



## DARWIN INITIATIVE



### APPLICATION FOR GRANT FOR ROUND 12 COMPETITION: STAGE 2

Please read the Guidance Notes before completing this form. Give a full answer to each section; applications will be considered on the basis of information submitted on this form. Please do not cross-refer to information in separate documents except where invited on the form. The space provided indicates the level of detail required but you may provide additional information on a separate A4 sheet if necessary. Do not reduce the font size below 12pt or alter the paragraph spacing.

**Submit by 19 January 2004**

Ref (Defra only):

**1. Name and address of organisation**

University of Oxford, University Office, Wellington Square, Oxford, OX1 2JD, UK.

**2. Project title (not exceeding 10 words)**

Participatory forest management for medicinal plant production in Peru.

**3. Principals in project. Please provide a one page CV for each of these named individuals.**

Details	Project leader	Other UK personnel (if working more than 50% of their time on project)	Main project partner or co-ordinator in host country
<b>Surname</b>	Lawrence		Reátegui
<b>Forename(s)</b>	Anna		Adela
<b>Post held</b>	Senior Research Fellow, and Human Ecology Programme Leader		Director of EORI
<b>Institution (if different to above)</b>	Environmental Change Institute, 5 South Parks Road, Oxford, OX1 3UB		Centro EORI de Investigación y Promoción Regional, Av. 26 De Diciembre # 214, Puerto Maldonado, Madre de Dios – PERU
<b>Department</b>			
<b>Telephone</b>			
<b>Fax</b>			
<b>Email</b>			

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

**Aims**

The ECI was established to organise and promote collaborative interdisciplinary research on the nature, causes and impacts of environmental change and to contribute to management strategies for coping with future environmental change. We are committed to exploiting the potential of a unified approach across the natural, social and physical

sciences; to active engagement, innovative outreach (see [www.changingclimate.org](http://www.changingclimate.org)), and strategic partnership with government, business, and civic society; and we are committed to making a difference in environmental affairs, research and teaching.

### Activities

The Environmental Change Institute (ECI) is Oxford University's centre for research and teaching on the environment and sustainability. The ECI co-ordinates the internationally unique UK climate impacts programme for the UK government and regularly leads major national and international research consortia. We have had in excess of 200 international research partner institutions in over 30 countries. Current research themes include: biodiversity and conservation; climate change impacts and adaptation; modelling carbon fluxes; use of energy; equity and the environment; and market transformation. Such research is used to influence policy through the leading roles staff play on international and national committees and through giving evidence to major international bodies; provides authoritative and impartial advice on the key issues facing decision-makers; hosting of influential international and national conferences, workshops and seminars; collaboration with a wide range of organisations, including governments, business, industry and non-governmental organisations, as well as other academic centres.

### Achievements

The ECI's 35 research staff encompass a wide range of disciplines and expertise including botany, ecology, energy policy, environmental science, geography, geographic information systems, industrial design and statistical modelling. The ECI runs an acclaimed Masters course in Environmental Change and Management emphasising practical management within an interdisciplinary framework. Thirty top students from every continent of the world complete the degree each year. Major international conferences hosted by the ECI include: Inaugural Anglo-American Human and Nature Forum (2002); Catastrophe or coping in climate policy? (2001); IPCC Special Report on Technology Transfer, organised by The UK Climate Impacts Programme (1999); Kyoto and the Kitchen: Compulsory Energy Labelling - Is it Working? (1998); European Conference on Environmental and Societal Change in Mountain Regions (1997); NATO conference on Global Change: Modelling Soil Erosion by Water (1995); NATO Conference on Climate Change and World Food Security (1993).

## 5. Has your organisation received funding under the Initiative before? If so, please give details.

Dr Anna Lawrence has led two previous Darwin Initiative projects (from Reading University):

- Strengthening biodiversity capacity in the forestry curriculum, Visayas, Philippines (Oct 1996 for 2 years 6 months)
- Agroforestry manual using native species, Vallegrande, Bolivia (April 1997 for 2 yrs)

and collaborated on a 3rd:

- Participatory impact monitoring of invasive species in farming systems of Ghana (May 2001 for 2 years)

Her second project was highlighted in the Fourth Darwin report, as representing 'exceptional value for money'.

Within ECI, Dr Terence Dawson led 'Towards sustainable development of south eastern Madagascar's biologically unique littoral forests' from April 2000 for 2 years.

## 6. Please list the overseas partners that will be involved in the project and explain their role and responsibilities in the project. The extent of their involvement at all stages in the project should be detailed, including in project development. Please provide written evidence of this partnership.

1. EORI (Centro EORI de Investigación Promoción Regional – Centre for Research and Regional Outreach) - the non-governmental research body responsible for research and promotion of socio-cultural and ecological activities oriented to integrated and sustainable development of indigenous people in the Southern Amazon region. EORI will work with all Peruvian actors, and supervise project activities in Peru. Members of EORI have been active in writing this proposal, and led the Pre-Project workshop (PPW) in September 2003. EORI has worked for several years in the Madre de Dios region with both FENAMAD and COHARYIMA to involve indigenous people in research and to share research results, recognising authorship and participation. EORI representatives led the Pre-Project Workshop (PPW), and will co-ordinate activities in Peru and work closely with all actors. Their well-established dissemination networks will be invaluable.

2. COMMUNITIES – the project will work closely with seven indigenous communities of three ethnic groups in the Manu Biosphere Reserve (RBM) in the Madre de Dios Region (Shintuya, Isla de Valles, Diamante, Shipetiari, Santa Rosa de Huacaria, Queros, and Palotoa Teparo). The communities proposed the project through COHARYIMA and FENAMAD. In the PPW, representatives of each community suggested and agreed that one representative elected from each community be in the Communities' Committee. The committee members will: stimulate and maintain interest and motivation for the project within their community; ensure that activities are carried out by the dates required; share experiences with each other every three months; and report project progress to EORI monthly.

