

# Darwin Initiative for the Survival of Species

## Final Report

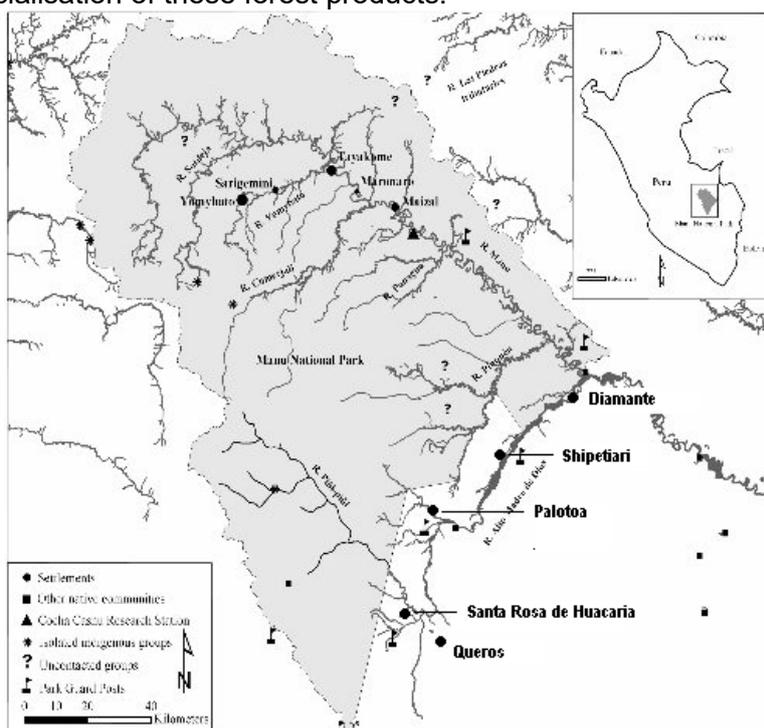
### 1. Darwin Project Information

Project Reference No.	13/015
Project title	Participatory forest management for medicinal plant production
Country	Peru
UK Contractor	University of Oxford
Partner Organisation (s)	Centro EORI
Darwin Grant Value	£140257
Start/End date	1 Oct 2004 – 30 Sep 2007
Project website	<a href="http://www.eci.ox.ac.uk/humaneco/Peru.html">http://www.eci.ox.ac.uk/humaneco/Peru.html</a>
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### 2. Project Background/Rationale

- Describe the location and circumstances of the project

The project is based in the Madre de Dios region in the Peruvian Amazon. Initiated at the request of seven indigenous communities, the project aimed to collect and collate information about the use of medicinal plants in the area, promote cultivation techniques and sustainable harvesting methods for these plants, and develop forest management and commercialisation plans with local actors. Local communities were particularly interested in collating their medicinal plant knowledge for future publication and commercialisation of these forest products.



- What was the problem that the project aimed to address?

The project aimed to address three main threats to sustainable livelihoods for indigenous people in lowland Peru:

- Deforestation;
  - loss of traditional knowledge about native species of medicinal plants and local management practices of resources;
  - exclusion from market economy.
- Who identified the need for this project and what evidence is there for a demand for this work and a commitment from the local partner?

Building on a preceding participatory study of medicinal plants, indigenous communities identified the need for the project at a local level, seeking to exploit natural resources sustainably, and conserve natural populations of medicinal species. Through COHARYIMA (Council of the Haramkbut Yine Machiguenga) and FENAMAD (Native Federation of the river Madre de Dios and tributaries), they approached Oxford University as known collaborators, for technical and financial support.

Evidence of demand for this work is shown by the interest and commitment of the seven communities who wished to be involved in the project, by their letters of support appended to the original proposals, and by the regular participation of the five communities who completed the project's activities. In addition, the local partner, Centro EORI was approached during the project by the representatives of two communities located inside the Manu National Park, Tayakome and Yomybato, who wished to be involved in similar work.

### 3. Project Summary

- What were the purpose and objectives (or outputs) of the project? Please include the project logical framework as an appendix if this formed part of the original project proposal/schedule and report against it. If the logframe has been changed in the meantime, please indicate against which version you are reporting and include it with your report.

The purpose of the project is to develop a management plan to conserve, cultivate and commercialise medicinal plants in the project area, and a regionally applicable methodology of the process. The latest logframe is included in appendix V which dates from the response to the annual report review of April 2006, sent on 21 December 2006.

*Outputs:*

1. Indigenous, scientific and market information on medicinal plant species documented
2. Natural populations of medicinal plants evaluated and monitored
3. Selected medicinal plants propagated and cultivated
4. Management plan developed and methodology and project lessons promoted regionally.

- Were the original objectives or operational plan modified during the project period? If significant changes were made, for what reason, and when were they approved by the Darwin Secretariat?

The proposed operational plan was modified during a mid term review (MTR) and was presented in both the MTR report and the UK project coordinator's trip report for October 2005. The Mid-Term Review was an opportunity for Darwin to send a consultant to visit the host country and accompany the new UK coordinator in order to assess the project, staff and activities and assist in the resolution of staff and inter-institutional problems.

The changes to the operational plan were approved by the Darwin Secretariat and were principally at the activities level, to recover lost time and put the project back on schedule.

All recommendations from the MTR were followed. Please see appendix VI for the MTR recommendations and appendix VII for the project's response to these taken from the April 2006 annual report.

- Which of the Articles under the Convention on Biological Diversity (CBD) best describe the project? Summaries of the most relevant Articles to Darwin Projects are presented in Appendix I.

The project contributes to the implementation of the CBD through:

1. Article 6: General Measures for Conservation and Sustainable Use (management plan)
2. Article 7: Identification and Monitoring (medicinal plants identified, guides published, permanent sample plots established)
3. Article 8: In-situ Conservation (medicinal plants cultivated, natural populations conserved)
  - Article 8j (by guaranteeing the intellectual property rights of the indigenous participants (Activity 1.1) and by attracting benefits to them;
4. Article 9: Ex-situ Conservation (seed banks, botanical gardens of medicinal plants)
5. Article 10: Sustainable Use (management and commercialisation plans for the conservation and sustainable exploitation of selected medicinal plant species)
6. Article 11: Incentive measures (sustainable production and sale of medicinal plants and products)
7. 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)
8. Article 13: Public Education and Awareness (participatory techniques, and joint efforts with the PNM will increase the awareness of indigenous people about the CBD)
9. Article 18: Technical and Scientific Cooperation (between the UK and Peru: both locally and through liaison with Peruvian National government institutions).

