

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	28-004
Project title	Halting Biodiversity Declines through Enhanced Community Wellbeing in Indonesia
Country(ies)/territory(ies)	Indonesia
Lead partner	Yayasan IAR Indonesia (YIARI)
Partner(s)	Batutegi Forest Management Unit - <i>Kesatuan Pengelolaan Hutan</i> (KPH), Lampung University (UNILA)
Project leader	<i>Dr Carmele Llano Sanchez</i>
Report date and number (e.g. HYR1)	<i>31 October 2023, reporting for April – September 2023 HYR3</i>
Project website/blog/social media	

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).

Over the past 6 months progress has been made for the following streams of work (reported per output):

- 1. Output 1. By 2024, the wellbeing of ~3,000 impoverished women, men and children has improved through better managed agroforestry systems, access to education (especially women and children), healthcare and employment opportunities associated with wildlife reintroductions and monitoring.**

1.1 Monetary Wellbeing Target:

Over the past six months we have successfully enrolled 255 direct male and female beneficiaries in our sustainable livelihood programmes from both landscapes. This accomplishment translates to an estimated total of 1,041 women, men and children who have directly and indirectly enhanced their financial prospects. While not all of these households achieved the targeted income increase of 10%, the number of beneficiaries exceeded our final Project target of 600 households (direct and indirect beneficiaries) by 75% [Indicator 0.1]. In Bukit Baka Bukit Raya National Park (BBBRNP), farmer groups have expanded quite rapidly, with six groups being formed this last semester. Following our initiatives, farmers have started collaborating more, and local groups have replicated the same model independently of our assistance. In Batutegi Protection Forest (BPF), we have laid the groundwork for agroforestry expansion through sustainable practices and exceeded targets for high-value agroforestry seedling planting. We have also observed positive changes in farmer attitudes and behaviours. From initially being suspicious of the assistance being offered and frequently declining to participate in joint activities, the farmers have now become much more engaged. Mr Dayat, the Head of Sumber Makmur,

commented that he was skeptical at the beginning of the initiative and anticipated that some farmers would likely not take part in the training, but he was pleasantly surprised to see that over time, enthusiasm levels had risen. Aji from YIARI's Community Development team added, "*it took time to build their trust, but now farmers gather to greet the YIARI team on their arrival at the site and are motivated to join training events*". We see they have begun to build on the knowledge provided by the trainers and have started to come up with their own ideas and ambitions for developing livelihoods activities further. For example, after being shown the necessary ingredients for making organic pesticides, they have since identified alternative ingredients through a process of trial and error, which is very useful when some ingredients are difficult to acquire. We have noticed a shift from a more individualistic working attitude to a more cohesive and communicative environment where problems are overcome through teamwork. For example, the access road to farmland had been poorly maintained for a long time, however as a result of increased joint activities through this project farmers decided to share responsibility and work together to clear and repair the access road.

BBBRNP:

- **Vegetable Boat Initiative:** Between January and July 23, the total gross income generated was IDR 317,000,000 (~£16,540). A total of 114 farmers participated in this programme (110 women and four men). Since February 2023, boat trips have been regular (eight trips per month) generating an average gross income of IDR 51,000,000 (~£2,660) each month to the farmers. The additional average monthly income generated by the 58 farmers using the vegetable boat service on a regular basis is IDR 935,117 (~£49).
- The recipients of the Vegetable Boat Initiative have used some of their profit (*iuran*) to construct a new Vegetable Boat solely dedicated to the transportation of their produce to the market. This boat is owned by the villagers themselves. The amount collected by farmers for this period (IDR 24,000,000 or ~£1,252) nearly covered the cost of the boat trips (~IDR 30,000,000). Therefore, although the initiative is not yet self-sustaining, it is likely to become financially sustainable soon.
- Recently (in September 2023), nine women from our Vegetable Boat Initiative have independently started selling their products through a similar model. They collaborated with two local boat owners to get their produce to market.
- **Sugar Cane Processing:** Between April and August 23, the total income generated by farmers was IDR 4,800,000 (~ £250). A total of 28 farmers are currently enrolled in the programme. Based on data from February to July 23, farmers have made an average IDR 150,595 per capita each month (13% of the average monthly income compared to our target of 10% income increase [Indicator 0.1]). However, this has not always been the case and we are trying to understand the barriers to more consistent engagement with this sub-sector.
- **Sustainable Farming:** Six new female farmer groups and a male farmer group from our KAHIU scholarship programme were established this past semester in addition to the four existing female farmer groups. Therefore, we are currently supporting ten farmer groups with organic farming mentoring and capacity-building with a total of 58 farmers (47 women and 11 men). The current area being cultivated is 2.2 ha. Each farmer group has harvested an average of 38 kg of vegetables per month from fifteen different crops, namely chilies, eggplant, green beans, bitter melon, cucumber, two variations of pumpkin, tomatoes, watermelon, sweet corn, chives, peanuts, ginger and long beans. The average monthly income make per farmers' group is IDR 1,274,000 (~£66). The estimated income per capita is IDR 275,603 (~£14) per month (based on September harvest for the 10 groups).
- **Rubber Training:** Post-training monitoring (using the 'umbrella method') of six rubber farmers and 84 trees revealed a 43% increase in productivity. Before the training each farmer was making on average IDR 502,000/month (~£26/month) from a yield of 125.5 kg of rubber latex/month. With the extra productivity, each farmer was able to make IDR 718,000/month (~£37/month), based on a price of IDR 4,000/kg.
- **Employment:** We now employ 59 permanent staff. Twenty-seven of these jobs are new exceeding our initial target of 20 by ~35% [Indicator 1.2].

