

Darwin Initiative

Half Year Report (due 31 October each year)

Project Ref. No.	15-016
Project Title	HABITAT RESTORATION AND SUSTAINABLE USE OF SOUTHERN PERUVIAN DRY FOREST
Country(ies)	PERU
UK Organisation	ROYAL BOTANIC GARDENS KEW
Collaborator(s)	INRENA, GAP, UNIVERSIDAD AGRARIA LA MOLINA (UNALM), Universidad de Ica (UNICA), ANIA
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Project website	www.kew.org/scihort/tropam/peru

1. Outline progress over the last 6 months (April – September)

Project steering group

The core steering group comprises representatives from UNALM, INRENA (Ica), RBG Kew and UNICA. Due to the evolving nature of habitat restoration and lack of published research for hyper-arid ecosystems with fog-derived moisture, it was felt that the project should be connected to the Society of Ecological Restoration (SER). Andy Clewell, James Aronson and Dan Janzen have been contacted to provide technical input for the steering group.

Office

A project office has been established in Ica with easy access to for the project participants, providing a forum for discussion and workshops. Oliver Whaley (OQW) has collated the large majority of published reference material into a small reference library that has proved very useful to the students. In Lima ANIA is providing office space with computer and internet facilities for the project participants. Other office facilities are provided by UNALM in the Department of Forestry.

MOUs

After considerable delay resulting from legal and accounting requirements, an MOU has been established between RBG Kew and UNICA. Due to the complications of government change (Toledo/Garcia), uncertainties now exist about the future of INRENA and its directorship. As we are developing agreements with INRENA both in Ica and in Lima (both have been exceptionally encouraging and supportive), RBG Kew has been advised to await the changes in spring 2007 before establishing an MOU with SPDA (which provides the legal framework for conservation and the CBD with IRENA). We are now preparing documentation for this agreement. An MOU is also being established with CONAM and ANIA. We have been able within this to push for a commitment to conservation of biodiversity and viable sustainable livelihood options through the planting of native and endemic species, especially as part of reforestation. This aspect had not previously been integrated to these organisations, and has provided a useful immediate catalyst to our planting programme with ANIA and CONAM.

Press releases/radio

An official press release was sent out by Kew in July. Coverage of the project in the UK has included articles in Kew Magazine and Kew Scientist. In Peru, OQW has given several interviews for local radio and press and has been able to raise awareness of the project and its objectives and the Darwin Initiative Darwin Initiative through the resulting shows (over 5 shows including Radio Luren, Radio Huacachina and Radio Nacional) and articles (four in local press including La Voz de Ica, La Opinion). A large two-page colour article with colour pages has just been published in the national newspaper *El Comercio*.

Habitat restoration areas / plots

We have confirmed six sites for habitat restoration close to relics of each of the five key *Prosopis* ecosystem types

(providing germplasm for restoration). The sites have been selected to consolidate conservation of relic ecosystems whilst providing a wide range of conditions in which to evaluate the success and long term feasibility of habitat restoration and sustainable management in the extreme conditions of southern Peruvian desert. Sites were chosen to involve as many people as possible from across the social spectrum whose survival or economic well-being is derived from the natural resources of the project region.

Methodology workshops

We have had held two student workshops and several meetings at UNALM, in the field and the Ica office involving the project steering group members to define methodologies to demonstrate the effectiveness of pragmatic measures and treatments for *Prosopis* forest restoration. We are in the process finalising the precise methodologies, especially with regard to duration and quantification of irrigation regimes that will test the auto-sustainability of an ecological trajectory within the project lifespan.

The education programme

This aspect of the project has developed rapidly, and we have now reached over 1000 students and 50 teachers in 5 schools with a programme of workshops, presentations (x4) and tree planting activities (700 *Prosopis* and other native trees). We are now incorporating the planted areas on school land, within the national Tierra de Niños programme run by ANIA.

Project website and DarwinNET

We have set up a project website at Kew (currently being translated into Spanish) and the project also features on the Trees for Life and Trees for Cities sites. We are preparing a portal for our education programme with ANIA that will encourage several thousand children to see their school and photos of our environmental education/planting programme. Here they will also be able to download information leaflets on habitat restoration, Bosques de los Niños and native plants. We are at present waiting to send our biodiversity baseline research and other project activities and programmes to DarwinNet, who remain committed to participation but have not yet had the necessary time availability.

