

Darwin Initiative Main/Post/D+ Project Half Year Report (due 31st October 2017)

Project reference	23-031
Project title	Science-based interventions reversing negative impacts of invasive plants in Nepal
Country(ies)/territory(ies)	Nepal
Lead organisation	Royal Botanic Garden Edinburgh, 20a Inverleith Row, EH3 5LR
Partner(s)	Nepal Academy of Science and Technology (NAST); Department of Plant Resources, MoFSC; Central Dept. of Botany, Tribhuvan University (CDB-TU), HELVETAS Swiss Intercooperation, Nepal.
Project leader	Dr Mark F Watson
Report date and number (e.g., HYR3)	31 Oct 2017, HYR2
Project website/blog/social media etc.	http://www.invasiveplantsnepal.org/ https://twitter.com/Darwin_Nepal/ https://www.facebook.com/Darwin.Nepal/ https://www.flickr.com/photos/152233654@N02/albums

1. Outline progress over the last 6 months (April – Sept) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up to end September).

Project start date: 1 June 2016

Output 1: Invasive plants controlled and degraded lands restored

1.1 Hold planning and stakeholder workshops, taking a participatory approach to providing training, enhancing the knowledge of local communities and raising awareness on the identification, impact, control and management of invasive plants.

Year 2 workshops in Nawalparasi and Makawanpur districts completed (see photos in Flickr)

1.2 Work with CBFUGs to undertake effective practical action for the removal and on-going control of invasive plants, with training and support, and assess the impact of this work.

Removing of invasive species on going on all three districts, more intense clearing will be starting from November.

1.3 Hold meetings with experts to agree on target species for replanting and work with government and local plant nurseries, and CBFUGs, to undertake replanting of reclaimed lands with native, economically useful plants.

Plantation of economically useful plants have been started, ca. 2000 seedlings were planted in three CFUGs.

1.4 Research, build and disseminate a science-based knowledge resource for invasive plants, and take a participatory approach to incorporating into CBFUG Management Plans the lessons learned in best practice in restoration of lands degraded by invasive plants.

The work is ongoing on amendment of community forest management plans. Current regulations do not differentiate between char produced from high value timber species and

invasive species. Community forest user groups encountered practical problems while releasing char to the market. Making char out of invasive alien species (IAS) for market purpose is a very new concept in Nepal so this issue has not been adequately addressed in national to local scale forest policies. CFs operate on approved management plans but current plans do not integrate IAS and char issues. Project partners are working with district forest offices to include IAS in bush cleaning programs and production and market supply of char from IAS in forest management plans. It has been approved in one district so far, and in the process of approval on other two districts.

Output 2: Weed species evaluated and communicated

2.1 Research, evaluate and publish inventories of the district-level weed flora in the study areas with fieldwork, sample collection and identification, enhancing reference collections, and training and capacity building of MSc students.

Three MSc students are continuing with plant collection and identification for the inventory. Altogether 882 herbarium samples were collected. Vegetation sampling was undertaken to analyse diversity of native and exotic species including invasive weeds across vegetation and land-use types in three districts. In each district, 6-7 vegetation types including agroecosystems, grazing lands, wetland and forests were selected and five 0.1 ha plot (20 m x 50 m) were sampled. Altogether 95 vegetation plots were sampled for vegetation analysis.

2.3 Research, develop and publish a photographic identification manual (and other educational materials on a project website), tested by communities, to inform and raise awareness of invasive plants both at a local level with communities and nationally with the general public.

Data and photographs gathering for manuals is on-going, sample pages will be produced to test with CFUGs in January 2018 workshops.

Output 3. Bio-briquette technologies successfully implemented

Char production has started in Nawalparasi district. Around 23 ha of land was cleared to produce char. Three community forests in Makawanpur namely, Dipat, Sunachuri and Manakamana, also started producing char. The cost-benefit of the production of bio-briquettes from char is currently under review, and this output will be discussed and revised during the Mid Term Review in January. The MTR was planned for Nov/Dec but the national elections have made it difficult to hold the MTR then. This will now be in mid January.

Output 4. Biochar technologies successfully implemented

4.1 Hold workshops and meetings with community stakeholders to inform and train people in the use of invasive plant biomass, and other waste plant material, to produce biochar.

4.2 Provide capacity building and support the establishment of low-tech pyrolysis methods for biochar production and the use of biochar to improve the soil fertility of land reclaimed from invasive weed infestations.

Workshops and training on biochar production and its application in the field has been completed in Nawalparasi, and Makwanpur districts (see flickr photos).

4.3 Undertake base line and monitoring surveys to assess the impact and benefits of biochar production and its use in improving soil fertility, restoration of lands cleared of infestations and crop yields, incorporating best practice into CBFUG Management Plans

Trial plots were established at the project sites to assess the impact of biochar on crops.

2a. Give details of any notable problems or unexpected developments/lessons learnt 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.

No major problem has been encountered in the last six months. With initiation of local people and implementing partners, and small support from the project, Janakalyan CFUG is constructing compost systems which will use invasive species like *Chromolaena odorata* and *Ageratum conyzoides*. This is additional to the original plans and adding value to the project, without effecting any other project activities.

2b. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement?	
Discussed with LTS:	No – we will do this after the MTR
Formal change request submitted:	Yes/No
Received confirmation of change acceptance	Yes/No

3a. Do you currently expect to have any significant (e.g., more than £5,000) underspend in your budget for this year?	
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> Estimated underspend: £
<p>3b. If yes, then you need to consider your project budget needs carefully. Please remember that any funds agreed for this financial year are only available to the project in this financial year.</p> <p>If you anticipate a significant underspend because of justifiable changes within the project, please submit a rebudget Change Request as soon as possible. There is no guarantee that Defra will agree a rebudget so please ensure you have enough time to make appropriate changes if necessary.</p>	

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

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. Additionally, if you were funded under R23 and asked to provide further information by your first half year report, please attach your response as a separate document.

Please note: Any **planned** modifications to your project schedule/workplan can be discussed in this report but **should also** be raised with LTS International through a Change Request.

Please send your **completed report by email** to Eilidh Young at Darwin-Projects@ltsi.co.uk. The report should be between 2-3 pages maximum. **Please state your project reference number in the header of your email message e.g. Subject: 22-035 Darwin Half Year Report**