- Briefly discuss how successful the project was in terms of meeting its objectives. What objectives were not or only partly achieved, and have there been significant additional accomplishments?
  1. Indigenous, scientific and market information on medicinal plant species documented

A book, authored by the five participating communities has been published on medicinal plant usage and identification in four languages. The book represents local indigenous knowledge in terms of their most important medicinal plant species and is complemented by available scientific knowledge. Market information was collected in terms of local, regional and national markets, but was not fully completed by the consultant. As a result a trip was organised by the Peruvian team, where participants from each community toured regional markets and factories (see photo below) collecting information and speaking directly with stall holders and merchants, which gave them a valuable insight into the commercial aspect, the demand for products and useful contacts.



2. Natural populations of medicinal plants evaluated and monitored

The Peru team, in conjunction with the local communities, carried out the selection of species of interest in terms of their market potential, conservation status and local importance. Plant species were ranked in terms of their local importance as medicine, their perceived abundance and their market potential and these species formed the basis of cultivation activities.

A methodology was developed between the bi-national team for the inventory and monitoring of plant populations. This was explained, modified and planned during a four day technical workshop in Peru, taught by the Oxford team in conjunction with the EORI team. Subsequent monitoring of plant populations was carried out on three separate occasions in each community, which served as important means to emphasise the need to periodically evaluate the impact of any plant harvest, although little change in the health or levels of regeneration was detected due to the little time that had elapsed.

3. Selected medicinal plants propagated and cultivated

Promoters from each community were trained in the propagation and cultivation of medicinal plant species, in the identification of “seed trees” and in the control of germination and transplantation. Chosen plant species were successfully cultivated on a large scale in the case of three communities, while in the other two communities a lack of interest and motivation, combined with social conflict meant that only a small amount of cultivation was carried out.

Centro EORI contracted a specialist from the Centre Takiwasi in Tarapoto, to train

participants in the production of herbal remedies (creams, tinctures and syrups). This was a very practical, hands-on course, (see photos below showing the preparation and bottling of herbal remedies in two different communities), and participants produced remedies for the use of community members, and a batch for an initial sale, in order to test local demand. Subsequently, two communities have continued the production and sale of medicinal plant products in a local town, and the majority of these have already been sold.



#### 4. Management plan developed and methodology and project lessons promoted regionally.

Due to the problems and delays which have been well documented in previous reports, and which formed the basis for the MTR, it was not possible to produce a specific management plan for each community. Instead we developed a model of a participatory management plan for the sustainable production of medicinal plants which can be adapted to the management of any non-timber forest product (NTFP). It contains a lot of information relevant to the communities, and is a step-by-step guide of how to manage medicinal plants (or any NTFP) for sustainable production purposes. This is the first ever medicinal plant management plan for Peru and it has stimulated great interest with the [Peruvian national] Institute of Natural Resources (INRENA).

The model management plan functions as a template for future plans, as the project staff have worked with INRENA staff to develop the terms of reference for future management plan applications, including detailed methodological requirements (see appendix VIII).

Project lessons were promoted in a regional workshop held in Puerto Maldonado in November 2007. This provided a platform for a discussion with other institutions, students and regional government representatives, who seemed interested in the project's findings, impressed with the book (a copy has been sent to Darwin separately), and recognised the potential of such a project in the sustainable development of rural communities. A representative of the regional Government congratulated the participants and the project team on the successful conclusion to the project and stated, " We recognise the importance of projects such as this one to the future development of the region."

Important lessons were learnt from the difficulties in producing individual community management plans. Some of the data was not reliable and the coordinators had perhaps over-estimated the abilities of local participants to follow protocol in data collection (and under-estimated the need for greater supervision). Delays emerged in the community work, in (a) project staff gaining the confidence of the community members, owing to disappointments from previous projects, and (b) community members gaining the confidence to openly express themselves in public and reach a level of understanding sufficient to carry out project activities. This makes it all the more important that this project continues on to a second phase to build on what has been achieved so far.

**Additional achievements:**

The project has been highly participatory from the start, and the Peruvian team wisely appreciated the importance of involving other Indigenous people with experience of medicinal plant use and cultivation as well as opportunities to “empower” the participants.

Shamans from two communities have made several visits with the team to the communities to teach the participants about medicinal plant use and preparation and this sharing and promotion of knowledge is of great importance. Many of the participants accompanied the project team during visits to other communities where the exchange of knowledge was always surprising: different communities have distinct uses for the same plant species. The interchange of ideas and learning from others has been very impressive, and many plant species were taken from one community to another and subsequently used for cultivation and incorporation into the community pharmacopeia.

These visits by people from other areas have also served to provide concrete examples of other similar projects of which they have experience. Of particular note was a lesson sharing exercise with an elder shaman from the community of Infierno, in October 2005 (see photo below), Don José Mishaca, who has been involved in a similar project for 15 years and offered an instructive view of the realities and potential pitfalls of such projects.



In addition the shaman of Santa Rosa de Huacaria, Alberto Manqariapa, has been particularly helpful, offering advice on plant ecology and medicine preparation as well as his experience of being a promoter in a similar project (see photo below).



#### 4. Scientific, Training, and Technical Assessment

- Please provide a full account of the project's research, training, and/or technical work.
- **Research** - this should include details of staff, methodology, findings and the extent to which research findings have been subject to peer review.

Although not principally a research project, the communities did conduct research into their resources, through a forest inventory and by monitoring of harvest impacts, experimentation with harvesting techniques, cultivation techniques and market research. They gained valuable insight into new methods, received more detailed information about their communal forests and the distribution and abundance of certain species.

The project was one of several within the University of Oxford's Human Ecology programme that focused on participatory research monitoring and management (see <http://www.eci.ox.ac.uk/research/humaneco/index.php>). The Peruvian experience will provide material for a future paper on adapting monitoring processes to specific cultural and policy contexts.