3. FENAMAD (Federación Nativa del Rio Madre de Dios y Afluentes) - a grassroots organisation which represents all the indigenous groups of the River Madre de Dios region. FENAMAD has an agreement with EORI for institutional co-operation to enhance knowledge and technology to improve sustainable management for the forest, rivers,

biodiversity and culture. On behalf of the indigenous communities, FENAMAD proposed the project to Soledad Ortiz following collaborative research into the state of medicinal plant knowledge and use with her in 2001. Victor Pesha, the President of FENAMAD contributed to the PPW, and fully supports the proposal (see attached letter of support). FENAMAD will establish IPR agreements with the communities to protect their knowledge of medicinal plants (Activity 1.1), to join efforts in the propagation phase of the project (Objective 3), and to collaborate in the market study (Activity 1.6).

4. COHARYIMA (Council of the Haramkbut Yine Machiguenga) – the council formed by ethnic groups of the Upper Madre de Dios regions, where the project will take place. They liaise with FENAMAD, and along with FENAMAD they formally requested technical and financial support from Soledad Ortiz and the University of Oxford. Abel Miranda Soto, President of COHARYIMA was present in the Pre-project workshop, and agreed that a representative of COHARYIMA will be a member of the Communities' Committee, and co-ordinate meetings.

5. PARQUE NACIONAL DEL MANU (PNM) - The Parque Nacional del Manu (PNM) is part of the Manu Biosphere Reserve (RBM), and is the local office for the Protected Areas Programme of INRENA (Instituto Nacional de Recursos Naturales). The Chief of the PNM, Modesto Chalco, contributed to the PPW, gave his full support to the project, and will aid our objectives by promoting the use of medicinal plants in buffer zones and PNM areas, increasing environmental awareness, and prioritising research on the species chosen in our project.

**7. What steps have been taken to (a) engage at all appropriate levels within the host country partner organisations to ensure full support for the project and its outcomes; and (b) ensure the benefits of the project continue despite staff changes in these organisations?**

a) Anna Lawrence has worked on previous projects with the Executive Director of EORI, Adela Reátegui, and with the Acting Director of EORI, Alejandro José, and has been in regular correspondence with Soledad Ortiz. The project has full support from all overseas partners, and letters of support from all organisations mentioned in Box 6 are attached.

Pre-Project funding was sought by, and granted to, the Environmental Change Institute, University of Oxford. In September 2003, Sarah Gillett travelled to Peru to hold meetings and workshops with Peruvian collaborators to strengthen the proposal. This enabled her to meet and include in the project, local, regional and national actors who have all shown a high level of interest, and agreed to collaborate as indicated in box 6 above. The involvement of EORI as the main collaborator will be extremely beneficial due to the large contact network that they have. The project will draw upon this resource throughout the three years, to enhance support for the project and the uptake of results.

Soledad Ortiz has met with representatives from CONAM (Comisión Nacional del Ambiente) – the National Commission for the Environment, and outcomes of this meeting are documented in box 8 (see also attached letter of support).

b) This NGO has a track record of staff retention, and the project is supported by the Executive Director of EORI who takes a strong interest. The many actors involved in this project (see Box 6) will ensure that the benefits of the project will continue despite staff changes.

**8. What other consultation or co-operation will take place or has taken place already with other stakeholders such as local communities. Please include any contact with the government of the host country not already provided.**

**a) Pre-Project workshop (PPW):**

Project preparation has been highly consultative partly owing to the *modus operandi* of EORI, and partly to the opportunity provided for Sarah Gillett to visit Peru and plan the project with all relevant stakeholders. Members from all seven indigenous communities were present at the pre-project workshop in Pilcopata, along with representatives from the FENAMAD local office, the President of FENAMAD, Victor Pesha, a member of COHARYIMA, the Chief of the PNM, Modesto Chalco, and 3 representatives from EORI (see Annex 2 for a list of workshop participants). Many donations in kind were promised, demonstrating the high level of local commitment to the project.

During the workshop, a mechanism was agreed for ensuring on-going consultation during the project. The communities suggested that a Committee be formed with one representative from each community and one representative from COHARYIMA, and all agreed that one elected representative of their community would join the Communities' Committee. The Communities' Committee will oversee local activities, motivate members of their community to participate in the project, meet every 3 months to discuss progress and share experiences, and will report monthly to EORI.

Members of the communities were insistent that their knowledge of medicinal plants be documented and published under the joint authorship of all the communities in order to preserve indigenous and traditional knowledge. FENAMAD will arrange the details of an IPR agreement to protect indigenous knowledge. All community members present were keen to learn scientific techniques for inventory, monitoring, propagation and cultivation, in order to combine these with their current knowledge, and improve management of medicinal plants.

Livelihood benefits of the project were discussed, including:

- economic advancement by the production and sale of herbal medicines,
- improved health care for the communities involved, and other communities in the RBM,
- documentation and conservation of traditional knowledge, management and use of medicinal plants.

The project Objectives and Activities were revised in consultation with the community members. A transcription (in Spanish) of the pre-project workshop is attached.

#### **b) Contact with the Peruvian government:**

EORI is a non government research organisation which represents other NGOs on government commissions, so is ideally placed to link into government dissemination and decision-making frameworks. Soledad Ortiz met with a representative from CONAM (the National Environmental Commission) one of the government organisations responsible for the elaboration of the National Strategy for Biodiversity Conservation, and for promotion of the Environmental Action Plan for Madre de Dios. CONAM have agreed to support the project, and provide, through CONADIB (Comisión Nacional de Diversidad Biológica – the National Commission on Biodiversity, responsible for progress in implementation of the CBD), opportunities for dissemination of the results of the project to other focal points at the national level, as well as the scientific community and civil society through the Clearing House Mechanism. CONAM will also ensure that biological information from the project will contribute to the National System of Biological Information – SINIDIB. A letter of support from CONAM is attached.

