

Biodiversity Challenge Funds Projects Darwin Initiative, Illegal Wildlife Trade Challenge Fund, and Darwin Plus

Half Year Report

It is expected that this report will be a **maximum of 2-3 pages** in length.

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 2024

Please note all projects that were active before 1 October 2024 are required to complete a Half Year Report.

Submit to: BCF-Reports@niras.com including your project ref in the subject line.

Project reference	29-029
Project title	Nature Climate Solution to Protect Mangrove Biodiversity and Improve Livelihood
Country(ies)/territory(ies)	Indonesia
Lead Organisation	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)	10 October 2024, HYR3
Project website/blog/social media	https://www.ykan.or.id/en/program/oceans-program/blue-economy/secure/

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

Although we are not looking for specific reporting against your indicators, please use this opportunity to consider the appropriateness of your M&E systems (are your indicators still relevant, can you report against any Standard Indicators, do your assumptions still hold true?). The guidance can be found on the resources page of the relevant fund website.

Output 1: Management Plans for Mangrove Ecosystem Protection

1.1. Community Consultations and Management Plan Submission

As part of strengthening governance capacity, consultations and strategic planning activities were completed in Suaran, Pegat Batumbuk, and Tabalar Muara. In Suaran Village, the Strategic Plan (Renstra) for mangrove management, supported by Forest Carbon Partnership Facility Carbon Fund (FCPF-CF) funding and technical assistance from YKAN, was finalized in June 2024. In Tabalar Muara, a workshop was held in August 2024 to align the village spatial plan with mangrove protection goals, resulting in the formation of a community-led spatial planning team. These steps establish the foundational governance structure required for the

legal recognition and implementation of mangrove conservation practices that potentially adds 3,400 ha of mangrove management plan to the already established 27,248 ha as previously reported.

1.2. Biodiversity and Ecosystem Stability

The project's biodiversity efforts focus on stabilizing species populations and overall ecosystem health. As part of this initiative, eDNA sampling was conducted in June 2024, with follow-up sampling scheduled for November 2024. Preliminary eDNA results have identified species such as *Navicula* (indicating balanced water quality) and *Nitzschia* (indicating saline waters with stable nutrient levels), both of which suggest a healthy wetland environment. Water quality monitoring, conducted alongside eDNA sampling, showed no significant changes, indicating stable or improved conditions. These results are consistent with species diversity patterns observed through eDNA sampling.

These biodiversity data will contribute to a spatial prioritization paper being developed in partnership with Leeds University and University of Mulawarman, aimed at modeling biodiversity improvements if SECURE practices are implemented throughout the Berau area. Findings from these analyses will support the project's goal of stabilizing the overall ecosystem health.

1.3. Enhanced Governance Capacity for Implementation

The project focuses on building the capacity of village governments to independently implement and manage mangrove area. Village spatial development workshop was organized in Tabalar Muara focusing on managing and zoning the mangrove ecosystem as a foundation for long-term mangrove management. The resulting spatial plan will be formalized into Village Regulations, providing a legal framework for sustainable mangrove and resource management.

Output 2: Mangrove Restoration Within Shrimp Ponds Area

2.1. Ecosystems Approach to Aquaculture (EAA)

The project continued the Ecosystem Approach to Aquaculture (EAA) training for stakeholders using a new module provided by the Ministry of Marine Affairs and Fisheries (MMOF). In parallel, consultations were conducted with the government on a new EAA scheme, resulting in potential designation of an indicative EAA model in Suaran Village for 850 hectares. However, formal designation of EAA area in Berau will most likely go beyond project time frame due to land tenure and potential changes in government following the elections. The project team plans to continue supporting this designation in the coming period while assisting MMOF in refining EAA technical guidelines, drawing from Berau's model.

2.2. Restoration of SECURE Model Demonstration Site

The SECURE ponds under Darwin support totals to 120 ha of which 15,8% is aquaculture plot and the remaining 84,2% are allocated for mangrove protection and restoration area. Hydrological improvement designs have been developed for three ponds, and restoration activities for the SECURE Model-2 Pond are nearly finished, with all seedlings planted and discussions on establishing an effective monitoring program are ongoing. The Suaib SECURE pond will undergo further modifications to incorporate Ecological Mangrove Restoration (EMR) design in collaboration with Blue Forest (YHB). Restoration priorities and plans for other ponds are being developed with attention to technical and financial considerations unique to each site.

The fourth vegetation analysis survey was conducted in August 2024, covering 18 measurement stations across villages within the Darwin project area. The survey identified 21 mangrove species, including new species (e.g., *Tarennia fragrans*, *Uncaria sp.*, and *Ficus sp.*) not previously recorded. The findings also indicate improved mangrove coverage attributed to SECURE implementation. The latest report aggregates data from all prior surveys, presenting a comparative analysis of vegetation changes over time.