Pod Processing

After administration changes that resulted in unavailability of a dedicated room in UNICA, we are now planning to locate the pod processing facilities in the centrally located town of Palpa, where there are existing milling facilities and expertise in *Prosopis* processing. Sr Perales, who has participated in education events demonstrating *Prosopis* coffee, will provide training and a focal point for the projected cooperative. We are beginning the upgrade of his facilities and mill in order to obtain the phytosanitary permits and permit the sale for the three *Prosopis* pod products to be processed here.

Tree Nursery

The tree nursery was completed on time in the faculty of agronomy, UNICA. It is a 30m by 8m construction, made from eucalyptus wood and nylon netting, with running water and cement propagation bays. We now have well over 6,000 plants propagated from the 30 key species. A sign over the entrance (bearing the Darwin logo) dedicating the facility to the conservation and sustainable use of native plants, has encouraged a stream of interested students to participate. We are now providing a powerful stimulus that has seen the teachers expressing a wish to include native plants into the curriculum.

Seed collection

The first few months of the project have included a strong effort to collect sufficient seeds of native species to begin habitat restoration trials. The seeds and cuttings have been databased and georeferenced, vouchered with herbarium specimens and are undergoing propagation trials. We have been offered the facilities of the basic laboratory at UNICA to process the seeds, provide training and house a reference collection.

Chile Visit

Due to the philology-driven timing for collection of our baseline herbarium specimen collection and seeds, the visit to the Chile *Prosopis tamarugo* project has been postponed until fruiting time.

Public awareness raising and festival

OQW and Ica students have organised and participated in a number of public education/awareness events, including the first Huarango Festival, held ahead of schedule. Two workshops (*Educacion Ambiental para el Desarrollo Sostenible* and *Biodiversidad y Ecologia*) were organised by the Mayor of Tinguina Ica and Nasca Asociacion Civil, an evening of *Huarango y biodiversidad* talks and product tasting was held at the INC, where the students presented their Darwin Project work, and a presentation was given to the management of Agroindustria Chapi.

Stakeholder meetings

Agreements to use land (see table) in 6 locations have now been agreed through a series of stakeholder meetings. We are now completing written agreements that commit areas to national conservation schemes.

Start of plot planting and monitoring (monthly)

The plot planting is now well under way and the first monthly monitoring undertaken. Some concern is the presence of the widespread Cecidomiidae plague on *Prosopis* seedlings. This plague is being monitored and a resistance trial set up by INRENA.

Pod processing training and market research

The report of the initial market research is now complete and includes: shops in Lima willing to stock *Prosopis* products, the requirements of the production to attain phytosanitary permits for commercial sale and export, and the requirements for organic certification.

2. Give details of any notable problems or unexpected developments that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

In contrast to rapid involvement of Ica students, considerable delay was experienced in contracting Lima (UNALM) students and beginning their research and orientation programmes, due to contrasting institutional requirements for MOU and financial transfer agreements between RBG Kew and UNALM. This has now been resolved, and the students will soon begin work. This is not predicted to have a major impact on the success of the project; compensatory measures included the engagement of more local students (UNICA) than previously planned in order to facilitate the baseline research programme. It has, however, resulted in a spending delay which we are aiming to compensate for over the coming six months.

Low soil temperatures and unseasonal cold nights have not been conducive to the usual rapid germination, delaying the planting out programme. In addition, the Cecidomiidae plague (which has killed many of the Huarango trees at the Nasca sites) is already infesting seedlings, with unpredictable consequences. This could have a significant impact both on the pod production programme (which has not been initiated at Nasca and is currently being arranged at a site near Ica where the infestation is less serious), and also on the success of the planting trials. The consequences of this infestation are unpredictable. Our monitoring and research programme with INRENA will allow us to produce important data on this plague, for wider application.

Have any of these issues been discussed with the Darwin Secretariat and if so, have changes been made to the original agreement?

No

Discussed with the DI Secretariat: no/yes, in..... (month/yr)

Changes to the project schedule/workplan: no/yes, in.....(month/yr)

3. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?

Not at present