CAR MDD (Comisión Ambiental Regional de Madre de Dios) is the regional office of CONAM, and Alejandro José Farfan, the acting director of EORI is the former president of this organisation. The attached letter of support from CAR MDD is signed by Alejandro José, and CAR MDD is currently awaiting the appointment of a new official representative. During the project Centro EORI will coordinate with regional focal points, to share information about biodiversity conservation and communal management with members of Regional Environmental Committee of Madre de Dios – CAR MDD and other focal points in the Peruvian Amazon.

## **PROJECT DETAILS**

### **9. Define the purpose of the project in line with the logical framework.**

The project aims to develop, in collaboration with indigenous communities, a participatory sustainable management plan for the conservation and use of medicinal plant species in the Manu Biosphere Reserve, Peru. Methodological lessons from the project will be summarised as a model, to be then promoted nationally and regionally.

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

This is a new project. The project idea arose from a previous study conducted with local communities of The Manu Biosphere Reserve. FENAMAD has given their full support to EORI to lead the Peruvian component of this project (see letter in annex 1).

### **11. How will the project assist the host country in its implementation of the Convention on Biological Diversity? Please make reference to the relevant article(s) of the CBD, thematic programmes and/or cross-cutting themes (see Annex C for list and worked example) and rank the relevance of the project to these by indicating percentages. Is any liaison proposed with the CBD national focal point in the host country? Further information about the CBD can be found on the Darwin website or CBD website.**

The project contributes to the implementation of the CBD through:

- Article 6: General Measures for Conservation and Sustainable Use (management plan) (6%);
- Article 7: Identification and Monitoring (medicinal plants identified, guides published, permanent sample plots established) (11%);
- Article 8: *In-situ* Conservation (medicinal plants cultivated, natural populations conserved) (17%);
  - Article 8j (by guaranteeing the intellectual property rights of the indigenous participants (Activity 1.1) and by attracting benefits to them;
- Article 9: *Ex-situ* Conservation (seed banks, botanical gardens of medicinal plants) (6%);
- Article 10: Sustainable Use (management and commercialisation plans for the conservation and sustainable exploitation of selected medicinal plant species) (22%);
- Article 12: Research and Training (local people trained in participatory inventory and monitoring, propagation and cultivation of medicinal plants, adaptive management, and production of herbal medicines) (22%);

- Article 13: Public Education and Awareness (participatory techniques, and joint efforts with the PNM will increase the awareness of indigenous people about the CBD) (5%);
- Article 18: Technical and Scientific Cooperation (between the UK and Peru: both locally and through liaison with Peruvian National government institutions). (11%).

Through liaison with CAR MDD, CONADIB and CONAM during the project, contributions to the CBD will be ensured by their promotion of project results.

Thematic Programmes: the project will contribute to the Forest Biodiversity Programme by covering conservation and sustainable use and benefit sharing; and knowledge, assessment and monitoring of non timber forest resources.

Cross-cutting Themes: Access to genetic resources; traditional knowledge; protected areas.

**12. How does the work meet a clearly identifiable biodiversity need or priority within the host country? Please indicate how this work will fit in with National Biodiversity Strategies or Environmental Action Plans if applicable.**

Due to its membership of the Andean Pact, Peru is one of the foremost countries in the world in developing policy frameworks for biodiversity access and benefit-sharing. They now need to develop practical models and methods to involve indigenous people in the management of the globally important Amazon forest. This project focuses particularly on responding to Articles 7, 8, 10 and 12 of the CBD, and recognises that the results of this project will be relevant not only at this project site, but at many other locations across Peru, particularly in the Amazonian regions.

The need for the project has been identified by a range of local and national institutional stakeholders, for example in January 1999 a bill was passed to Regulate Access to Genetic Resources, and there is national concern regarding the protection of traditional knowledge (Pacón, 2000, Muller, 2001). All medicinal plants in the RBM which were mentioned as possibilities for the project species in the pre-project workshop (such as *Cinchona*) are endangered species, or species for which the size of native populations are unknown, and despite the globally recognised potential of medicinal plants, there is to date no area under indigenous (or other) management, with planned and sustainable production of medicinal plants. This project will therefore meet a need both by example and by providing methodologies which can be replicated.

By involving biodiversity partners such as the national CBD focal point (Dirección de Medio Ambiente y Desarrollo Sostenible), CONAM, CONADIB, and CAR MDD, motivation to use the results of this project will be high. Involvement of EORI and the PNM will encourage further opportunities and projects of this type within Peru.

The **National Biodiversity Strategy** is covered by Law number 26839, on Conservation and Sustainable Use of Biological Diversity, June 1997. Articles 1 and 5 of the law indicate that indigenous knowledge, sustainable management and medicinal plant conservation are priorities in Peru.

*Article 1.* - The present law governs the conservation of biological diversity and the sustainable use of its components in agreement with Articles 66 and 68 of the Political Constitution of Peru. The principles and definitions of the Convention on Biological Diversity prevail for application of the present law.

*Article 5.* - In fulfilment of the obligation contained in Article 68 of the Political Constitution of Peru, the State promotes:

- a. The prioritisation of actions for conservation of ecosystems, species and genes, granting them the high ecological, economic, social and cultural value identified in the National Biodiversity Strategy.
- c. The conservation of the natural ecosystems as well as the territories of culture, promoting the use of suitable techniques for sustainable management.
- e. The rehabilitation and restoration of degraded ecosystems.
- f. The creation of conditions, including the financial mechanisms, and provision of the necessary resources, for suitable management of biological diversity.