- **Training and capacity building activities** – this should include information on selection criteria, content, assessment and accreditation.

The courses were initially open only to the paid “promoters” in each community, who had been selected by each village council, but from 2006 onwards other people who had an interest in the training activities also participated.

1. Thirty people were trained by a specialist from Oxford, in biodiversity assessment including: participatory mapping, forest inventory and harvest impact monitoring (see training manual produced in Spanish (<http://www.eci.ox.ac.uk/research/humaneco/peru-medicinal.php>)). This permitted them to estimate the distribution and abundance of selected species as well as assess the impacts of plant harvesting.

2. An agronomist accompanied the project team in each community to explain all

elements of medicinal plant cultivation including selection of seeds, germination, propagation of plants (including from cuttings), production of compost, transplantation of growing plants to village gardens and the forest, as well as silvicultural techniques to maximise growth and reduce competition. Fifty people in total attended this, and each community then established its own plant nursery and identified the areas for a botanical garden and plantations. Subsequently four communities decided to establish botanical gardens in order to provide an interesting experience for tourists visiting the area while villagers benefited from the in-situ cultivation to increase the diversity of plants in their gardens.

3. Twenty five people were trained in the establishment and management of a small business. These were community members chosen by their villages because of their education and/or honesty to learn book keeping skills for the future production and sale of medicinal plants.

4. A specialist from the Centro Takawasi in Tarapoto ran a course on the preparation of herbal remedies, which fifty people in three project locations attended (see photo below).



They practised each step in the post-harvest process from the selection of material, preparation, measuring and mixing of ingredients for the treatment of illnesses of importance to each community using their traditional remedies. Every attempt was made to substitute local materials when possible (i.e. animal fat instead of Vaseline, candle wax instead of paraffin), and while many people took their remedies home, others immediately sold them to their neighbours.

5. The UK coordinator carried out workshops in harvesting techniques for medicinal plants with a total of forty people attending. Some of the techniques were then practised in the forest and many useful suggestions were made by local harvesters. This information is available in the management plan on the Oxford website (<http://www.eci.ox.ac.uk/research/humaneco/peru-medicinal.php>).

## 5. Project Impacts

- What evidence is there that project achievements have led to the accomplishment of the project purpose? Has achievement of objectives/outputs resulted in other, unexpected impacts?

Each element within the project has been a step on the way to achieving the project purpose, primarily through a series of relevant training sessions and workshops to provide the participants with the necessary skills and knowledge to fulfil all the requisites of a participatory management plan for the sustainable production of medicinal plants.

The participants have used this training and knowledge in order to organise themselves and carry out a resource inventory, planning of the plant harvest, the monitoring of harvest impacts, the in-situ cultivation of medicinal plants, post-harvesting techniques including the preparation of herbal remedies, and the marketing and sale of these products. This has also enabled a model for a participatory management plan for medicinal plants to be produced, the terms of reference of which (see appendix VIII) is being adopted by the Institute of Natural Resources, and a series of useful lessons, all of which can be applied to other projects across the Amazon.

In addition to the concrete evidence mentioned above, significant but less tangible evidence is available in the communities. We have noticed the development of more informed discussions in communities, as people have started to see the active management of natural resources as both possible and necessary.

A member of the community of Santa Rosa de Huacaria told me, "Now we start to realise that we must take care of our plants and look after them. If we don't then there will be none left in the future."

The publication of the book has stimulated more interest in medicinal plants, and the uses of these plants in other communities. Other communities have approached Centro EORI requesting to be part of a similar project, and various members of Shipetiari and Santa Rosa de Huacaria approached the UK coordinator during the final workshop, expressing hope that the project would continue.

- To what extent has the project achieved its purpose, i.e. how has it helped the host country to meet its obligations under the Biodiversity Convention (CBD), or what indication is there that it is likely to do so in the future? Information should be provided on plans, actions or policies by the host institution and government resulting directly from the project that building on new skills and research findings.

This project has produced the first ever management plan for the sustainable production of medicinal plants in collaboration with INRENA, and we understand that it will be used as a model for future work of this nature. We have written the terms of reference by which the validity of proposals for future sustainable exploitation of medicinal plants will be assessed including detailed methodological guidance, based on the results of the project and our experience of collaborating with local communities. The terms of reference that we have established, have been developed in close cooperation with the Institute for the Investigation of the Peruvian Amazon (IIAP), and the regional Government's Department of Natural Resources. This is a significant and unforeseen development arising from the project.

The final workshop also provided a useful and candid discussion of the lessons learnt from the project, and how these could be incorporated into similar work. The representative of the President of the regional government of Madre de Dios, Romulo Cachique, expressed his approval of the project, as well as his desire to incorporate the project's findings in a symposium to be held in Puerto Maldonado regarding the sustainable development of the region. This is positive in light of the rampant illegal logging of mahogany that continues in the area, and the recent attempt by the national Government to allow petroleum prospecting in the Tambopata Reserve.

- Please complete the table in Appendix I to show the contribution made by different components of the project to the measures for biodiversity conservation defined in the CBD Articles.
- If there were training or capacity building elements to the project, to what extent has this improved local capacity to further biodiversity work in the host country and what is the evidence for this? Where possible, please provide information on what each student / trainee is now doing (or what they expect to be doing in the longer term).

As is common with projects which focus on change at the local livelihoods level, the wider impacts on biodiversity are less tangible. This project has made the first incremental step in changing awareness in the indigenous project communities, of the threats to their forest resources, the possibilities for sustainable use, and the policy support mechanisms that will help them to achieve that. These are significant changes in the space of three years, but without further institutional support there is a risk that they will not be sustained. It is very important that funders of work of this type recognise that the concept of 'biodiversity' is not one that carries much weight with politically threatened indigenous communities, and future work will be directed to protecting their resources and livelihoods. What the project has done is to link that with more global values of biodiversity.

With these provisos, we note that the livelihood interest has led directly to actions to sustain project activities, which will in turn contribute to biodiversity conservation. Two communities are independently producing herbal remedies for their own use and for sale in local towns. A majority of people in four of the five remaining communities have voted to continue the project work, and the establishment and functioning of communal businesses to sustainably produce medicinal plants in the long term. This, in spite of other commitments, demonstrates the positive impact the project has had in a region where the majority of projects do not even complete their funding terms.

