano and Sterling, and that resources currently available in kind (e.g. field transport, sites for agroforestry trials, etc.), secured in order to minimise project cost and provide value for money, will remain available during the project lifetime. Where feasible these will be guaranteed through inter-institutional agreements at the initiation of the project.

#### Managing a cost effective and efficient project

To help overcome inherent risks in our assumptions we will adopt dynamic budget management for regular reporting and evaluation by project partners (direct input into files shared on Web), linking expenditure to activities and achievement of targets/outputs. This approach, comparing forecast budget with expenditure in real time, rapidly highlights significant divergence (over/under-spend) from the original budget and allows us to reallocate resources as required, maximising efficiency and value for money. It also signals areas of project activity requiring corrective action, particular at the level of activities, thus providing an excellent tool for monitoring and evaluating and forward planning.

## 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

**We contacted the UK Embassy in La Paz on the 21<sup>st</sup> of November. The FCO Latin America Desk Officer, Celia Anthony confirmed by telephone on the 3<sup>rd</sup> of December that confirmation of their support for the proposal will follow.**

**CERTIFICATION 2013/14**

On behalf of the trustees of

The Royal Botanic Gardens, Kew

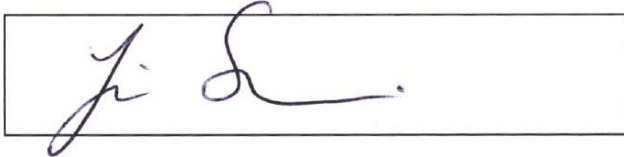
I apply for a grant of £ 259,033 in respect of **all expenditure** to be incurred during the lifetime of this project based on the activities and dates specified in the above application.

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.

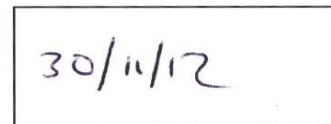
**I enclose CVs for project principals and letters of support. Our most recent audited/independently verified accounts and annual report can be found at <http://www.kew.org/about-kew/our-work/annual-report-accounts/index.htm>**

<b>Name (block capitals)</b>	Professor Tim Entwisle
<b>Position in the organisation</b>	Director of Conservation, Living Collection and Estates

Signed



Date:





**Stage 2 Application - Checklist for submission**

	<b>Check</b>
Have you provided <b>actual start and end dates</b> for your project?	x
Have you provided your <b>budget based on UK government financial years</b> i.e. 1 April – 31 March and in GBP?	x
Have you checked that your <b>budget is complete</b> , correctly adds up and that you have included the correct final total on the top page of the application?	x
Has your application been <b>signed by a suitably authorised individual?</b> (clear electronic or scanned signatures are acceptable in the email)	x
Have you included a <b>1 page CV for all the Principals</b> identified at Question 7?	x
Have you included a <b>letter of support from the <u>main</u> partner(s) organisations</b> identified at Question 10?	x
Have you <b>checked with the FCO</b> in the project country/ies and have you included any evidence of this?	x
Have you included a <b>copy of the last 2 years annual report and accounts</b> for the lead organisation? An electronic link to a website is acceptable.	x
Have you <b>read the Guidance Notes?</b>	x
Have you <b>checked the Darwin website</b> immediately prior to submission to ensure there are no late updates?	<b>x</b>

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](mailto: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.