

## Biodiversity Challenge Funds Projects Darwin Initiative, Illegal Wildlife Trade Challenge Fund, and Darwin Plus Half Year Report

**Note: If there is any confidential information within the report that you do not wish to be shared on our website, please ensure you clearly highlight this.**

**Submission Deadline: 31<sup>st</sup> October 2023**

<b>Project reference</b>	<i>This should be the project reference provided in your offer paperwork and not your application number</i> 29-020
<b>Project title</b>	Strengthening community capacity for evidence-based forest restoration in Indonesia
<b>Country(ies)/territory(ies)</b>	Indonesia
<b>Lead partner</b>	UKCEH
<b>Partner(s)</b>	Plan Vivo, Fauna & Flora, KKI Warsi, University of Kent, BRIN
<b>Project leader</b>	Dr Lindsay F Banin
<b>Report date and number (e.g. HYR1)</b>	HYR2
<b>Project website/blog/social media</b>	<a href="https://www.ceh.ac.uk/our-science/projects/forest-restoration-indonesia">https://www.ceh.ac.uk/our-science/projects/forest-restoration-indonesia</a>

**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).**

Our project focuses on the implementation pathway of restoration in community-managed lands in two focal landscapes in Sumatra, in the provinces of Aceh and Bengkulu. We report progress in the four constituent Outputs of our project that make up this pathway:

**Output 1 – Restoration Planning**

An oral presentation was delivered in June 2023 at a conference at the University of Kent to showcase the Province-to-Indonesia scale restoration spatial planning analysis. Liam Hughes began his PhD studentship affiliated to the project in September 2023 and his work will focus on animal biodiversity in forest transition landscapes, biodiversity metrics and functional connectivity during his project – this will enable us to look in great depth at the potential to incorporate connectivity into restoration planning.

In June 2023, the F&F team (Aceh landscape) conducted some additional ground-check work which identified new potential restoration areas in the Lutueng, Blang Dalam and Mane village forest areas within the project rehabilitation zone; the new areas will be determined through meetings with LPHD (provincial watershed management) and the landowners. The project team are currently working together on plans for incorporating rare, threatened and endangered (RTE) and native species of value into restoration plantings. The team have conducted surveys up to 3km from the village forest boundary with the assistance of a local botanist and have so far identified 31 individuals (four taxa, including *Shorea spp.* and *Magnolia spp.*) for monthly monitoring for flowering/fruitletting so that seeds can be harvested. These species were selected as they are local endemics, are known to be threatened, and have historical-cultural value to the communities since they have been used to construct traditional houses.

The Warsi team (Bengkulu landscape) have continued their engagement work with the local community to identify customary land parcel ownership and usage, drivers for shifting cultivation, and setting 'protection zones'. Discussions on the protection zones have been supported by remote sensing analyses on forest condition – following a poster presentation at a conference in June 2023, the team have been invited to contribute a peer-reviewed paper on the remote sensing analyses using high resolution open-source data to a special issue on interactions between trees, climate and people.

### **Output 2 – Restoration Action**

In Aceh, the nursery at Turue Cut was stocked with 5,000 petai seedlings (seeds purchased and then sown at the nursery) and 300 *Beilschmiedia* (local name: medang puteh) seedlings collected by the community. The nursery at Luteung was stocked with 2,000 petai seeds (collected by the community) and 3,000 robusta coffee seedlings. Seedlings at the Turue Cut nursery are being grown for replanting in the Lutueng village forest restoration area. The seedlings in the nursery in Lutueng will be planted at the location of the new restoration area in Lutueng or Blang Dalam village forest and buffer area (community plantation, primarily coffee). In Bengkulu, the nursery was stocked with 30,000 seedlings - 15,000 Areca nut seedlings (*Areca catechu*), 7,500 Durian seedlings (*Durio*), 7,500 Jengkol seedlings (*Archidendron pauciflorum*) to be planted in the existing farmer land parcels.

### **Output 3 – Restoration Monitoring**

Monitoring of planted seedlings has continued at both the Aceh and Bengkulu sites. At the Bengkulu site, the team have focussed on the monitoring of 9793 durian, jengkol and pinang seedlings across 29 farmer land-parcels and have identified generally good survival of the planted species (>85%) and have been working with an agricultural specialist to identify causes of plant ill-health and mortality and support local land-users in achieving good outcomes and where possible enhance survival. In Aceh, the team has undertaken training with the local community to plant, maintain and monitor their planted seedlings; monitoring commenced in September 2023. The training demonstrated and provided materials on making planting holes, how to clear the grass around the trees to reduce competition, how to fertilise and control pests and diseases. Participants also did hands-on practice in tree maintenance.