- Discuss the impact of the project in terms of collaboration to date between UK and local partner. What impact has the project made on local collaboration such as improved links between Governmental and civil society groups?

The partnership between Oxford University and Centro EORI is now very positive and mutually beneficial. The UK coordinator is in regular contact with the three members of Centro EORI active on the project, Edith Pipae (coordinator), Humberto Payaba (field assistant), and Zoila Arredondo (Administrator) as well as the Director of the NGO, Adela Reategui. Since the change of Peruvian coordinator there have been no further delays and the project has been able to make up for lost time and complete its objectives.

The change in project staff and regularisation of office procedures have re-established good working relations which enable the UK partner to be more effective, through regular communication, longer field visits and receptivity to requests to vary the budget within the pre-established limits.

The partnership has benefited from the close relationship established by the two

coordinators, having successfully dealt with previous project delays and staff changes (documented in previous reports and in the Mid-Term Review). The coordinators share similar goals for the future of the project i.e. an agreement over the communities themselves running the project, once technically capable, and the means for this to happen. They have been working closely together in the preparation of a funding proposal for the second phase of the project. This will involve putting the management plan into practise in two communities starting with the establishment of communal businesses and with the involvement of the maximum number of community members. The Centro EORI project team will assist each community and act as mediator, gradually giving them more responsibility and autonomy as each community is able to manage the day to day activities of sustainable medicinal plant production.

- In terms of social impact, who has benefited from the project? Has the project had (or is likely to result in) an unexpected positive or negative impact on individuals or local communities? What are the indicators for this and how were they measured?

The five communities in general have benefited from the project directly, and some 30 - 50 key members of these communities have benefited from the various training, capacity-building and exchanges and visits that the project has provided. The impact has been positive and will be enhanced by the continuation of the project into the next phase, putting the management plan into practice.

The indicators include the numbers of people who have participated in the various training sessions, visits and exchanges, which have increased exponentially over the life time of the project. Another important indicator has been the development of communal discussions, which have become more informed over time and with a more general interest in matters related to their natural resources. In addition we have noticed an increase in the numbers of young people involved in activities between year one and three, who have complemented the regular participants in training sessions.

Of the seven communities at the start, two dropped out because of internal conflicts. Of the five who remained, three of these completed the project's activities to a satisfactory level and are in a position to continue the work. However, one, Palotoa Teparo is now deeply involved in an eco-tourism project with the NGO CEDIA involving a community lodge they are running, and with only 15 families they do not have the time or manpower to do anything else. Two communities continue to produce and sell medicinal plant products after the close of the project, as the stock of products has recently been renewed in Pilcopata. This is a good indicator of the success of the project in these communities. These two communities are ready (in terms of technical ability and organisation), and willing (in terms of general consensus) to continue sustainable medicinal plant production.

## **6. Project Outputs**

- Quantify all project outputs in the table in Appendix II using the coding and format of the Darwin Initiative Standard Output Measures.
- Explain differences in actual outputs against those in the agreed schedule, i.e. what outputs were not achieved or only partly achieved? Were additional outputs achieved? Give details in the table in Appendix II.
- Provide full details in Appendix III of all publications and material that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Details will be recorded on the Darwin Monitoring Website database.

- How has information relating to project outputs and outcomes been

disseminated, and who was/is the target audience? Will this continue or develop after project completion and, if so, who will be responsible and bear the cost of further information dissemination?

See appendices II and III.

Information relating to the project has mainly been disseminated through the Oxford website, the FAO's Non Wood News, and in Peru through local radio station broadcasts and poster campaigns. When new funding is obtained dissemination will continue while Oxford University has agreed that the web pages relating to the project will remain active until new ones are set up. Centro EORI will continue disseminating the project results to other institutions and is actively seeking funding to continue.

An article will also be placed in the FAO's next issue of non-wood news with a link to the project web pages where this information can be downloaded.

## 7. Project Expenditure

- Tabulate grant expenditure using the categories in the original application/schedule.
- Highlight agreed changes to the budget.
- Explain any variation in expenditure where this is +/- 10% of the budget.

**Table 3: Project expenditure**

<i>Item</i>	<i>Budget (please indicate which document you refer to if other than your project schedule)</i>	<i>Expenditure</i>	<i>Balance</i>
<i>Rent, rates, heating, overheads etc</i>			
<i>Office costs (e.g. postage, telephone, stationery)</i>			
<i>Travel and subsistence</i>			
<i>Printing</i>			
<i>Conferences, seminars, etc</i>			
<i>Capital items/equipment</i>			
<i>Others</i>			
<i>Salaries (specify)</i>			
<b>TOTAL</b>			

## 8. Project Operation and Partnerships

- How many local partners worked on project activities and how does this differ from initial plans for partnerships?

The Manu National Park was the most active stakeholder in the project due to its presence in the area. We coordinated both with the Head of the Manu National Park, in Cusco, the local office in Santa Cruz, and the INRENA regional office in Puerto Maldonado. They also participated in some workshops and training activities and assisted the project through the use of their radio, loan of equipment and transport.

At the start of the project various institutions offered their support- FENAMAD, COHARYIMA, and INRENA in particular. While FENAMAD initially participated in project activities, both they and COHARYIMA changed their executive committees in 2006. FENAMAD received a large amount of funding from UNDP to carry out their own eco-tourism project in the Manu Biosphere Reserve, which the then Director of Manu National Park, Modesto Chalco took charge of, which then committed the staff full-time. The Director of INRENA in Puerto Maldonado has also changed three times in the past three years as well as undergoing a process of de-centralisation which has affected all Peruvian Government departments. A general election and change in central Government in 2006 also caused some instability and a different set of priorities for the National Government (and thus the Department of Agriculture which controls the Institute of Natural Resources) and the result of these changes was a breakdown in the previously established relations with each institution.

- Who were the main partners and the most active partners, and what is their role in biodiversity issues?

