

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 liaise 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 dendrochronological studies. Under this grant they will be getting software and a measuring device. Three 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