Our project meets goals of the regional CBD focal point (CAR MDD) laid out in the **Environmental Action Plan for the Madre de Dios Region 1999 - 2005**:

- *Green Front.*

Objective 1: Conservation and use of biodiversity and genetic resources of the region: through participatory inventory and monitoring of biodiversity, participatory management plans for use of natural resources, management of protected areas, and documentation of local knowledge, management and use of species.

Objective 5: Improvement of existing techniques for product processing.

- *Brown Front.*

Objective 5: Management of soils and forests. By reforestation, sustainable management activities, promotion of commercialisation of native species, evaluation on impacts of projects on the environment and promotion of adaptive management techniques for sustainable forest management.

- *Blue Front.*

Objective 1: Increase the capacity of rural populations in natural resource management, hold workshops to discuss environmental problems and potential solutions

Objective 2: Environmental Education

**Objective 3:** Dissemination of Environmental Information. By involving private institutions in dissemination programmes, by disseminating information through different media, by disseminating experiences to other national and international sectors, by promoting the participation of local populations, institutes and sectors to disseminate experiences.

**Objective 4:** Community participation in environmental management. By supporting community management of natural resources (CONADIB, 1999).

In the **National Action Plan for Biosphere Reserves**, our project contributes to the following goals:

- Conservation of biodiversity;
- Conservation of traditional use and knowledge of the resource, and lessons learnt from this;
- Publication of traditional use and knowledge of the resource and to improve livelihoods through appropriate environmental, cultural and scientific practices;
- Monitoring the effects of humans on the environment;
- Research into ecosystem functioning and improving ecosystem management
- Exchanging and sharing of knowledge (PRO-MANU, 1999)

CONADIB (1999) <http://www.conam.gob.pe/cap21/plan%20madre%20de%20dios.html>

Muller, M. R. (2001) Foundation for International Environmental Law and Development (FIELD).

Pacón, A. M. (2000) UNCTAD, Geneva, pp. 14.

PRO-MANU (1999) Memoria 1999. Proyecto aprovechamiento y manejo sostenible de la reserva de biosfera y Parque Nacional del Manu.

### 13. If relevant, please explain how the work will contribute to sustainable livelihoods in the host country

Three threats to sustainable livelihoods for indigenous people in lowland Peru are:

- a. deforestation for exploitation of forest resources or agricultural land or other human activities impacting natural resources.
- b. the loss of traditional knowledge about native flora species of medicinal value and local management practices of resources; and
- c. exclusion from market economy.

This project aims to overcome these problems by **revaluing, documenting and conserving the culture, and traditional and indigenous knowledge of the local communities**. The awareness campaign addressing the value of medicinal species in conjunction with PNM, and programmes run by the project will increase knowledge and value of management and sustainable development of natural resources.

One promising way to reconcile conservation with sustainable development is to identify NTFPs to be managed for livelihoods and commercial benefits. Sustainable management of the forest and of cultivated NTFPs will be established, by the participatory **development and implementation of a management plan** by scientists and indigenous collaborators, increasing the well-being and pride in the traditional culture of indigenous communities. **Health of indigenous communities will improve** through increased use and understanding of medicinal plants. Local skills will be enhanced by training in inventory, monitoring, propagation, cultivation and adaptive management techniques, and by workshops on the production of herbal medicines.

The market economy is threatening the traditional livelihoods of the indigenous population of Madre de Dios; they are not able to afford management of their resources, because extractivists and settlers are overexploiting their resources. This project presents an alternative through opportunities to manage the resources, instead of allowing them to be exploited by outsiders. The investigation of local market opportunities (Activity 1.4) carried out in conjunction with FENAMAD's will provide information regarding which plants should be cultivated in plantations in order to **enable commercialisation**.

### 14. What will be the impact of the work, and how will this be achieved? Please include details of how the project outputs will be disseminated and put into effect to achieve this impact.

**At local level:** the participatory development of a management plan with local communities will increase the sustainability of the project, especially as the communities themselves suggested the project.

The project will:

- reduce the loss of natural populations of species of *Cinchona* and other medicinal species in the indigenous communities of the Biosphere Reserve of Manu (RBM);
- promote enrichment of forest areas surrounding communities with medicinal species;
- allow long term ecological monitoring; empower indigenous communities by sustainable exploitation of medicinal species;
- conserve traditional indigenous knowledge; and reduce migration to poor urban areas through increased well-

being.

Training in inventory and monitoring techniques, propagation and cultivation techniques, and adaptive management will increase the capacity of local communities, and skills will be directly transferable to other aspects of forest management. This will ensure that the impact is sustained and replicated.

**At regional level:** the project outputs will be a management plan, and the documentation and experience of the processes used to develop this document. These will be disseminated in the form of scientific papers, 6 newsletters produced, training materials, national and local press releases and radio programmes in the UK and Peru, and on a website. The involvement of policy makers in government organisations such as CONAM, and links to INRENA through the PNM, in the project will ensure relevance of the project in light of the CBD and national priorities, and enhance the uptake of project outputs. All outputs will be disseminated during the project as they are relevant, and at the end of the project through regional and national workshops, and through CONADIB to CBD focal points.

The proximity of PNM to both Bolivia and Brazil will enable the project to impact directly on the Amazonian regions of these countries, with methods and results disseminated to EORI and ECI contacts in these countries.