The most active and principal partner was Centro EORI (Centro EORI de Investigación y Promoción Regional – Centre for Research and Regional Outreach) who organised and carried out the project work. They co-managed the project with the University of Oxford and had a direct interest in achieving the objectives of the project due to their previous work with native communities and their dedication to biodiversity conservation and the protection of Indigenous peoples' rights.

INRENA, as the Institute of Natural Resources, also have a direct role in the conservation of natural resources and the management of national parks including the adjacent Manu National Park, and they with the park staff, were our other main collaborators. It was important to involve them in the work of the project, in particular in seeking to strengthen conservation policy through the provision of information and a methodology for the sustainable production of medicinal plants, and in order to do this we coordinated with the regional offices in Puerto Maldonado, Cusco and in Lima. The fact that the project involved communities from two different geographical regions and the absence of activity in the local INRENA offices, as well as the importance of including national level decision-makers meant it was important to invite regional and national staff to the final workshop.

- How were partners involved in project planning and implementation?

1. Centro EORI – our partner and main collaborator in Peru. Members of Centro EORI were active in writing the original project proposal, and led the Pre-Project workshop (PPW) in September 2003. EORI representatives led the Pre-Project Workshop (PPW), and co-ordinated all activities in Peru, working closely with all actors. The Centro EORI team worked very hard in the communities and in their office in Puerto Maldonado in the collection and analysis of data and preparation of reports, the book and the management plan. Their well-established dissemination networks were also invaluable to the project.

2. COMMUNITIES – the project worked closely with five indigenous communities of three ethnic groups in the Manu Biosphere Reserve (RBM) in the Madre de Dios Region (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 should be in the Communities' Committee. This increased to two members and then up to five during the lifetime of the project. The committee members stimulated and maintained interest and motivation for the project within their community; ensured that activities are carried out by the dates required; shared experiences with each other every three months; and reported project progress to the project team bi-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 had an agreement with Centro 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 supported the proposal.

4. COHARYIMA (Council of the Haramkbut Yine Machiguenga) – the council formed by ethnic groups of the Upper Madre de Dios regions, where the project took place. They liaised 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 would 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 continued coordinating with the team as head of the UNDP funded FENAMAD eco-tourism project in the Amaraeri reserve.

- Were plans modified significantly in response to local consultation?

Plans were modified according to local needs and the abilities and progress of each community through the life of the project. In addition some elements were made more didactic as the effectiveness of this approach became apparent, such as through the involvement of people from other communities who shared their experiences regarding similar work in their communities, and changes to the printed biodiversity assessment methods manual. Some changes were made to timetables due to delays, and different levels of participation between communities.

- During the project lifetime, what collaboration existed with similar projects (Darwin or other) elsewhere in the host country? Was there consultation with the host country Biodiversity Strategy (BS) Office?

Partnerships with Nature Reserve and the National Herbarium of Lima have given assistance in the identification of plant specimens. The on-going experiments with plant yields being carried out at the Centro Takiwasi (from where the project contracted a specialist to run a training course on the preparation of herbal remedies) have yielded fruitful discussion and exchange of information.

The project has collaborated with other projects as follows:

- a) it has sought advice from Darwin project 14-019 regarding the formulation of the management plan

b) it has been in contact with an NGO based in Cusco, CREES regarding future collaboration with their 500 hectare forest and educational centre near Pilcopata and the possibilities of project participants getting involved in teaching courses there and selling herbal remedies at the centre.

c) it has communicated with Carlos Reynel, the head of the National Herbarium in Lima who was project leader on a previous Darwin project (No.9-006).

New links have also been established with Didier Lacaze who is coordinating a medicinal plants cultivation project in Ecuador, and with Campbell Plowden who works in northern Peru and has recently established an organisation called the Centre for Amazon Community Ecology. Both are interested in exchanging information and experiences, Mr. Lacaze in terms of the experience of a collaborative project which involves in situ medicinal plant cultivation, while Dr. Plowden is interested in working with communities and the ecological impacts of plant harvesting.

Both project coordinators have been in contact with the CBD focal point based in Lima, Maria Luisa del Rio who is the head of the Biodiversity and Biosecurity unit in the Consejo Nacional del Ambiente (CONAM). She has been kept updated as to project developments although unfortunately she was unable to attend the regional workshop in November.

- How many international partners participated in project activities? Provide names of main international partners.

None.

- To your knowledge, have the local partnerships been active after the end of the Darwin Project and what is the level of their participation with the local biodiversity strategy process and other local Government activities? Is more community participation needed and is there a role for the private sector?

It is a little early to comment on this as the UK coordinator visited Peru for the final workshop on 22 November 2007, but the Peru coordinator continues to be in contact with INRENA regarding the management plan and the terms of reference. Centro EORI is currently seeking funding using a proposal written by the UK coordinator in order to continue the project.

The reality of the situation is that the communities will not be invited to participate in any Government activities as this level of participatory decision-making is in its infancy in Peru. However, they are consulted regarding some natural resource management issues, such as whether they wished to permit petroleum exploration in their communal territories.

- Is there a role for the private sector?

There is certainly a role for the private sector in terms of the development of markets, where private companies play a key role due to their networks and ability to sell products in different continents and formats (internet, shop front etc.). The idea is that each community will have a functioning community-based enterprise, which will be responsible for the production, preparation and sale of medicinal plants and products. Private individuals or companies may be involved in terms of transport provision, marketing and sale, to a greater or lesser extent but this will depend on the needs of each community, and the provision of equitable benefits.

## 9. Monitoring and Evaluation, Lesson learning

- Please explain your strategy for monitoring and evaluation (M&E) and give an outline of results. How does this **demonstrate** the value of the project? E.g. what baseline information was collected (e.g. scientific, social, economic), milestones in the project design, and indicators to identify your achievements (at purpose and goal level).

1. Our Peruvian partner, Centro EORI has co-authored all reports and evaluated the role of Oxford in the project within these reports.

2. When in Peru both coordinators continually requested feedback from project participants during community visits and in meetings regarding Oxford and Centro EORI's role and how this could be improved.

3. We have conducted six-monthly evaluations of progress in the communities, which have been opportunities to discuss the project in detail with each community, evaluate progress, and for the communities to evaluate the project team, discuss problems and make suggestions to improve the project.

