

Darwin Initiative/Darwin Plus Projects Half Year Report (due 31st October 2020)

Project reference	26-002
Project title	Integrating conservation and health in Papua New Guinea's vulnerable rainforests
Country(ies)/territory(ies)	Papua New Guinea
Lead organisation	University of Sussex (UoS)
Partner(s)	<ul style="list-style-type: none"> • New Guinea Binatang Research Centre (BRC) • Wanang Conservation Area (WCA) • Institute of Medical Research (IMR) • International Institute of Environment & Development (IIED)
Project leader	Dr Alan Stewart (Sussex)
Report date and number (e.g. HYR3)	HYR2
Project website/blog/social media	https://twitter.com/Surfaces_PNG

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

Output 1: Community health and health service provision for Wanang and surrounding communities has been improved, managed by a new community committee with equal gender representation (workstream 1).

Relevant activities:

1.1 Collect and analyse qualitative and quantitative health and wellbeing data before and after the health intervention. Baseline health data from the Wanang participating communities have been collected and analysed, have informed health post service planning, and are being prepared for journal submission. In addition, the protocol and free-to-use data collection tools that we developed have now been published Open Access in *British Medical Journal Open*. We have done this as we feel the novel inter-disciplinary methods and tools developed for Wanang can be of real use to others setting up health services in remote previously medically under-served areas elsewhere.

1.4 Construct Aid Post, equip it, stock it with medicine, and recruit a nurse. The Wanang aid post was registered on 13/08/20 by the Provincial Health Authority (registration code 13060813) and is attached to the Usino Health Center. It is now fully constructed and equipped with solar panels, fridge and medicines. In addition, a house for the nurse has been constructed. The nurse appointed to the aid post has visited Wanang and met and been welcomed by the community. She will be starting work on 1 November 2020.

1.5 Establish and train community health committee. The 6-person health committee was established in July and will continue to receive training from BRC in the conduct and recording of meetings.

1.6 Nurse staffed Aid Post receives and treats patients, maintains patient records. In addition to routine treatments and referrals, the nurse will commence a vaccination round for children and vulnerable adults when she commences work.

Output 2: Wanang conservation Area has been upgraded and expanded with improved attitudes to conservation in new partner communities (workstream 1)

Relevant activities:

2.2 Carry out mammal and bird surveys of new no-impact zone. A four-day survey of the birds of the no-impact zone revealed exactly 100 species, with a mixture of canopy and ground-dwelling species. The mammal team used a combination of snap traps and spot lighting and caught 23 non-volant mammals across eleven species in ten nights of sampling. Interviews with hunters operating outside the no-impact zone confirmed that a further eleven species are likely to be present.

2.4 Carry out plant and bird surveys of the two additional primary forest fragments. Plant and bird surveys of the two newly established additional primary forest fragments (Ramu 1484 ha and Kukumugumae 300 ha) were completed in August. Both fragments are relatively remote and therefore surveys took longer than expected to complete. The botany team established three 20x20m permanent plots in each forest fragment with all trees >5cm DBH tagged and identified (Photos 1-2). Both fragments comprise high quality primary forest with plentiful large trees and few signs of natural or other disturbances, resulting in the occurrence of very few species typical of secondary forest. 78 and 79 plant species respectively were recorded in the two fragments with a combined total of 125 species (in 40 families) across both fragments, 26% of which were shared between the two fragments.

The ornithology team spent four days in each of the new forest fragments (Photo 3) and recorded 111 and 107 bird species respectively, most of which were forest canopy species. Frequently encountered species included fruit-doves, cockatoos, large cuckoos and hornbills, as well as cassowaries and Lesser Bird of Paradise. There was also abundant evidence of brushturkeys and scrubfowl.

2.5 Establish buffer zones of 3,000ha of selectively logged forests with indigenous landowners, map with GPS verified boundaries, and declare in operation by WCA. The BRC paraecologist team has negotiated a total of 2674 ha of buffer areas with the following four communities: Wel (399 ha); Koromasarik (513 ha); Makalsakang (63 ha); Yawak & Gesa (1699 ha) (Photos 4-5). Initial discussions with the large Musak community (~800 people) had to be suspended due to temporary law and order problems, but the BRC team will return in November and are confident that in excess of the remaining 326 ha needed to reach the 3,000 ha target can be agreed.

2.6 Record and analyse vegetation community composition yearly in the two buffer zones Once the buffer zones have been confirmed, the botany team will commence recording the vegetation community composition, probably in November.