#### **15. How will the work leave a lasting legacy in the host country or region?**

The project will develop local capacity and motivation to continue adaptive and sustainable forest management through:

- Skills acquired from training in participatory inventory and monitoring; cultivation, propagation and seed collection techniques; herbal medicine production and adaptive management techniques used during the project, and in the 20 year management plan
- Applying participatory research and adaptive management techniques to enable the community to enact the management plan
- Documenting indigenous knowledge in a format that will be accessible and useful to future generations of the communities;
- Establishing a permanent monitoring system which local people will gain experience in using

On a National level, the project will facilitate further sustainable management projects by:

- Developing a methodology for indigenous communities to monitor medicinal plant populations, and use adaptive management techniques for the conservation of natural populations of medicinal plants.
- Developing a methodology for indigenous communities to cultivate and propagate common medicinal plants for local use
- Increasing national awareness of how to plan and manage forests by providing models for participatory management plans for medicinal plant production in the Amazon by involving government and NGO stakeholders at national and regional level.

#### **16. What steps have been taken to identify and address potential problems in achieving impact or legacy?**

In order to fit with indigenous modes of working, local committees for management and sustainable development have been formed as a result of the pre-project workshop. Formal agreements for commitment of partner and implementing organisations at local and governmental levels will be made.

EORI has years of experience with working with indigenous groups, and as a non-governmental research group with established links to government commissions (see Box 8), is well placed to ensure the impact and legacy of the project.

The project will provide a strong foundation to lever other projects of this kind and for new initiatives in the RBM. PNM and FENAMAD both have interests in furthering the research that this project will carry out.

Within Peru, strong threats to developing sustainable livelihoods with forest resources present themselves in the form of illegal logging and mining operations. PNM has strong policies for preventing illegal logging within the park, and the buffer zone of the RBM (the area in which the indigenous communities live), relying on local informants to report any illegal activity in the interests of conserving their natural resource. FENAMAD are currently working to control the influx of mining industries in the Madre de Dios region.

The strong support of CONAM and the regional CBD focal point will ensure an impact on the implementation of the CBD.

#### **17. How will the project be advertised as a Darwin project and in what ways would the Darwin name and logo be used?**

The project is innovative as it was **proposed by indigenous communities**, whose interest has grown from previous collaborative projects, and will use a **participatory research process** so that the indigenous communities themselves develop appropriate management strategies, with scientific support. Medicinal plants cultivated in the project will be commercialised to increase the sustainable livelihoods of the indigenous people.

The project will be distinct from others by its development of methods to promote sustainable management and controlled harvesting of medicinal plants. Although many projects recognise the need for these, no methods seem have been developed in ways which ensure relevance through involving the indigenous forest users in the research process. The project will find ways to support the interest of indigenous communities in placing their knowledge in the public domain.

The project will be publicised as a Darwin project through:

- a) ECI's and EORI's publications and web pages;
- b) All collaborators' annual reports, newsletters and network publications;
- c) Press releases, and radio broadcasts
- d) Peer-reviewed journal papers;
- e) Training and dissemination workshops entitled 'Darwin Workshop on Participatory Biodiversity Monitoring and Action Plans'.

The Darwin logo will appear on all research outputs, e.g. manuals and reports, on all dissemination outputs, e.g. workshop advertisements and materials, and on all correspondence and other materials relating to the project.

**18. Are you aware of any other individuals/organisations carrying out similar work? Are there completed or existing Darwin Initiative projects which are relevant to your work? Please give details, explaining the similarities and differences and how your work will be distinctive and innovative. Show how the outputs and outcomes of this work will be additional to any similar work, and what attempts have been/will be made to co-operate with such work for mutual benefits.**

Interest in medicinal plants as a re-emerging health aid has been fuelled by the rising costs of prescription drugs in the maintenance of personal health and well-being, and the bio-prospecting for new plant-derived drugs (Hoareau and DaSilva, 1999. Journal of Biotechnology (Chile) Vol 2, Iss 2.) Accordingly there are an increasing number of projects based on medicinal plants (although none specifically developing management plans in a participatory way).

The project proposers in ECI currently manage a project funded by DFID's FRP developing **biometrically rigorous methods for the sustainable harvesting of medicinal plants by indigenous communities in India and Nepal**. Anna Lawrence is leading this project, with Sarah Gillett as the coordinating researcher. Results, methods and some workshop materials from this project should be directly applicable to this Darwin initiative project.

PRO NATURALEZA, a Peruvian NGO, have completed a project, Vida Silvestre, in the central rainforest region of **Peru**, involving indigenous communities from the Yanasha ethnic group in the **propagation, planting** (in botanical gardens and communal plantations), and **commercialisation of medicinal plants**, in particular sangre de grado and uña de gato. We will note their findings so as not to duplicate research efforts, and develop further methods for other species of medicinal plants in the Amazonian region of Peru.

A Darwin funded project in **Colombia** aims to develop **preservation and reforestation of rainforest by indigenous people**, which corresponds to the reforestation aspect of our project, and the identification of medicinal plants. In Ghana the Darwin Initiative is funding a project on the conservation and sustainable use of medicinal plants. Leaders of the Colombian and Ghanaian Darwin Initiative projects will be contacted in order to compare experience and promote mutual learning.

**South Africa** has, using participatory research, formed a medicinal plant harvesters association, the Sizamimphilo Association. The Association has produced a **constitution for the sustainable management of medicinal plant species**, which includes the implementation of sustainable harvesting practices, although these have yet to be developed.

UNDP have co-funded a program with the government of **India** on **medicinal plant conservation and sustainable utilisation**, although it does not address commercial aspects. There has been extensive work in India on sustainable harvesting of medicinal plants.

Two projects funded by DFID's FRP are addressing issues related to **ethical trading** as a means of generating opportunities for forest-dependent people (**Indonesia**), and **NTFP commercialisation (Mexico)**. Contact will be made with project leaders as above to establish whether any of this work could be relevant to South America.