As a result of this approach to M&E, the reporting reflects the opinions of all project partners; we have been able to improve elements of the project and resolve problems as they have surfaced without any negative impact on the project; we have benefited from a greater input at the local level which has made the project more participatory and more beneficial to our partners.

There is evidence that indicators at purpose level have been fulfilled: e.g. traditional and scientific knowledge documented in a published book, and market information has been documented in a report; natural populations of medicinal plants have been mapped and a monitoring plan has been implemented, (with a guide produced); experimental plots, nurseries and botanical gardens have been established; management plan has been written (and will be implemented in the second phase of the project), and plantations have been established.

In addition the fact that two of the communities are successfully selling medicinal plant products in the local town indicates the success of the commercial aspect of the project, an indicator which was not envisaged at the start of the project.

At goal level: the University of Oxford has worked closely with the Centro EORI and five local communities in order to achieve the conservation of biological diversity, the sustainable use of its components (through the provision of biodiversity assessment techniques, measures to minimise and measure the ecological impact of plant harvesting on plant populations), and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources (through the protection of the communities' intellectual property rights according to Peruvian law, and the provision for the equitable sharing of benefits with each community according to their production and sale of medicinal plants).

- What were the main problems and what steps were taken to overcome them?

Maintaining the interest and trust of local participants has been a challenge from the start due to the legacy of other uncompleted project work in the region as well as neglect from central government, and a lot of time and energy was spent by the Peruvian team in maintaining confidence and local belief in the ability of the project to achieve its aims.

Resolving staff problems was also a huge challenge, as the original Peruvian coordinator changed her professional priorities. Her resignation and replacement with the field assistant resulted in a huge improvement in the functioning of the project and permitted the project to finish the majority of its objectives.

Completing objectives in remaining time and with remaining budget was also a significant challenge. Time and money were wasted by the staffing changes and this has meant that the project has had to reduce expenditure considerably in order to overcome this. The Peru team has worked for a month without a salary, and everyone involved has worked well above their allocated time allowance to ensure the completion of project activities.

- During the project period, has there been an internal or external evaluation of the work or are there any plans for this?

A mid-term review was carried out in September 2005 by the Darwin Initiative which helped to restore trust between partners and re-assess the project and progress made. As a result of this changes were made to the terms of reference of both coordinators, as well as to the logical framework, and although the focus of the MTR was on restoring relations (until they broke down further leading to the replacement of the Peru coordinator), this was a very useful approach and the whole team benefited from this experience.

As previously stated, there have been a series of six monthly evaluations between the three partners, which have proved very useful in improving the functioning of the project, and this has been incorporated into the management plan and will form the basis of future internal evaluations.

- What are the key lessons to be drawn from the experience of this project? We would welcome your comments on any broader lessons for Darwin Initiative as a programme or practical lessons that could be valuable to other projects, as we would like to present this information on a website page.

Great care must be taken with staff selection, as this can have serious consequences for the success of a project, and for the expectations of local communities regarding project work in general. In addition, the motivations and expectations of any staff who propose projects must be examined carefully, and cross-checked against the views of other stakeholders.

There cannot be enough consideration of native cultures and local hierarchies, and it is important that the strategy to ensure participation of community members considers this. In this project we decided to adopt the approach of paying selected community members to coordinate and be responsible for project activities. In retrospect, this was not the best way to ensure maximum participation as it created jealousy and the expectation of earning money for anything project related. To some extent it also breeds a donor dependency culture which was already evident in these communities due to the impact of previous projects.

The system we plan to adopt for the second phase will be to give each community a fund which they will be responsible for managing and accounting for, and which they can choose to use for project related costs i.e. salaries, medicine, tools and materials for the use of the community in exchange for completing project activities.

We feel it is important to incorporate adaptability in project design and planning, especially when working in remote tropical areas and travelling by boat. Delays are inevitable and extra time should be factored into the planning to allow for this, as well as to pursue additional elements that may be useful to project participants.

In retrospect, perhaps it was unrealistic to have attempted to produce management plans for seven communities in three years and on such a budget, especially considering the time, costs, distances between communities, and the low levels of education of the participants, and it would have been better to have concentrated our efforts on two or three communities. We underestimated the time and effort needed to maintain the confidence of participating communities as well as the high level of facilitation required, and if two communities had not withdrawn from the project in 2005, there is little chance we would have achieved the majority of our objectives.

In addition working with communities with large communal forests (up to 38,000 hectares), meant encountering different perceptions of biodiversity and the threats to it. Because of this the perceived need to monitor is less, and this stands in contrast to other parts of the tropics where forests are much smaller and more degraded, and the pressure on them is much higher.

While desirable, it can be very difficult to scale up the lessons learnt from such a project, especially when the communities involved are somewhat neglected by local and central Government, are isolated and consist of Indigenous people - who are not necessarily the number one priority in a developing country with a new Government and which is undergoing political decentralisation.

#### **10. Actions taken in response to annual report reviews (if applicable)**

- Have you responded to issues raised in the reviews of your annual reports? Have you discussed the reviews with your collaborators? Briefly summarise what actions have been taken over the lifetime of the project as a result of recommendations from previous reviews (if applicable).

The 2007 annual report review was very positive and no issues were raised that required action on our part.

All issues in the 2006 annual report review were previously responded to – see “response to 13015 AR2R review of April 2006” sent the 21<sup>st</sup> of December 2006. We did not receive any comments on the review. Briefly various actions were taken:

The Peruvian team was included in all reports and discussions and kept informed of Oxford's progress as well as evaluating Oxford's progress as recommended; since the review full documentation has been provided concerning project progress and outputs as well as how they are contributing to the project purpose; an exit strategy was put in place; the logical framework was revised as requested (and is included in appendix V) ; relations between Oxford and our Peruvian partner Centro EORI have improved enormously since the new Peru project coordinator took over, and the completion of outputs and other information reflect this.

#### **11. Darwin Identity**

- What effort has the project made to publicise the Darwin Initiative, e.g. where did the project use the Darwin Initiative logo, promote Darwin funding opportunities or projects? Was there evidence that Darwin Fellows or Darwin Scholars/Students used these titles?