2.3. Improved Aquaculture Practices at SECURE Model Demonstration Site

Nine out of ten SECURE ponds are in the aquaculture cycle, with some having completed multiple cycles. The SECURE ponds continue to operate using two models: Traditional and Traditional Plus. To further improve aquaculture practices, YKAN aquaculture experts are implementing a Venturi system to improve dissolved oxygen levels, supporting shrimp health and increasing production efficiency. Ongoing support also includes shrimp seedlings and cultivation materials. The new field school term provides capacity to emphasize the link between mangrove functions, shrimp health, and aquaculture, where previously, the focus was mainly on cultivation practices. Best practices from the ponds will be consolidated and adapted into a Best Management Practice guideline for use post-project. Data from ponds that have undergone multiple harvests shows an average of 40% production increase, albeit not yet stabilized due to complex traditional practices.

2.4. Carbon Finance Business Case and Co-Management Knowledge for Village Authorities

Pre-feasibility for a carbon project concluded in May 2024 and will be used to develop a carbon business case. However, a carbon project proposal is not feasible during the project timeframe as East Kalimantan (including Berau) are currently still implementing Result-Based Payment from FCPF-CF until 2027.

Output 3: Income Growth in Mangrove-Linked Livelihoods

3.1. Training for Sustainable Livelihood Practices

The project provided practical experiences by facilitating a 30-day internship for Pegat Batumbuk's women group members, where they gained hands-on experience in business management and market-oriented practices at Kaya.id, a company supporting Indonesian MSME brands. This training is expected to improve business resilience, product development, and income potential for participants—which will be analysed in February 2025 during the third-year social and economic survey. To date, 208 persons (56% female) have been trained in livelihood and field school.

3.2. Certification and Market Access for Mangrove Products

After successfully developing the milkfish floss and *amplang* products, efforts are now focused on diversifying SECURE pond products with shrimp head chips, currently undergoing expiry testing. Once testing is complete, it will follow the milkfish products for home industry licensing (P-IRT) and Halal certification. SECURE shrimp products are being tested in market segmentation to gauge potential market expansion.

Initially relying on personal equipment, the groups have gradually increased production capacity by reinvesting sales profits and receiving support from YKAN in the form of stoves, frying pans, food choppers, and other equipment. Additionally, part of the revenue from products such as *amplang* and fish floss supports mangrove conservation, linking economic and environmental goals.

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.

- Upon assessing the process and procedures for ponds certification, the project encountered difficulties in obtaining aquaculture certifications, as certification requires improvements in the whole value chain. For example, the project has no involvement in the shrimp seed hatcheries that are sourced from other provinces, and therefore, has little control over the upstream sustainability, making certification difficult. The project is collaborating with another organization to conduct gap analysis and recommendation toward fulfilling pond certification requirements. However, early indication suggests this may take years to fulfil.
- The project has been working on Ecosystem Approach to Aquaculture (EAA) assessments and provided recommendations through series of workshops with stakeholders. The area most feasible for EAA is at Suaran Village (850 ha) considering its tenure as Other Land Use Area that falls under the authority of regency government. The formal process may be

hindered with changes in government leadership and staff from elections and regulatory process that may go beyond project's timeline.

- East Kalimantan is still implementing Result Based Payment from FCPF-FC until 2027 that does not allow them to develop new carbon projects. The project has developed pre-feasibility and project's intervention will be pivoted to developing a carbon business case instead of carbon project proposal.

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: *If you submitted a financial Change Request, you can find the reference in the email from NIRAS confirming the outcome*

4a. Please confirm your actual spend in this financial year to date (i.e. from 1 April 2024 – 30 September 2024)

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 2025)?

Yes No

4c. If you expect and underspend, then you should 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 to your project 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?

6. Please use this section to respond to any feedback provided when your project was confirmed, or from your most recent annual report. If your project was subject to an Overseas Security and Justice Assistance assessment please use this space to comment on any changes to international human rights risks, and to address any additional mitigations outlined in your offer letters. Please provide the comment and then your response. If you have already provided a response, please confirm when.

Project reporting was initially done using result-based reporting. Feedback to the report suggests describing activities conducted (activity-based reporting). We have also improved the report particularly on safeguard. Previous response to feedback was submitted alongside AR2. Response to AR2 feedback will be submitted during AR3 as requested.

Checklist for submission

For New Projects (i.e. starting after 1st April 2024)	
Have you responded to any additional feedback (other than caveats) received in the letter you received to say your application was successful which requested response at HYR (including safeguarding points)? You should respond in section 6, annexes other requested materials as appropriate.	
If not already submitted, have you attached your risk register ?	
For Existing Projects (i.e. started before 1st April 2024)	
Have you responded to feedback from your latest Annual Report Review ? You should respond in section 6, annexes other requested materials as appropriate.	
For All Projects	
Include your project reference in the subject line of submission email.	
Submit to BCFs-Report@niras.com .	
Have you clearly highlighted any confidential information within the report that you do not wish to be shared on our website?	
Have you reported against the most up to date information for your project ?	
Please ensure claim forms and other communications for your project are not included with this report.	