One major problem is that there is little appropriate technical knowledge for managing NTFPs and it is increasingly appreciated that local or indigenous forest users and managers have to be involved in the technology development process in order to make sure it is appropriate and sustainable. None of the projects mentioned above use participatory research methods to ensure sustainable management, based on methods that are appropriate to the indigenous communities. There are no similar projects in the Peruvian Amazon.

**19. Will the project include training and development? Please indicate who the trainees will be and criteria for**



selection. How many will be involved, and from which countries? How will you measure the effectiveness of the training and will those trained then be able to train others? Where appropriate give the length and dates (if known) of any training course. How will trainee outcomes be monitored after the end of the training?

Training Activity	Dates	Who will participate, how many will participate and for how long?	How will the effectiveness of training be measured?
1. Training in participatory inventory and monitoring techniques	August 2004	Participants: 5 technical staff and 20-30 local participants Duration: 3 days	By the success of the inventory, and by the production and implementation of work plans
2. Training in propagation and cultivation techniques	April / May 2005	Participants: 5 technical staff and 20-30 local participants Duration: 3 days	By the establishment of experimental plots, and later, botanical gardens, nurseries and plantations
3. Training in adaptive management techniques	September 2005	Participants: 5 technical staff and 20-30 local participants Duration: 3 days	Management Plan
4. Training in production of herbal medicines	October – March 2005-2006	Participants: 5 technical staff and 20-30 local participants Duration: 3 days	Use of products locally

All participants will be Peruvian, and selection will target those who will use the skills by working on the project, and others who are interested that can use the skills in related areas.

Technical staff will be in a position to train local staff, and by using their new skills over the duration of the project, will be able to conduct training more widely. The outcomes of the training will be monitored by assessing the application of the training in project activities.

**20. How are the benefits and/or work of the project expected to continue after the end of grant period? Please provide a clear exit strategy.**

<p>The project is expected to continue after the end of the grant period through the following:</p> <ol style="list-style-type: none"> <li>Implementation of management plan started;</li> <li>Government aware of the benefits (through involvement of CONADIB and the PNM);</li> <li>Wider scientific community aware of benefits (through scientific papers and workshops);</li> <li>Sustainability assured by working with local people on issues relevant to their livelihood security (involvement of community members, COHARYIMA, FENAMAD, PNM);</li> <li>Results owned by local institutions, including government institutions.</li> <li>Project work relevant to other local institutions, and is expected to level funding for further projects by EORI or other institutions such as FENAMAD and PNM.</li> </ol> <p>The exit strategy consists of:</p> <ol style="list-style-type: none"> <li>Project outputs developed and "owned" by local staff and communities;</li> <li>Focus on documenting the methodology, which is the replicable part of the location-specific experience of preparing a participatory management plan;</li> <li>Outputs "delivered" through 6 newsletters, press releases in Peru and the UK, and radio broadcasts in Peru and the UK;</li> <li>A final workshop for the Peruvian government and other target institutions to promote the project lessons and plan their implementation around the country and Amazon region.</li> </ol>
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**21. Provide a project implementation timetable that shows the key milestones in project activities.**

Project implementation timetable		
Date	Financial year:	Key milestones
<b>OBJECTIVE 1</b>		

April	2004-05	1.1 IPR agreement signed, project plan finalised, Communities' Committee formed.
March	2004-05	1.2-1.4 Traditional, scientific and market information circulated.
July	2004-05	1.5 Medicinal plant species prioritised for further development and study
November – January	2004-05	1.6 Market study
<b>OBJECTIVE 2</b>		
August	2004-05	2.1 Training materials for participatory inventory and monitoring techniques circulated
August - October	2004-05	2.2 Participatory systematic inventories completed, and 2 databases enhanced
August - October	2004-05	2.3 Monitoring activities planned
August - March	2004-07	2.3 Monitoring activities implemented (twice a year)
August	2005-06	2.4 Mid-term workshop; draft management plan; 3-5 medicinal plants prioritised for cultivation
<b>OBJECTIVE 3</b>		
April / May	2005-06	3.1 Training materials for propagation, cultivation and seed collection techniques circulated
April - March	2005-06	3.2 Experimental plots established (at least 3 per community)
		3.3 Seed banks established and collection plan implemented
		3.4 Botanical gardens established (1 per community)
<b>OBJECTIVE 4</b>		
October	2005-06	4.1 Plantation areas selected, prepared and planting commenced
September	2005-06	4.2 Training materials for adaptive management techniques circulated
October – March	2005-06	4.3 'Recipes' from training in herbal medicine production circulated
January	2006-07	4.4 Management and commercialisation plan finalised and implemented
March	2006-07	4.5 National evaluation and dissemination workshop
		4.6 Final report completed and academic papers submitted to journals

**22. How will the most significant outputs contribute towards achieving the purpose of the project? (This should be summarised in the Log Frame as Indicators at Purpose level)**

The purpose of the project is to produce and implement through participatory processes a management plan for the sustainable use and commercialisation of medicinal plants by indigenous communities in the RBM. This will be achieved by the following:

Output 1: Programme of collection of indigenous knowledge, scientific and market information on medicinal plants. *Ensuring that intellectual property rights of the indigenous communities are respected, information will be gathered on medicinal plant species, and documented as requested by the communities. This phase will evaluate the use, ecological characterisation, and management of the medicinal plants, based on traditional and scientific knowledge. The market survey will enable useful prioritisation of species for cultivation.*

Output 2: Natural populations of medicinal plants evaluated and monitored. *By training local participants in participatory inventory and monitoring techniques, they will gain invaluable skills to use in the management plan. Natural populations will be mapped in order that seed supply for seed banks and plantations can be maintained. Monitoring will play an important role here so that natural populations will not be degraded by seed collection.*