We produced various printed documents – a book, management plan, a field manual, posters, and pamphlets. The Darwin Initiative was been advertised through the use of the logo on the front cover of the book, on the project web pages, on the front of the management plan and the methods manual, on the different posters and newsletters produced, and it has been prominently displayed in the principal workshops and meetings. The involvement of the Darwin Initiative has also been mentioned in current funding proposals to demonstrate the validity of the project and as a means to secure future financial support.

- What is the understanding of Darwin Identity in the host country? Who, within the host country, is likely to be familiar with the Darwin Initiative and what evidence is there to show that people are aware of this project and the aims of the Darwin Initiative?

It is perceived as an International donor who funds work in nature conservation and sustainable development.

- Considering the project in the context of biodiversity conservation in the host country, did it form part of a larger programme or was it recognised as a distinct project with a clear identity?

From the beginning it had been recognised as a distinct project with its own clear identity. This is because of its novel nature, as there is no one else doing such work in Peru at present. There are many other projects that are working with medicinal plants, either in terms of ex-situ cultivation to satisfy the growing national and international markets or work documenting the identification, use and preparation of traditional remedies, but there is no other project that sought to work in such an integrated and comprehensive manner. The project's emphasis on the importance of local active participation is unusual in the region and as a result other communities have solicited future involvement.

## **12. Leverage**

- During the lifetime of the project, what additional funds were attracted to biodiversity work associated with the project, including additional investment by partners?

Funds have been donated by the Living Bridges Foundation which has previously worked in the area, Trees UK recently expressed interest in making a donation to the second phase of the project, as has a private company in London, Air Conditioning Environment. A detailed proposal has also been developed to attract funds for the second phase, and applications have been made to a wide variety of bodies including Total, Toyota, and the Seventh Generation Fund amongst others.

- What efforts were made by UK project staff to strengthen the capacity of partners to secure further funds for similar work in the host country and were attempts made to capture funds from international donors?

While the UK coordinator has taken on the role of securing future funds, the Peru team is included in the process to share information and strengthen their capacity to secure funds in the future. Centro EORI has adopted a detailed proposal written by the UK coordinator and is using it to secure funds for the second phase.

## **13. Sustainability and Legacy**

- What project achievements are most likely to endure? What will happen to project staff and resources after the project ends? Are partners likely to keep in touch?

The book co-authored by the communities and the management plan will endure due to their popularity and usefulness. The project has also left a legacy of greater organisation within the communities which will serve them well for future activities, as well as a better awareness of the importance of managing their natural resources, and their value over the long-term. Peru project staff will start other jobs in 2008 while waiting for funding to be secured but they have committed themselves to continuing the work, and the participants will remain in their communities carrying out other activities, but also in anticipation of the start of a second phase of work. Partners will stay in touch due to common interests and hope for future collaboration.

- Have the project's conclusions and outputs been widely applied? How could legacy have been improved?

While we have disseminated the project's findings through the Oxford University website in English and Spanish and through the final workshop, the application of the outputs has been slow. INRENA has shown great interest in the project's results, in particular the management plan and the terms of reference for the sustainable production of medicinal plants, and while perhaps not enough time has elapsed, there have been no changes or development of policy yet or application of the project's findings. Having had an initial positive meeting with Maria Luisa del Rio, the head of the Biodiversity and Biosecurity unit in the Consejo Nacional del Ambiente (CONAM), we have never received a reply to email updates sent and have been unable to secure an appointment since 2005, despite phoning her secretary on various occasions. This lack of national institutional or policy support has meant the project has operated somewhat in isolated and difficult conditions, although we have left a legacy in the form of an example and a process that can be built on in the future.

- Are additional funds being sought to continue aspects of the project (funds from where and for which aspects)?

The UK coordinator had a meeting with the head of the programme of small funds in the UNDP office in Lima, and a proposal is in preparation to be sent to them. We also intend to apply for Darwin Initiative post-project funding when the next round of funding is announced in order to put the management plan into practise in two communities. As mentioned above we have had interest expressed in funding a further phase from both Trees UK, and an air conditioning company in London and await their decisions.

#### **14. Value for money**

- Considering the costs and benefits of the project, how do you rate the project in terms of value for money and what evidence do you have to support these conclusions?

Overall the project has been good value for money, as although there was some wastage due to staff problems and months of stoppages, this has been made up for by the very hard work by all concerned, working well above their paid time allocation.. A minimum of six months was wasted due to project stoppages and a breakdown of relations between the project partners in 2005 and 2006, and the fact that nearly all the project objectives have been achieved at no extra cost, reflects well on the project team.

## Appendix I: Project Contribution to Articles under the Convention on Biological Diversity (CBD)

Please complete the table below to show the extent of project contribution to the different measures for biodiversity conservation defined in the CBD Articles. This will enable us to tie Darwin projects more directly into CBD areas and to see if the underlying objective of the Darwin Initiative has been met. We have focused on CBD Articles that are most relevant to biodiversity conservation initiatives by small projects in developing countries. However, certain Articles have been omitted where they apply across the board. Where there is overlap between measures described by two different Articles, allocate the % to the most appropriate one.

<b>Project Contribution to Articles under the Convention on Biological Diversity</b>		
<b>Article No./Title</b>	<b>Project %</b>	<b>Article Description</b>
<b>6. General Measures for Conservation and Sustainable Use</b>	6	Develop national strategies that integrate conservation and sustainable use.
<b>7. Identification and Monitoring</b>	11	Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities that have adverse effects; maintain and organise relevant data.
<b>8. In-situ Conservation</b>	17	Establish systems of protected areas with guidelines for selection and management; regulate biological resources, promote protection of habitats; manage areas adjacent to protected areas; restore degraded ecosystems and recovery of threatened species; control risks associated with organisms modified by biotechnology; control spread of alien species; ensure compatibility between sustainable use of resources and their conservation; protect traditional lifestyles and knowledge on biological resources.
<b>9. Ex-situ Conservation</b>	0	Adopt ex-situ measures to conserve and research components of biological diversity, preferably in country of origin; facilitate recovery of threatened species; regulate and manage collection of biological resources.
<b>10. Sustainable Use of Components of Biological Diversity</b>	18	Integrate conservation and sustainable use in national decisions; protect sustainable customary uses; support local populations to implement remedial actions; encourage co-operation between governments and the private sector.
<b>11. Incentive Measures</b>	12	Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.
<b>12. Research and Training</b>	22	Establish programmes for scientific and technical education in identification, conservation and sustainable use of biodiversity components; promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries (in accordance with SBSTTA recommendations).