The first data collection period of animal biodiversity monitoring with camera traps has been undertaken at the Bengkulu site. Online training for the data analysis was conducted in September 2023, delivered by the University of Kent team and attended by 5 of the KKI Warsi staff. Biodiversity monitoring at the Aceh site is planned to commence in early 2024.

We continue to progress the details of the mobile monitoring app. The design of the flexible, plot-based monitoring module is near completion. We have been working on a region-specific tree species list where we downloaded and extracted the plant species checklist data for Indonesia from the World Checklist of Vascular Plants <https://powo.science.kew.org/> using R Studio 2023.06.2. We then used the taxon name from the WCVP species checklist dataset to extract the Catalogue of Life and Global Biodiversity Information Facility data for each species via the Global Biodiversity Information Facility API (Catalogue of Life checklist [Catalogue of Life Checklist \(gbif.org\)](https://www.gbif.org/) and Global Biodiversity Information Facility taxonomic backbone dataset [GBIF Backbone Taxonomy](https://www.gbif.org/)). We have also been working on the mathematical functions that will be used to derive summaries of key structural, diversity and biomass metrics from the tree-by-tree data. We have been developing the features of the individual tree monitoring and threat monitoring modules.

### **Output 4 – Models for Income Generation**

Restoration methodology: a restoration module concept note by Nick Berry to the Plan Vivo secretariat on the 3<sup>rd</sup> of August 2023. The module concept note was approved on the first submission on October 2<sup>nd</sup> 2023 by a Technical Review Panel (TRP) (a panel of technical experts contracted by Plan Vivo to undertake reviews of new methodologies and technical approaches and who have not been involved with the development of the restoration methodology) with one Future Action Request (FAR) raised. The next steps are to submit a full description of the modules and tools according to the [Plan Vivo Methodology Requirements](#) with a submission of a full description of the restoration module by the end of 2023.

Project Idea Note (PIN) and PDD development of the KKI Warsi and FFI projects: A Gender Mainstreaming Workshop was delivered by the Plan Vivo team on June 21<sup>st</sup> with the KKI Warsi team to discuss outcomes and next steps of KKI Warsi's gender study in the design of the project. An Initial discussion of KKI Warsi PIN draft was held on 9<sup>th</sup> of July to discuss safeguarding and FPIC approaches. The team met to discuss zoning in the Air Tenam project in July 2023. Further discussion was held with regard to FPIC, safeguarding and HKM land use specifics and a draft PIN has now been produced by the KKI Warsi team.

An update of PV Nature (the new biodiversity standard) was delivered to the whole project team. In October 2023, discussion between Plan Vivo and F&F team, with UKCEH, was held to discuss plans for different project submission options for the Aceh landscapes (Mane and Ulu Masen) via the PV Nature and PV Climate routes. The next steps will involve training sessions for F&F in writing a PIN under PV Climate v5 and ongoing support for Warsi in defining project activities in Air Tenam.

We continue with our monthly team meetings as a useful means to share progress, exchange ideas and discuss next steps. This assists with our ongoing monitoring and evaluation and to identify any issues with hitting our project implementation milestones. The KKI Warsi team have started to consider future opportunities for scaling up the approaches to other communities and landscapes in Sumatra, as per our Outcome indicators.

### **Standard Indicators**

The progress we have outlined above contributes particularly to the following standardised indicators (a subset of those identified as relevant to our project in our Year 1 annual report):

DI-A04 - Number of local people in project villages applying new capabilities in nursery management and restoration 6 (or more) months after training. (Achieved through training activities)

DI-A04 - Number of people applying new capabilities in wildlife monitoring 6 (or more) months after training. (Achieved through camera trap training activities for the Bengkulu team)

DI-B03 - Number of new/ improved community management plans available and endorsed by an independent certification body. (Progressing by the development of a draft PIN by the KKI Warsi team)

DI-D01 - Hectares of community forest under sustainable management practices

DI-D12 - Area of degraded or converted ecosystems that are under active restoration

### **Presentations and publications**

*Raine EH, Purnama H, Primadona E, Yusuf F, Berry N, Olsen K, Struebig M, Banin LF.* High spatio-temporal resolution land cover mapping for community-led forest management in Sumatra. Poster presented at: *Trees for Climate Change, Biodiversity and People: British Ecological Society Conference; 28th June 2023; University of Kent*

*Struebig, MJ, Muenzel, D, Banin, LF, Budiharta S, Hutabarat J, Morgans C, Mumbunan S, Primadona E, Purnama H, Raine EH, Santika T, Voigt M, Winarni N, Supriatna J, Davies Z, Smith S.* Delivering on conservation, restoration and poverty alleviation goals in Indonesia's community forests. Talk presented at: *Trees for Climate Change, Biodiversity and People: British Ecological Society Conference; 29th June 2023; University of Kent*

Morag McCracken, Stephen Cavers, *Lindsay Banin*, Diana Bowler, Alex Bush, Helen Coskeran, France Gerard, Quentin Groom, Pete Henrys, Jane Hill, Maria Jarquin, Colin MacKechnie, Michael Pocock, Dan Read, Jill Thompson, Stephen Thackeray, Kelly Widdicks, Emily Williams, Helen Roy. Mapping and Monitoring Biodiversity, Part I: Scoping Exercise. Draft Report to Defra, November 2023.