- **Overall Impact:** A total of 206 people (185 women and 21 men) are currently enrolled in our livelihoods initiatives in 2023 through 4 different strategies in 6 buffer communities. Combined, these participants represent 199 different families (households) and an estimated 836 women, men and children (based on a conservative household average size of 4.2 people). Since the start of the project, 396 direct participants (255 women and 141 men) have been involved in our community development, capacity-building and awareness raising activities, including 29 loggers (49%) and 17 ex-loggers (4%).

BPF:

- **Farmers' Groups:** Ten Forest Farmer Groups (*Kelompok Tani Hutan*, KTH) committed to implementing agroforestry, with 49 farmers currently enrolled in the programme and 98 ha of land ready for agroforestry use. The majority of this land is already being used but does not meet the standard required for agroforestry (i.e., a minimum of 400 trees per hectare). Current estimates from the three farming groups indicate there are around 100 trees per hectare. This figure represents 25% of the target number required.
- **Agroforestry Planting:** A total of 8,191 seedlings of high agroforestry value species [i.e., areca nut betara, nutmeg, avocado and bitter bean] are being grown in the nursery, with a 75% survival rate (n=6,184 seedlings). Target of 3,000 seedlings planted exceeded by ~103% (Indicator 1.1).
- **Agroforestry Production:** Eight nurseries established and being used; 17 goats being raised. Farmers have already produced: 1.5 tons of solid fertilizer, 841 litres of liquid organic fertilizer (POC), 85 litres of local micro-organisms (MOL), 20 litres of organic pesticide. Female farmers have begun to produce eco-polybags (made of bamboo and banana leaves) for cultivating seedlings in the nurseries. These activities have started to yield economic benefits for the communities (assessment of the benefits will be conducted at the end of the project).

1.2 Non-monetary Wellbeing Target:

Building on the achievements of the previous year, where 4,429 individuals (3,825 adults and 604 children) participated in activities that bolstered non-monetary wellbeing—exceeding our ultimate target of 1,500 people (Indicator 0.2)—we have continued to make progress in the past semester. In the past semester, our educational programs have positively impacted 399 individuals (151 adults and 248 children) across the two landscapes.

BBBRNP:

- **Scholarship Programme:** Twenty-three local students are currently enrolled in our scholarship programme (16 at the junior and high school levels and 7 at college). This exceeds our target of 20 scholarship students [Indicator 1.4].
- **Computer Training:** Forty-four children and five women participated in our computer training programme in this past semester. Students have shown good retention of the topics taught, from all displaying zero to minimal understanding of computer knowledge in February to 82% displaying a good understanding in May.
- **Literacy Programme:** is currently benefitting 15 women and 122 children to improve their reading and writing skills. The women have shown outstanding performance, with 12 of them becoming proficient in reading over the past six months.
- **Overall Impact:** In the past semester, the educational programme has benefited a total of 189 children and 20 women. Since the beginning of the Project, our educational programme has benefited a total of 444 children (270% of our initial target of 120 children) and 64 women (64% of our initial target of 100 women) [Indicator 1.3].

BPF:

- **Taman Baca:** We have continued to support the local 'reading club' (*Taman Baca*)—an educational centre with various approaches for integrative learning for children, youth and mothers. In this past semester, there has been a monthly range of between 30-65 children who have regularly participated and engaged in the *Taman Baca* activities. Three large events were held by YIARI in collaboration with Taman Baca: Ramadan Celebrations (39

pupils and 9 scouts attended), World Environment Day (33 pupils and 5 children from a local youth community), and the Anniversary of Taman Baca (65 children).

- **Capacity building in Sustainable Agriculture:** Training and mentoring has continued through the Field School: a total of 131 farmers from ten forest farmer groups were mentored and supported through training activities [including *Trichoderma* propagation, nursery management and use of mycorrhiza in nurseries] with 67 farmers and 6 mentors.

2. Output 2. By 2024, communities feel empowered and more embedded in local natural resource governance through joint patrols with government authorities.

In the BPF landscape, our collaborative efforts, which include strengthening local governance through Focus Group Discussions and the official agreement and demarcation of the core forest boundary, have yielded significant results. The forest core zone has been expanded by nearly 400 ha, and over 50% of the boundary has already been demarcated. The implementation of the Integrated Forest Crime Alert System has been effective in identifying hotspot areas and guide patrol routes. Moreover, our monthly SMART patrolling with active community participation, has resulted in a substantial reduction in illegal activities. The establishment of Community Patrol Teams (*Pamhut*) further bolsters community engagement in governance. In addition, an increasing unity among farmer's groups has been observed. This has led to more effective collaboration in addressing challenges, including the emerging threat of forest and land fires, which have been exacerbated by the effects of climate change and El Niño. There is also a growing awareness and willingness to report illegal mining activities, although concerns about potential conflicts remain.

