



**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: 31st October 2023

Project reference	29-029
Project title	Nature Climate Solution to Protect Mangrove Biodiversity and Improve Livelihood
Country(ies)/territory(ies)	Indonesia
Lead partner	Yayasan Konservasi Alam Nusantara (YKAN)
Partner(s)	<ul style="list-style-type: none"> - Faculty of Biological Sciences, University of Leeds - Faculty of Fisheries and Marine Science, Mulawarman University
Project leader	Mariski Nirwan
Report date and number (e.g. HYR1)	26 October 2023, HRY2
Project website/blog/social media	https://xd.adobe.com/view/fa3f21a3-74ed-4715-bc2b-ee5f5f2ce63a-af6c/ (website mock up as actual link is not yet live)

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.

- 1.1.1. YKAN's SIGAP coordinators actively promotes community-based mangrove management that has resulted in drafts village development plans and community rights to manage mangrove area as ecotourism as reported in Annual Repot 1. We continue pursuing further mangrove protection in the villages, such as Pegat Batumbuk Village. Pgeta Batumbuk a 28,764.56 Ha Production Forest of which, the village's application to Ministry of Environment and Forestry (MoEF) for social forestry under Village Forest scheme has been approved for 11,180 Ha. YKAN collaborates with village stakeholders and the Village Forest Management Institution to sustainably manage the remaining forests not listed under the scheme. In June 2023, YKAN initiated a Working Group for Mangrove Ecosystem Regulation in Pegat Batumbuk, which gained official recognition on World Mangrove Day, 26 July 2023.
- 1.1.2. Our partnership with the University of Leeds on spatial planning began later than expected due to late awarding of the Agreement, scheduling conflicts, and a late appointment of Leeds' research assistant who only joined in October 2023. YKAN supported the work by providing data on shrimp ponds, mangrove habitats, and species distribution. In a June meeting in East Kalimantan, we refined our spatial planning objectives, considering factors like pond conditions and mangrove productivity for the SECURE program. The goal is to craft a detailed spatial plan that is adaptable and suitable for areas akin to Berau. Additionally, the East Kalimantan Maritime and Fisheries Agency enlisted YKAN's expertise for a 2024 Management and Zoning Plan for the Coastal Conservation Area and Small Islands of the Derawan Islands and

Surrounding Waters in Berau Regency. The draft spatial planning is expected to be available for stakeholder review by February/March 2024.

- 1.1.3. And 1.1.4. Will commence upon completion of 1.1.2.
- 1.2.1. The processing of the initial batch of biodiversity data faced setbacks due to challenges in analysing the data. The University of Mulawarman, in collaboration with a researcher from IPB University, is addressing these issues. Nevertheless, the data's overall quality remains commendable, with results on biodiversity anticipated within the next two weeks. It's not uncommon to encounter technical hiccups in environmental DNA data analysis, especially during the project's initial phases and lab setup. As the project progresses, challenges related to lab techniques and bioinformatics analysis will be resolved. A second round of biodiversity data sampling has recently been completed, with the university surveying three sites and securing 72 samples. These samples will be processed in a manner similar to the first phase.
- 1.2.2. Third round physical-chemical characteristics of pond water has been completed. The university partner has collected total 108 samples from three period of measurements with each measurement consist of 36 samples from three sites. To enhance measurement accuracy, in this sample collection, University of Mulawarman used three different equipments combining traditional and portable, more sophisticated approach. The traditional approach seems to provide more reliable data depicting water quality condition. Preliminary findings indicate that water quality parameters such as temperature, salinity, pH, and dissolved oxygen fall within the permissible range set by the Ministry of Marine and Fisheries. Overall, the water quality appears conducive for traditional shrimp pond aquaculture.
- 1.2.3. The biodiversity analysis awaits the outcomes of the eDNA examination detailed in 1.2.1. We are optimistic about finalizing the results by December 2023.
- 1.2.4. We initially planned to document the biodiversity status data and related information between October and November. However, due to the delay in biodiversity data production mentioned in 1.2.3, the report writing timeline will follow final result of 1.2.3.
- 1.3.2. YKAN builds capacity of village stakeholders through on-the-job training for the Working Group in Pegat Batumbuk Village in preparing Village Regulation on the Management, Protection, and Restoration of the Mangrove Ecosystem. This multifaceted working group, which includes representatives from village governance, youth leaders, and women is assisted by YKAN facilitators to prepare and implement the formal stages of drafting village regulations as well as the delineation of mangrove management zones. Similar strategies will be implemented in other villages, tailored to their characteristics.
- 1.3.4. Community mangrove surveillance groups are still identifying their needs. At the moment, binoculars and GPS are the main tools identified. SOP will be developed with the groups to cover maintenance of the equipment, procedure of usage, and other things followed by training of how to operate the equipment.