*Lindsay F Banin*, Strengthening community capacity for evidence-based forest restoration in Indonesia: Valuing Biodiversity in Restoration. Presentation at Mapping & Monitoring Biodiversity, Defra Scoping Study Workshop, Lancaster, March 2023.

**2. 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.**

We had to postpone the baseline monitoring of forests in the Bengkulu site until the community had made some important decisions around their approach to zoning the land, particularly due to the complex land ownership in this landscape, and until the development of the Project Idea Note (PIN) had progressed to have a better understanding of the income generation method that would be used. In a fragmented landscape, which includes both protection and utilization zones, it may be more challenging to find an overall landscape approach that is fair for all community members and is not impacting on people's rights to forest utilization

At the Aceh site, good progress has been made with the planting of multi-purpose tree species, but the planning for natural regeneration zones and native forest species has extended to later within the implementation timetable, particularly due to the longer period assessing the land condition than forecast. We are currently working on the RTE/native species plans. These delays were discussed in our annual report and we expect to be back on track by the time we present our next annual report. Challenges on the F&F side include more need for training to be able to fully understand the requirements of the Plan Vivo Standard and how to submit corresponding documentation while the team on the ground may be over-committed with a range of project activities; clear lines of responsibility will be important.

We have delayed our end-of-2023 fieldtrip until early 2024 to help fit with competing schedules, arrange permits and enable Liam (PhD student) to join. We do not expect this to yield a change request as it is within the financial year. We also plan to use this opportunity to provide more training in person for the KKI Warsi and FFI teams during the planned Q4 field visit, together with a Bahasa Indonesia speaker to help overcome some of the challenges around PIN/PDD development.

As per Plan Vivo's procedures, all new methodologies, modules, and concepts must undergo an internal review led by the Plan Vivo Technical Review Panel (TRP) followed by an external review by a third-party, so-called Validation and Verification Bodies (VVBs). Plan Vivo is experiencing delays working with VVBs due to high demand for their services. While we strive to have a written restoration module by the end of year 2 of the project, the external approval may take longer and may extend into year 3. This won't have an impact on the budget and finances as the VVB review costs will be borne by Plan Vivo. This is nonetheless a critical and important step to ensure robust methodologies for delivering real-world, verifiable impact.

**3. Have any of these issues been discussed with NIRAS and if so, have changes been made to the original agreement?**

Discussed with NIRAS: Yes/No

Formal Change Request submitted: Yes/No

Received confirmation of change acceptance Yes/No

Change request reference if known:

**4a. Please confirm your actual spend in this financial year to date (i.e. from 1 April 2023 – 30 September 2023)**

Actual spend: ██████████

**4b. Do you currently expect to have any significant (e.g. more than £5,000) underspend in your budget for this financial year (ending 31 March 2024)?**

Yes  No  Estimated underspend: N/A

**4c. 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 re-budget Change Request as soon as possible. There is no guarantee that Defra will agree a re-budget 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.**

**NB: if you expect an underspend, do not claim anything more than you expect to spend this financial year.**

**5. Are there any other issues you wish to raise relating to the project or to BCF management, monitoring, or financial procedures?**

Our project was recently selected for a spot-check audit. We found the BCF team really supportive during this process, and this was appreciated, as the request came through when the project leader was on fieldwork.

**If you are a new project and you received feedback comments that requested a response, or if your Annual Report Review asked you to provide a response with your next half year report, please attach your response to this document.**

**All new projects (excluding Darwin Plus Fellowships and IWT Challenge Fund Evidence projects) should submit their Risk Register with this report if they have not already done so.**

**Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but **should also** be raised with NIRAS through a Change Request. **Please DO NOT send these in the same email.****

Please send your **completed report by email** to [BCF-Reports@niras.com](mailto:BCF-Reports@niras.com). The report should be between 2-3 pages maximum. **Please state your project reference number, followed by the specific fund in the header of your email message e.g. Subject: 29-001 Darwin Initiative Half Year Report**