2.8 Collect and analyse household survey data on attitudes to conservation in buffer zone communities outside pre-existing WCA boundary and agreements, before and after health intervention. The protocol and consent forms for the social surveys have been finalised; audio recordings of consent are being used in lieu of a written consent where necessary. The social research team started the pre-health-intervention survey of attitudes to conservation in selected buffer zone communities in September. They interviewed a total of 175 participants in 84 households in 8 communities (13 clans) (Photos 6-8). New female research technicians were trained and recruited to the field team, further increasing the proportion of female research staff in the project, and enabling greater ability to obtain the perspectives of younger women who may not have otherwise felt confident in voicing their opinions. The survey in the village of Musak had to be temporarily suspended after two communities had been interviewed due to law and order issues; two further communities in this village will be interviewed when it is safe to do so. In general, attitudes to conservation have been positive, some people expressing the view that their previous community decision to allow logging was a mistake. Our assumption is that this Darwin project will contribute to this level of support increasing by project end.

Output 3. Knowledge and understanding of the health and well-being benefits of forest conservation amongst school pupils and partner villagers has improved (workstream 2).

Relevant activities:

3.1 Produce curriculum and materials for school and community level educational programmes on health and well-being benefits of forest conservation. A draft curriculum has been developed and circulated amongst project partners for comment. A draft resource book, posters, and a series of test questions have been developed. We plan to commission the Research & Conservation Foundation in Goroka (specialists in conservation education) to write a guide for teachers to accompany the curriculum.

3.2 Provide educational programme in Wanang School (c250 pupils, 35% female), making any necessary improvements to programme following delivery. The first test will take place in November and the new curriculum will be taught in the new term starting in February.

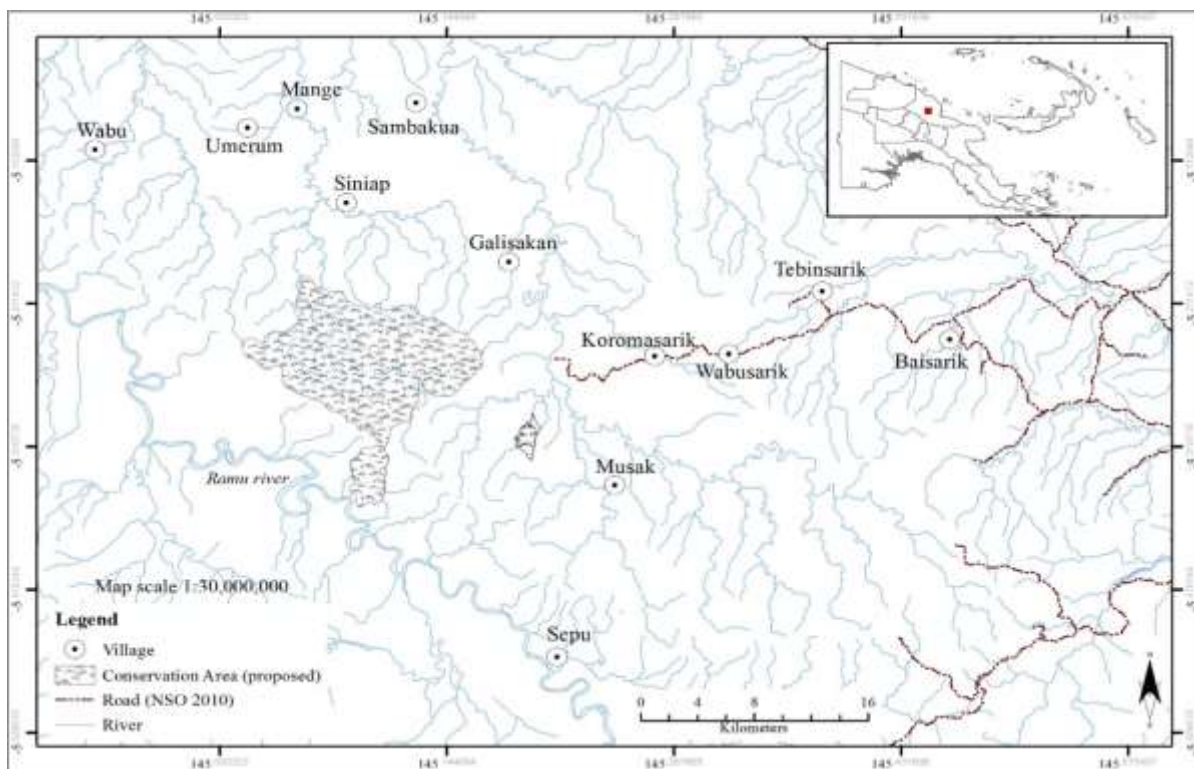
3.3 Provide educational programme in BRC network of 5 village schools (c750 pupils, not in the new buffer zone), making any final necessary improvements to programme following delivery. This activity is now planned for early in 2021 once some experience has been gained with delivery of the programme in Wanang School. This activity and the following one can overlap, with experiences fed back into further improvements of the curriculum and its delivery.