Output 3: Selected medicinal plants propagated and cultivated. *By experimentally determining the best methods for propagation and cultivation, the sustainability of the medicinal plant production will be ensured.*

Output 4: Formulation of management and development plan and promotion of methodology and project lessons. *The*

*techniques learnt, and information over the first 2 years of the project will be collated in this output, and a sustainable management plan for the use and of selected medicinal plants developed. Dissemination of results will be to local, regional and national stakeholders*

The indicators at purpose level aim for an increase in forest area under sustainable management. By training and working with indigenous people their pride in ownership will increase, leading to more sustainable forest management. By developing sustainable methods of management for medicinal species, the demands on the natural forests will decrease, ensuring better conservation and potentially greater areas conserved. By disseminating findings and methods developed on the project, it is expected that other groups will start similar projects increasing the area of forest under sustainable management throughout the Amazonian region of Peru.

### 23. Set out the project's measurable outputs using the separate list of output measures

<b>PROJECT OUTPUTS</b>		
Year/Month (starting April)	Standard Output Number (see standard output list)	Description (include numbers of people involved, publications produced, days/weeks etc)
August 2004	6A	Training of 5 local staff, and 20-30 local participants in participatory inventory and monitoring techniques
	6B	3 days
	7	2 types of training materials: identification guides, and species leaflets for selected species.
October 2004	22	At least 7 monitoring plots established (1 per community)
January 2005	12B	2 databases enhanced (IABIN and BIODAMAZ)
March 2005	10	1 book documenting traditional knowledge of use, management and ecological characteristics of medicinal plant species in the area
May 2005	6A	Training of 5 local staff, an 20-30 local participants in seed collection, propagation and cultivation techniques
	6B	3 days
	7	Guides for propagation and cultivation of selected species
March 2006	22	At least 3 experimental plots per community (21)
March 2006	13A	7 botanical gardens established (1 per community)
August 2006	14A	1 regional workshop organised in the Madre de Dios region. 30-50 participants from regional NGOs, government and enterprises
	15B	1 local press release in Peru
October 2005 – March 2006	6A	Training of 5 local staff, an 20-30 local participants in the production of herbal medicine
	6B	3 days
	7	Recipes for herbal medicines circulated.
September 2005	6A	Training of 5 local staff, an 20-30 local participants in adaptive management techniques
	6B	3 days
	7	Information sheets about adaptive management techniques circulated
March 2007	14A	1 national level workshop for dissemination of results
May 2004 / 2005/	15C	3 national press releases in the UK (ECI's Annual Report)

2006		
April 2004 – March 2007	16A	6 biannual newsletters produced
	16B	100
	16C	25 circulated in UK
By the end of March 2007 (dates to be confirmed)	11B	2 papers submitted to peer review journals
	14B	1 workshop / conference / seminar attended to present project
	17B	3 dissemination networks enhanced (EORI, IABIN, BIODAMAZ)
	18D	1 local TV feature in the UK (with TV Oxford)
	19B	1 national radio interview in the UK
	19C	bi-monthly local radio broadcasts in Peru. (72 total)

## MONITORING AND EVALUATION

**24. Describe how the progress of the project, including towards delivery of outputs, will be monitored and evaluated in terms of achieving its overall purpose. This should be both during the lifetime of the project and at its conclusion. Please make reference to the indicators described in the Logical Framework.**

All monitoring and evaluation will be participatory. Indicators will be established with all partners at the beginning of the project in a planning workshop, and explicitly at later opportunities.

Monitoring will rely mainly on the indicators set out in the logframe, and the milestones outlined in Box 21. Monitoring will take place on three levels:

- 1.) Internal project evaluation against the achievements set out in the logframe; through 6 monthly reports to DEFRA;
- 2.) Team self-evaluation: following established practice, community groups, Communities' Committee, EORI and ECI will have regular self-reflection meetings and adjust activities to identified needs;
- 3.) External evaluation: visits by EORI, UK staff and other collaborators to communities and workshops will provide opportunities for informal assessment of progress.

**25. How will host country partners be involved in monitoring and evaluation of the project?**

Host country partners will take the lead in setting internal participatory indicators, and play a substantial role in the production of the 6 monthly reports to DEFRA. They will have regular self-reflection meetings, adjusting activities accordingly to needs identified, and will informally assess progress at workshops and community meetings.

EORI will receive monthly progress reports from each community via the Communities Committee members.

Bi-annual newsletters will be distributed throughout the project, co-ordinated by EORI.

The Communities' Committee will meet every 6 months to evaluate progress and share experiences.

The project will be monitored and evaluated in three workshops: A mid-term workshop (Activity 2.4), the regional evaluation workshop (Activity 4.5), and the national workshop (Activity 4.5).

**26. How will you ensure that the project achieves value for money?**

UK staff are costed at only 4 months of the year in total, with an additional three months of Anna Lawrence's time paid for by the ECI, thereby keeping salary costs low.

Soledad Ortiz will also donate 4.2 months of her time to the project, valued at £1300 per year.

Much of the groundwork has already been done: links have been established between ECI, and EORI staff on a previous research project; and the project will build on previous research by Peruvian partners, which established the demand for this project, and links between collaborators and indigenous people in the host country. The explicit request for the project by the indigenous communities indicates their level of motivation, and they have expressed an eagerness to publish information about their knowledge of medicinal plants.