Output 2.

- 2.1.1. and 2.1.2. In Year 1, YKAN has finalized the assessment for Ecological Approach to Aquaculture (EAA) and have consulted the findings with the relevant agencies in Berau Regency. In this second year, will finalize the development of the EAA Implementation Action Plan for the brackish water cultivation area in Berau Regency to submitted for approval from the government. YKAN will also facilitate the formation of an EAA management task force in Berau Regency that will be responsible in implementing the action plan.
- 2.2.1. All ponds that join the SECURE program has been redesigned with an average composition of 20-40 percent cultivation area and 60-80 percent restoration area. Currently there are 4 new design ponds under construction: 3 ponds in Pegat Batumbuk Village, and 1 in Suaran Village. Construction of these 4 ponds is targeted for completion at the end of December 2023.
- 2.2.2. YKAN is conducting comparative study of mangrove seedlings growth inside versus outside of the restoration area (which is exposed to tides at all times). Observation of the growth of 31 planted saplings in the two areas shows that average growth is higher inside the pond area. To strengthen restoration efforts, on 12-15 September 2023, Ecological Mangrove Rehabilitation (EMR) training of trainers was organized in Tanjung

Redeb and Teluk Semanting for 19 community members (20% female). Pre and post tests showed increased knowledge. Complementary to that, with funding from other donor, YKAN conducted Community Base Ecological Mangrove Restoration (CBEMR) training for mangrove activists from 4 villages (Tabalar Muara, Suaran, Pegat Batumbuk and Teluk Semanting) with a total of 25 participants.

- 2.2.3. Second vegetation analysis has been completed. Similar with the first visit, the second analysis was conducted in 12 stations, utilizing a permanent transect already deployed in the first visit for comparable results. 20 species found, consisting of 12 true mangrove species, 4 associated mangrove species, and 5 understory plant species. As in the first survey, *Nypa fruticans* has the widest distribution among the species due to its presence in nearly all observation stations. This result is attributed to the pond locations situated in the brackish mangrove zone, and at the transition between coastal and terrestrial ecosystems.
- 2.3.1. Four shrimp farms that have been redesigned and reconstructed are in farming cycle. YKAN provides materials such as shrimp fry, organic pesticide called saponin, and lime. In the cultivation process, YKAN assists the farmers to maintain pond quality by regularly monitor water quality, probiotic applications to enhance the water quality, and continuous assistance regarding good and environmentally friendly practices.
- 2.3.2. YKAN is closely working with pond owners in Pegat Batumbuk, Suaran, and Tabalar Muara villages. SECURE model has been adopted in these ponds by dividing their ponds into shrimp plots and mangrove restoration plots. Total grow-out pond area of these SECURE ponds is 29 Ha while mangrove restoration plot is around 52 Ha. For areas with high intact mangrove, there is mutual conservation agreement between YKAN and pond owners to maintain the mangrove forest and its density.
- 2.4.1. This work is still in progress with satellite imagery analysis of mangrove coverage at 90% completion and biomass data is still being analyzed.

Output 3.

- 3.2.1. Prior to provision of equipment for community businesses, YKAN encourage the women groups to develop product development, sales and marketing plans, including identifying potential partnerships for regular product offtaker. This is to ensure that the intervention will really be able to increase production within certain targets.
- 3.2.2. To date, total of 6 Halal certifications obtained for 3 cracker products, 2 *amplang* products, and 1 shredded milkfish product.
- 3.2.3. YKAN facilitated the promotion of women groups products in a number of events such as during the launching of Teluk Semanting Eco Tourism on 1 May 2023, Product Expo on 16 May 2023, Berau Village-Owned Enterprise Expo on 16 June 2023, Expo in Jakarta and Surabaya respectively on 23 June 2023 and 1 September 2023, and during YKAN's event on 6 September 2023. Groups participating in the events are Kelompok Kerjasama Jaya (Pegat Batumbuk), Kelompok Tenggara, Kelompok Tenggara 2, Kelompok Ceria (teluk Semanting), and Kelompok Mentari (Bohe Silian). YKAN also assisted Kelompok Kerjasama Jaya to open the group's bank account.

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.

The project is particularly delayed in Output 1 on spatial plans and biodiversity analysis (as described in progress section). Although work has resumed, these delays pushed project timeline significantly. YKAN team mitigates further delays by supporting the university partners with provision of data for spatial plan development and technical assistance on eDNA analysis to support biodiversity report. We expect the reports to be ready by December 2023.

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: £

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?

Not at this time.

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. 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**