<b>13. Public Education and Awareness</b>	3	Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
<b>14. Impact Assessment and Minimizing Adverse Impacts</b>	-	Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on impacts beyond State boundaries and work to reduce hazards; promote emergency responses to hazards; examine mechanisms for re-dress of international damage.
<b>15. Access to Genetic Resources</b>		Whilst governments control access to their genetic resources they should also facilitate access of environmentally sound uses on mutually agreed terms; scientific research based on a country's genetic resources should ensure sharing in a fair and equitable way of results and benefits.
<b>16. Access to and Transfer of Technology</b>		Countries shall ensure access to technologies relevant to conservation and sustainable use of biodiversity under fair and most favourable terms to the source countries (subject to patents and intellectual property rights) and ensure the private sector facilitates such assess and joint development of technologies.
<b>17. Exchange of Information</b>		Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
<b>19. Bio-safety Protocol</b>	11	Countries shall take legislative, administrative or policy measures to provide for the effective participation in biotechnological research activities and to ensure all practicable measures to promote and advance priority access on a fair and equitable basis, especially where they provide the genetic resources for such research.
<b>Total %</b>	<b>100%</b>	<b>Check % = total 100</b>

## 15. Appendix II Outputs

Please quantify and briefly describe all project outputs using the coding and format of the Darwin Initiative Standard Output Measures.

Code	Total to date (reduce box)	Detail (←expand box)
<b>Training Outputs</b>		
6a	50 45 40 25 50  Total = 210	Production of herbal medicines; Participatory inventory and harvest impact monitoring techniques; Harvesting techniques; Small business administration; Cultivation of medicinal plants
6b	3 days 7 days 1 day 3 days 4 days  Total= 3 training weeks	Production of herbal medicines; Participatory inventory and harvest impact monitoring techniques; Harvesting techniques; Small business administration; Cultivation of medicinal plants
7	3	Field manual for harvest impact monitoring Training materials for the preparation and production of herbal medicines Guide to harvesting techniques
<b>Research Outputs</b>		
8	26 weeks	Year one 10, year two 8, year three 8 (two trips per year)
9	1 formal plan	Participatory management plan for the sustainable production of medicinal plants
10	1 formal document	1 book documenting the traditional knowledge of the use, management and ecological characteristics of medicinal plant species in the area
<b>11a</b>	<b>1 paper</b>	<b>(1 paper in preparation)</b>
13a	5 species reference collections	5 medicinal plant species reference collections established and handed over to communities

<b>Dissemination Outputs</b>		
14a	2 conferences/workshops organised to present/disseminate findings	One Project dissemination conference and final regional workshop carried out by project team and promoters and community representatives with regional government, NGOs and other organisations.
15b	2 local publicity articles in Peru	2 poster campaign in south-east Peru
15c	9 publicity articles in UK	9 - Six in the form of University of Oxford website updates; two articles for the FAO's NWFP newsletter and electronic digest and one article for the 8 <sup>th</sup> issue of the Darwin newsletter
16c	Estimated circulation of each newsletter in the UK	5,000
17a	1 dissemination networks established	1 network established for the discussion of findings, exchange of information and project results
19c	8 local radio features in Peru	8 radio features both in Pillcopata and Puerto Maldonado to advertise the project and disseminate findings
<b>Physical Outputs</b>		
20	£ of assets handed over to Peru	£ of computer and scientific equipment handed over
22	8 permanent field plots established	8 permanent monitoring plots established <i>per community</i>

## 16. Appendix III: Publications

Provide full details of all publications and material that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Details will be recorded on the Darwin Monitoring Website Publications Database that is currently being compiled.

Mark (\*) all publications and other material that you have included with this report

<b>Type *</b> (e.g. journals, manual, CDs)	<b>Detail</b> (title, author, year)	<b>Publishers</b> (name, city)	<b>Available from</b> (e.g. contact address, website)	<b>Cost £</b>
<b>Book</b>	Uso tradicional de las plantas medicinales en las comunidades nativas de la Reserva Biosfera del Manu, una Guia con apuntes de Propagacion de Especies Medicinales. Centro EORI, 2007	<b>Centro EORI, Puerto Maldonado, Peru</b>	Not publicly available (1 copy sent to Darwin)	<b>1,800</b>
<b>Manual</b>	Manual para el monitoreo de plantas medicinales. Veitch, C., E. Pipae Cruz, Ortiz, S., Menton, M. and Gillett, S. 2006	Environmental Change Institute, University of Oxford, Oxford	<a href="http://www.eci.ox.ac.uk/research/humaneco/peru-medicinal.php">http://www.eci.ox.ac.uk/research/humaneco/peru-medicinal.php</a>	
<b>Manual</b>	Plan de manejo comunal de plantas medicinales en las comunidades nativas del Manu	Environmental Change Institute, University of Oxford, Oxford	<a href="http://www.eci.ox.ac.uk/research/humaneco/peru-medicinal.php">www.eci.ox.ac.uk/research/humaneco/peru-medicinal.php</a>	

## 17. Appendix IV: Darwin Contacts

To assist us with future evaluation work and feedback on your report, please provide contact details below.

<b>Project Title</b>	
<b>Ref. No.</b>	
<b>UK Leader Details</b>	<i>Please note the project leader has moved to the Forestry Commission:</i>
Name	Dr Anna Lawrence
Role within Darwin Project	Advisor
Address	
Phone	
Fax	
Email	
<b>Other UK Contact (if relevant)</b>	
Name	Charles Veitch
Role within Darwin Project	UK project coordinator
Address	
Phone	
Fax	
Email	
<b>Partner 1</b>	
Name	Edith Pipa Cruz
Organisation	Centro EORI
Role within Darwin Project	Peru coordinator
Address	
Fax	
Email	
<b>Partner 2 (if relevant)</b>	
Name	
Organisation	
Role within Darwin Project	
Address	
Fax	
Email	