**27. Reporting Requirements. All projects must submit six monthly reports (by 31 October each year) and annual reports (by 30 April each year). Please check the box for all reports that you will be submitting, dependent on the term of your project. You must ensure that you cover the full term of your project.**

Report type	Period covered	Due date	REQUIRED?
Six month report	1 April 2004 – 30 September 2004	31 October 2004	Yes
Annual report	1 April 2004 – 31 March 2005	30 April 2005	Yes
Six month report	1 April 2005 – 30 September 2005	31 October 2005	Yes
Annual report	1 April 2005 – 31 March 2006	30 April 2006	Yes
Six month report	1 April 2006 – 30 September 2006	31 October 2006	Yes
Annual report	1 April 2006– 31 March 2007	30 April 2007	Yes
Six month report	1 April 2007 – 30 September 2007	31 October 2007	Yes

<b>Final report</b>	1 April 2004 – project end date	3 months after project completion	Yes
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## LOGICAL FRAMEWORK

28. **Please enter the details of your project onto the matrix using the note at Annex B of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes.**

**Main change:** At the suggestion of reviewers of the stage 1 proposal, we have reduced the number of activities and accordingly have removed the commercialisation study, for which separate funding will be sought.

<b>Project summary</b>	<b>Measurable indicators</b>	<b>Means of verification</b>	<b>Important assumptions</b>
<b>Goal:</b> To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.			
<b>Purpose</b> With indigenous communities, develop a management plan to conserve cultivate and commercialise medicinal plants in the RBM, and a regionally applicable methodology for the process.	<ul style="list-style-type: none"> <li>- Traditional and scientific knowledge, and market information documented (end y1)</li> <li>- Natural populations of medicinal plants mapped, and monitoring plan implemented (end y2)</li> <li>- Experimental plots, seed banks and botanical gardens established (end y3)</li> <li>- Management plan written and implemented, and plantations established (end y3)</li> </ul>	<ol style="list-style-type: none"> <li>1. Report</li> <li>2. Maps</li> <li>3. Report</li> <li>4. Management plan</li> </ol>	Commitment of the indigenous communities to active participation in the programme.
<b>Outputs</b> <b>1. Indigenous, scientific and market information on medicinal species documented.</b>	Workshops and training days completed with 25-35 participants; 1 internet and literature survey; 1 Survey of markets for commercialisation; 1 List of prioritised medicinal plants; Market analysis	List of names on Communities' Committee, IPR agreement, finalised project plan; List of participants and report; Book of uses and management strategies for medicinal plants, authored by the communities; Literature review; Report; Information leaflets	- Interest and commitment of the ethnic groups maintained
<b>2. Natural populations of medicinal plants evaluated and monitored</b>	Workshops and training days completed with 25-35 participants; 2 Databases enhanced; 7 community inventories of medicinal plants; 7 Permanent monitoring plots established and mapped; 3-5 species selected for cultivation; Analysis of findings; draft management plan	List of participants and report; Training materials Maps and inventory results Reports Draft management plan	- Continuity of technical staff of the project
<b>3. Selected medicinal plants propagated and cultivated</b>	Workshops and training days completed with 25-35 participants; 21 Experimental plots established; Map of areas for seed banks; 7 Botanical gardens established.	List of participants and report ; Training materials, and leaflets Map and reports	- Training and continuity of local staff
<b>4. Management plan developed, and methodology and project lessons promoted regionally</b>	Plantations established and reforestation commenced; Workshops and training days completed with 25-35 participants; Management plan approved; Findings analysed; List of workshop participants (50); 3 academic papers written	Report and Commercialisation plan; Maps; Recipes ; List of participants and report; Training materials; Management plan;  Report; Workshop proceedings; acknowledgement of submission of papers.	- Commitment of partner institutions and local people in executing the programme  - Climatic stability
<b>Activities</b>	<b>Activity Milestones (Summary of Project Implementation Timetable)</b>		
Output 1	<ol style="list-style-type: none"> <li>1.1 Planning workshop (Apr 04)</li> <li>1.2 Collect and document information on the traditional knowledge of ecology, uses and management of medicinal plants (Apr 05)</li> <li>1.3 Scientific information on ecology, use and management of medicinal plants reviewed and documented (Apr 05)</li> <li>1.4 Collection of information of local market and commercialisation opportunities, and prioritisation of medicinal plants. (Apr 05)</li> <li>1.5 Prioritisation of medicinal plants for further study. (Jul 04)</li> <li>1.6 Market study on selected medicinal plants (Nov 04-Jan 05)</li> </ol>		

Output 2	<p>2.1 Training workshop on inventory and participatory biodiversity monitoring techniques (Aug 04)</p> <p>2.2 Participatory systematic inventories (Aug 04 -Oct 04)</p> <p>2.3 Planning and supervision of monitoring (Aug 04 – Mar 07)</p> <p>2.4 Mid term workshop to analyse findings, draft management plan and select 3-5 species for cultivation (Aug 05)</p>
Output 3	<p>3.1 Training in scientific methods of seed collection, propagation and cultivation of selected species (May 05)</p> <p>3.2 Experimental plots established (Apr 05-Mar 06)</p> <p>3.3 Seed bank areas selected, and seed and seedling banks established. (Apr 05-Mar 06)</p> <p>3.4 Areas for botanical gardens selected and planted (Apr 05-Mar 06)</p>
Output 4	<p>4.1 Training in adaptive management techniques (Sept 06)</p> <p>4.2 Plantation areas selected and planted (Oct 05)</p> <p>4.3 Training in production of herbal medicines from selected species (Oct 05-Mar 06)</p> <p>4.4 Workshop to reflect on and consolidate methodological lessons and develop and finalise 20 year management plan (Jan 07)</p> <p>4.5 Regional evaluation workshop, and national workshop on processes developed and awareness of conservation measures for medicinal plants (Mar 07)</p> <p>4.6 Final report written, and academic papers submitted to peer review journals (Mar 07)</p>