



Darwin Initiative Main/Post/D+ Project Half Year Report (due 31st October 2018)

Project reference	23 009
Project title	Sustainable rangeland management to protect red pandas and herder livelihoods
Country(ies)/territory(ies)	Bhutan
Lead organisation	Charles Sturt University
Partner(s)	Ministry of Agriculture and Forests (MOAF), WWF Bhutan, Red Panda Network, Australian Landcare International
Project leader	<i>Dr Joanne Millar</i>
Report date and number (e.g., HYR3)	<i>HYR3</i>
Project website/blog/social media etc.	https://redpandabhutan.wordpress.com/

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).

Output 1: Restoration of eroded gullies, regeneration and zoning of critical red panda habitat, and red panda research

1.3 On completion of all works in Drana gully, a Buddhist ceremony was held in early June. Sakteng Wildlife Sanctuary staff invited senior lama, his eminence the Namkhai Nyingpo Rinpoche from Trashigang to consecrate the area by installing a TSA CHU BUMTER at the site. TSA CHU BUMTER is a ceremonial offering buried into the ground. The ritual involves leading of prayers and blessings by the Rinpoche to bring protection to the area. See full story with pictures at <https://wordpress.com/post/redpandabhutan.wordpress.com/769>

The gully was inspected by SWS team on 3rd September 2018 to gauge damage caused by heavy monsoon rain. Five check dams in the central gully have been completely washed away and 15 have been partially damaged. The remaining 63 are in good condition, particularly in side gullies and are retaining soil and rocks (see photo 1 below). Planted vegetation and some fencing has washed away on steep sides but more than 50% of cuttings planted in the plain area are still surviving and have new shoots (see photo 2 below). However, most of the bamboo planted has rotted. See full story with check-dam location map at <https://wordpress.com/post/redpandabhutan.wordpress.com/776>

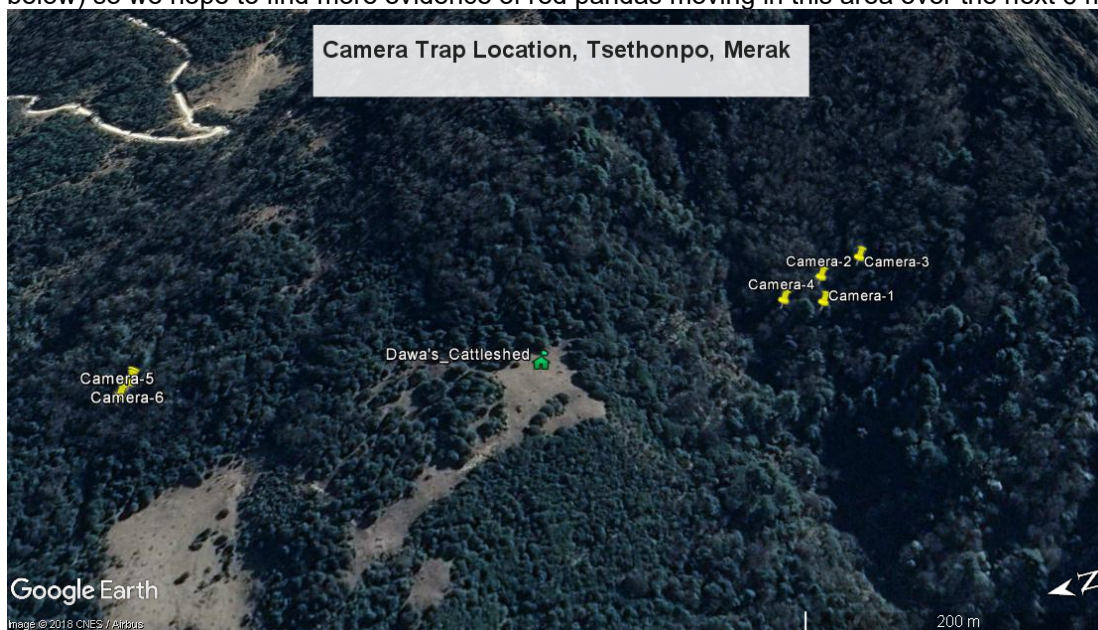


Check dams slowing run-off and retaining soil



Salix cuttings with new growth

1.4 Camera traps have been moved to a new site where herders have reported sighting red panda scats. This location has been fenced off from livestock for 6 months and bamboo is regenerating (see photos below) so we hope to find more evidence of red pandas moving in this area over the next 6 months.



1.5 The tree nursery has stalled due to the manager having family problems.

1.6 Discussions were held with the Director, Forest and Park Services in May 2018 regarding critical watershed declaration which would ban logging by outsiders. The Director explained this would require passing of legislation in Parliament. He advised that a quicker option may be to incorporate the area into Sakteng Wildlife Sanctuary. A community consultation is planned for November 2018 to discuss the options with herders, downstream communities and local government officials.