3.4 Provide educational programme in BRC partner communities across PNG (c5000 pupils), making any necessary improvements to programme following delivery. See 3.3

Output 4. New evidence has been produced on the interlinkages between logging, forest conservation, health, well-being, and livelihoods in PNG, and tropical rainforests globally (work stream 3)

Relevant activities:

4.1 Collect and analyse health, well-being, and livelihood data from 10 villages with forests that are either (i) intact, (ii) logged, or (iii) with ongoing logging. Masters student Ben Ruli has secured agreements with ten suitable village communities in which to conduct this survey: four with intact forest (Sepu, Siniap, Sambakua, Umerum); three with ongoing logging (Musak, Koromasarik, Well); three with previously logged forest that is now undergoing restoration (Baisarik, Tebinsarik, Wabusarik) (see map below).



4.2 Collect and analyse biodiversity data from 10 sites also visited for 4.1. See 4.1 Biodiversity surveys at these sites will commence in the next two months.

4.3 Systematic review of efficacy of integrating health services into tropical forest conservation projects worldwide. An evidence synthesis on the impacts of integrating health services into tropical forest conservation projects worldwide has begun with a mapping exercise of where

suitable data are held. We began by searching the Darwin Initiative database of 1,164 projects for any with an explicit focus on human health and its integration into conservation. The resultant 21 projects have been categorised according to their primary focus and outcome metrics. Simultaneously, we have begun the process of contacting NGOs, government organisations and others likely to hold information on integrated health-and-conservation projects worldwide and constructing a database of findings which will then be used to conduct the systematic review.

Output 5: Capacity has been expanded, and gender balance improved, in PNG environmental and health research (workstream 4)

Relevant activities:

5.1 Train 14 para-ecologists over 3 years in biodiversity survey methods. Total 280 person-days of training. Ongoing training of BRC paraecologist staff continues.

5.2 Train 25 BRC staff and students in 'Wilderness First Aid - Advanced'. Two courses at BRC HQ and field sites for a total of 25 BRC staff and students (all PNG nationals, 25% female). Training of a further 15 BRC staff and students (all PNG nationals, 25% women) has had to be postponed due to the COVID-19 pandemic that has prevented Jo Middleton (trainer) from travelling to PNG.

5.3 Train 5 BRC & 1 IMR research staff in UK. 1-month intensive training in: biodiversity survey; conservation project evaluation; ecology; microbiology; evidence synthesis and meta-analysis; rapid anthropological assessments; health research. Visits to partner institutions. The visits by one BRC paraecologist and one IMR clinician/lead IMR contact for training in the UK have had to be postponed due to the COVID-19 pandemic.

5.4 Supervise research projects by 1 MSc student for 2 years and 1 BSc Hons student for 1 year based at the University of PNG. Three Masters students (Ben Ruli, Daniel Okena & Gabriel Petuel; all enrolled at the PNG University of Technology) have been working on their research projects. Ben Ruli (Masters student) is developing the questionnaire for the field survey of health, wellbeing and livelihoods (4.1) and is contributing to the systematic review (4.3).

2a. Give details of any notable problems or unexpected developments/lessons learnt that the project has encountered over the last 6 months (for Covid-19 specific delays/problems, please use 2b). Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

Some delays in recruitment of the nurse and her starting work at Wanang have caused the programme of treatment and vaccinations to be delayed. We are confident, however, that treatments can start, and the vaccination round can be implemented, swiftly once she is in post. The law and order issues in Musak have delayed finalising the last part of the buffer zone, but we now have agreements with communities that control ~90% of the projected area. The instability in Musak is likely to be temporary, after which BRC staff will return to complete the negotiations for the last part of the buffer zone.

2b. Please outline any specific issues which your project has encountered as a result of Covid-19. Where you have adapted your project activities in response to the pandemic, please briefly outline how you have done so here. Explain what residual impact there may be on your project and whether the changes will affect the budget and timetable of project activities.

The COVID-19 pandemic has prevented us from bringing two visitors (1 BRC paraecologist and 1 IMR clinician and lead IMR contact) to the UK for advanced training in 2020. These visits will be rescheduled for 2021, depending on developments with the pandemic both in PNG and the UK. For the same reason, Jo Middleton has been unable to travel to PNG to complete the training in Wilderness First Aid that was planned for the remaining 15 people but plans to do so in 2021. Other operational activities on the project have been mostly unaffected; as the number

of COVID-19 cases in PNG has so far been comparatively low, although this may change in the coming months.

2c. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement?

Discussed with LTS: Yes/No

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 No Estimated underspend: £

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.

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. Please DO NOT send these in the same email as your report.

4. 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.

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 DO NOT send these in the same email.**

Please send your **completed report by email** to 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: 25-001 Darwin Half Year Report**