Darwin Initiative

Half Year Report (due 31 October each year)

Project Ref. No.	15/010
Project Title	Buffer Zone Restoration and Development in Knuckles Forest Reserve, Sri Lanka
Country(ies)	Sri Lanka
UK Organisation	University of Aberdeen
Collaborator(s)	University of Peradeniya (SL), Centre for Ecology and Hydrology (UK), Forest Department (SL), IUCN Colombo
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Project website	www.abdn.ac.uk/knuckles

1. Outline progress over the last 6 months (April – September) against the agreed baseline timetable for the project.

Community oriented income generation

During the first year of the project, we identified two communities that were interested in working with the project and invested time collecting information from the communities about the local context (e.g., historical profile of the study area, demography and assets, human forest linkages, farming activities, kitul tapping in forest and village area, income structure, climatic variation and seasonal cropping patterns) through informal interviews. We also held four PRAs, the first two were focused on orientation to the communities resources, their use, sources of income and problems and potential solutions to the problems. These were reported on in the previous report. The second two PRAs were focused on planning interventions. The interventions that were identified by the community and selected for action were as follows:

- 1. A riparian development site in Kalugala, with an aim to improve the service functions of the land through soil and water conservation, while conserving biodiversity.
- 2. A homegarden development site in Kosdanda, with an aim to integrate useful species onto privately held lands within the buffer zone to establish an income source;
- 3. Improvement to kitul sap processing in two locations in Kosdanda and two in Kalugala, with an aim of reducing community dependence on the forest for fuelwood;
- 4. Highland enrichment project, with an aim to increase the service functions and income generation potential of degraded lands in the buffer zone.

During this 6 month period an eight member committee was established with a remit to help to organize the development activities towards the goal of conserving the forest area. We discussed the possibilities of working with additional NGOs with expertise in sustainable agriculture. The riparian development project has started, the homegarden development project has been initiated, the households that will be involved in the energy conservation stoves have been identified. Furthermore, a site has been identified for developing an area of highland.

During this period, our principal research assistant working on this component left the project. We are aware of a need to reallocate resources to this component in order to secure adequate staff to work with the community and to liase with the Forestry Department and to promote discussion and address conflicts between the communities and the Forestry Department. Although we have discussed various possibilities to address these issues, the decisions about reallocation have not yet been taken. Pinard

will be in Sri Lanka at the start of December and it is expected that the project team will confirm a plan for addressing the constraints in this component at that time.

Capacity building

The main activity that was scheduled for this period was a GIS training course. Because alternative provision of GIS training has been available to the project team and stakeholders in the project, we have not offered this training to date. We are considering reallocating the budget that was originally identified for this training to the community component to support a new member of staff who would be responsible for supporting the implementation of the projects with the communities.

The training programmes for the MPhil students at the University have progressed smoothly, with the three students completing their obligations for coursework and the majority of the field work has also been completed. Two of the MPhil students, and the local project coordinator completed a GIS course at the Postgraduate Institute of Science in Peradeniya.

Risk assessment - anthropogenic fire and alien invasive species

This work is progressing well, with field work to investigate pine invasion in 12 plantations, representing 3 agroecological conditions in the Knuckles buffer zone completed. Current field work is focused on examining pine invasion in the grasslands, forest patches and adjoining plantations. Also, we are investigating variation in propagule pressure from the pines in these areas. In parallel to this work, we are trying to determine the fire history related to pine invasion in these areas. In order to study this aspect, we have commenced the dendrochronology studies on *Pinus* trees that have been exposed to fire. The team members working on this component secured a small grant from the APN to develop the capabilities in the department related to dendrochronologists from Lamont-Doherty Earth Observatory in the USA will be visiting the team in Feb 2008 to help take the research further.

Diversification of the socio-economic and conservation values of monoculture plantations of *P. caribaea* by research on under-planting with native trees, spices and medicinal plants

The work on this component during this period involved further discussions with the Forestry Department and other landowners in the Knuckles area in order to identify suitable sites and appropriate partners. The Forestry Department is developing some of their own interventions related to enrichment of pine plantations therefore we have been discussing their plans with them in order to ensure that any project activities are compatible and complementary.

In this connection, the Forestry Department, at the initiation of the Minister of Environment and Natural Resources, conducted a workshop on 15 Aug. 2007 to assess the current status of *Pinus* plantations with a view to their restoration with native plant species with rural economic significance. We presented a paper titled ' the role of *Pinus* plantations in forest restoration in wet and intermediate zones' based on our experience in Sinharaja and Hantana Pinus enrichment research trials. The FD is following up the outcomes of this workshop and we are assisting in their planning process.

Similarly, we are having preliminary discussions with the senior regional officials of the Plantation Human Development Trust of the Plantation Ministry and managers of plantations (mostly tea) with a view to partner with them in conducting pilot studies in enriching *Pinus* plantations in tea estates with species of economic importance (medicinals, firewood etc.) to plantation community towards addressing the poverty alleviation issues. If these discussions are successful, we might be able to work with them in some of the pine plantations in the Knuckles region.

Research on the removal of barriers to native plant succession on degraded grasslands and in forest fragments with understories of Cardamom.

Field work for the new experiments on the degraded grasslands has progressed well with three sites established, Deanstone, Riverstone and Madulkelle. The sites were selected in collaboration with three of our project collaborators, the Forestry Department, Eco-Friends Lanka, and Finlay's, respectively. The monitoring of the experiments continues.

Some problems arose with the longer-term restoration experiments in Riverstone. Due to changes in staffing the maintenance of seed traps and transplant enclosures stopped for a few months and

consequently some damage was done to some of the transplants in enclosures and data from a few seed traps were lost. We are re-instating the seed traps and transplant enclosures and are currently in the process of doing a damage assessment in order to understand the implications for data quality.

The research plan for the cardamom was finalized in June. The aim of the work is to determine the effects of cardamom in the forest, the intervention requirements for restoration of ecosystem function, and the potential compatibility of cardamom management with conservation. The experimental areas have been identified and plots established. Pre-treatment measurements have been made. After a supervisory visit in December, the experimental treatments will be imposed.

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.

One of our MPhil students left the programme for personal reasons. This has left us short of staff in the community component. We are currently discussing how we will respond to the staffing issues for this component. At this stage we cannot confirm the impact on the project timetable or budget.

Damage to one of our experimental sites for the degraded grasslands research has potential implications for the quality of some of the data collected during this reporting period. We are currently assessing the implications of the damage. At this point we do not anticipate any impact on project outputs, however, we may need to reconsider our strategy for management of our experimental sites and this may have budgetary implications. We will report further in our annual report.

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

No. No.

Discussed with the DI Secretariat:

no/yes, in..... (month/yr)

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

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

No.

If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document.

Response to Annual Report Review

In the review of our Annual report (31 March 07) we were asked to respond to a suggestion that we should consider securing additional skills in participatory forest management and conflict resolution. The project team has been discussing the concerns raised but are not yet able to confirm our response. We feel that we have considerable expertise within our team, specifically Professor Anoja Wickramasinghe, has much experience with community development and participatory management models. The problem for us is more a lack of project staff that can work in the field with the communities and spend time with conflict resolution and negotiating agreements between the communities and the Forestry Department. We are considering reallocating a portion of the budget that was originally intended for GIS training provision, to allow us to hire someone to support the community work. We intend to make a decision about this issue in early December and will report more fully in our next annual report.