Output 2 Sustainable rangeland management

2.4 A total area of 57.5 acres of temperate pasture was developed at Sheytemi to address fodder shortage in winter and minimize yak and calf mortalities. A fertiliser trial was established as a complete block design without replication. Plot size 10x10m. Seed was broadcast at 10kg per acre. Treatments were;

Treatment 1	Lime 50 kg + SSP 1.25 kg
Treatment 2	Lime 30 kg + SSP 1.25 kg
Treatment 3	Lime 10 kg + SSP 1.25 kg
Treatment 4	No lime + SSP 1.25 kg
Treatment 5	No lime + SSP 2.5 kg
Treatment 6	No lime + SSP 1.25 kg + MoP 1.38 kg

The pasture composition was estimated at 70% ryegrass, 5% white clover and 25% weeds (mostly *Persicaria nepalensis*). Sample cuts were made for each treatment for pasture yield on 6th September 2018. Plant heights was measured five times across each treatment. Visually the ground coverage/plants density was less in treatments 4 and 6 compared to other treatments. The results below confirm the need for lime application at pasture sowing. Top up lime may be needed after 5-10 years depending on the rate of acidification (rainfall plus clovers). SSP is also needed at base levels. Soil tests will be taken in 2019.

Treatments	Plant Height (average of 5 measurements)	Fodder yield kg/ha.	Remarks
Treatment 1	15.8 cm	48000 kg	Best result in yield
Treatment 2	15.8 cm	33500 kg	Lime adequate at this rate
Treatment 3	12 cm	33500 kg	Lime may be adequate at this rate if herders cannot afford high lime rates.
Treatment 4	9.4 cm	15500 kg	Lime needed
Treatment 5	11.8 cm	26000 kg	SSP has increased yield but lime still needed
Treatment 6	13.2 cm	19500 kg	MoP benefit? Needs soil test to confirm



Weighing and measuring fertiliser plots

A total of about 800 kg (10 bags) of silage or 200kg (2.5 bags) per herding family was conserved as silage for four herders on a trial basis. If the demonstration is successful the activity will be promoted with other herder families. The remaining grass will be conserved as hay after the end of the rainy season. The grasses were harvested from 400 sq meters for silage making. A pasture field day is planned for early November.



2.5 This activity has been deleted from the project as the household survey showed there already is livestock loss from predation, consumption and selling. With more productive pasture, herders will need to focus on cows and calves and be prepared to sell unproductive animals. [See change request form]

Output 3 Alternative energy technology and vegetable production piloted to reduce firewood consumption and improve family nutrition.

3.1/3.2 The biogas trial has been delayed due to uncertainty over high altitude requirements and procurement of biogas units from overseas.

3.3/3.4 This activity has been deleted from the project as most households are now growing vegetables. [See change request form]

Output 4 Competent community-based landcare group established with two women's savings groups enabling investment in small enterprises, and community education

4.2 A. The Gengu women's group has 89 members with total savings of Nu. Total loans taken amount to Nu. with an individual loan ceiling of Nu. for 1 year so 5 families. Two members who suffered

bereavement in the family were given Nu.. Current balance is Nu.. The Merak Women's Group has 45 members with total savings of Nu. A loan was taken by one family to the value of Nu.. The current savings balance is Nu. In-depth interviews with families in November will report on impacts from saving investments and loans.

4.3 Dr Karma Tenzing from the Darwin project facilitated a successful Helvetas grant application on behalf of the women's savings groups at Merak and Gengu to establish a wool processing centre. A mechanised carding and spinning machine will be installed to enable greater quantities of wool to be processed for traditional textiles and clothing. This will significantly reduce women's manual labour to spin wool using individual spindles. Currently it takes one year for women to make one "Chuba"- mens coat made from wool and dyed red. Construction of the building is underway with the ground prepared and collection of rock and sand for the foundations. Timber has been ordered. An official from the Helvetas office in Thimphu will visit the site on 26th October 2018. Once the building has been established, Helvetas will order the wool processing equipment. [see blog story with photos]

4.4 Thirteen officials from Merak, Sakteng, Trashigang, SWS, and RLDC visited Red Panda Network sites in eastern Nepal in June 2018. Mr Damber Bista from RPN briefed them in Kathmandu about community conservation initiatives. They visited communities near Ilam and Gorkhe to talk with homestay owners and forest guardians about red panda conservation.

4.5 A signboard for red panda information has been built and is ready for installation. Information on red panda ecology, behaviour, threats and how to protect them will be displayed. The primary school is preparing to launch a Red Panda Junior Ranger program on 1st November 2018 involving 15 students. They will learn more about red pandas, complete an activity book, and receive a certificate and RPN T shirt.

Output 5 Project results and lessons learned from the landcare approach and red panda conservation documented and disseminated.

5.3 There was national TV and newspaper coverage of the first Red Panda Conservation workshop held in Trashigang on 1-3 May 2018. An article was published in the August Darwin Newsletter about youth engaged in red panda education in Merak.

5.5 Annual project meeting was held on Friday 11th May 2018. Workplan and budget developed for 2018/19

5.7 A journal paper has been drafted and will be submitted to the *Mountain Science Journal* in November. Title is "High altitude rangeland degradation in eastern Bhutan: yak herder perspectives and management responses." An abstract has been submitted to the XVII Conference for Society of the Commons 2019 titled "Two steps forward, one step back: Enabling collective action to rehabilitate rangeland commons in Bhutan."

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.

A change request has been submitted to alter some of the project milestones and timelines based on progress to date and what is achievable in the last 6 months of the project. No impact on the budget.

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**

Formal change request submitted: **Yes**

Received confirmation of change acceptance **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>	

<p>4. Are there any other issues you wish to raise relating to the project or to Darwin’s management, monitoring, or financial procedures?</p>

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 R24 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**