In the BBRNP landscape, the successful approval of the Nusa Poring Village Environmental Law reflects the unwavering commitment of the community to advancing environmental governance in the region.

BPF:

- **Focus group discussions:** with local farmer groups (GAPOKTAN) and KPH (Forest Management Unit) for revision of the core forest block boundary, resulting in an official agreement of the latest boundary map, increasing the core zone from 10,827 ha to 11,212 ha.
- **Management Permits:** In 2022, the three GAPOKTAN received area management permits for the utilization block and the document has been socialized to the farmers. A partnership scheme has been drawn up with GAPOKTAN Mitra Jaya.
- **Long-term strategy plan (RPHJP):** for the management of Batutegi for the next 10-year (2024-2033) has been drafted by KPH Batutegi with assistance from YIARI.
- **Boundary Demarcation:** An additional 7.56km (18%) of the core zone border was demarcated during April to August 2023 through the planting of 288 *Ficus spp.* seedlings. The total border now marked out is 43km and represents 53% of our target length (Indicator 2.2).
- **Integrated Forest Crime Alert System (PPH system):** Three hotspot areas and two priority entry points for illegal activities were identified. Profiles of perpetrators and the motives for encroachment and illegal logging have been recorded through two key informants.
- **Monthly SMART Patrols:** have continued to be conducted from April to September 2023 with the active participation of 29 people from four communities and 8 KPH forestry officers, therefore, meeting our target (Indicator 2.3). In total, 71 days of patrol were carried out, comprising a total distance of 379 km in four resort areas, and the inclusion of an additional forest block.
- **Reduction of Illegal Activities:** A total of 42 illegal activities were encountered in the forest (ER=0.11 threats per km). Information was collected and sent to KPH in four separate reports. This resulted in eight verbal warnings and two cases that were followed up by KPH. This number represents a reduction of illegal activities in the forest by 21% when compared to 2022 (ER=0.14) and a reduction 42% in comparison with our 2019

baseline (ER=0.19), nearly reaching our target of a 50% reduction by Q1 2024 [Indicator 0.4].

- **Community Patrol Teams (*Pamhut*):** two Pamhut were established with the active involvement of two GAPOKTAN (SM and MJ) and 9 *Pamhut* members, from which 3 are currently active and one patrol (3km) was carried out.

BBBRNP:

- **Environmental Law Implementation:** The Nusa Poring Village Environmental Law (Perdes) was socialised, endorsed, and signed by all related authorities and is now in force, achieving our target [Indicator 2.1].

3. Output 3. By 2024, increased local community awareness of ecosystem services, biodiversity values and risks contributes to better natural resource management.

We have focused on increasing local awareness of ecosystem services, biodiversity, and risks associated to unsustainable resource use. We have prioritised disseminating information and knowledge to empower communities to make informed decisions.

BBBRNP:

- **Environment Education:** Conservation and environmental awareness activities carried out outside school hours with children from four villages. These activities include engaging in making nature-inspired art, village clean-up actions, traditional dances and documentary watching. A total of 150 children participated in these activities in this reporting period.
- **Conservation and Religion:** Collaboration with the catholic church for public awareness raising has continued with four Conservation and Religion activities held with 62 youth and adults (45 women and 17 men) in the Catholic Church of Sekujang sub-village and Nusa Poring village.
- **Tree Planting:** Two tree planting activities carried out with in Sekujang sub-village with the participation of 49 community members resulting in 205 seedlings planted.
- Overall, >350 youth and 36 women and men were reached through our educational and awareness-raising activities in the buffer communities.

BPF:

- **Community Socializations:** 24 target farmer households participated in awareness raising events related to forestry law (legal and illegal forest use) in the first semester of 2023. Additional 17 educational activities were carried out to increase local community involvement in forest protection (i.e., forest monitors and informants) with representatives of the local communities, youth and farmer groups. Furthermore, an event focusing on alternatives to land clearing and burning was also conducted.
- **SMS blast:** One trial distribution of SMS blast, with 1,271 SMS messages sent. SMS messages were sent out locally to help educate people in the surrounding area about the situation in Batutegi and about YIARI's work. However, this was not deemed to be effective and has not been continued. During post-activity surveys with local communities, results suggested that very few people actually received or read the messages.
- **Youth Conservation Group:** Continue to support youth conservation groups through the formation of a local youth forum via Whatsapp, and the involvement of 33 youth from 14 different communities. Three youth are active in conservation and educational activities.
- **School Outreach:** 168 youth were engaged through school outreach activities and celebration day events (e.g., World Environment Day, World Primate and Slow loris Days, World Tiger Day, and World Plastic Bag Free Day).
- **Saka Wana Bakti (Scouts):** 11 separate events were held with a total of 185 participants that included conservation related activities and education. Pupils from Air Nanningan High School also attended some of the activities. The events were held in collaboration with KPH Batutegi and supported by students from UNAS.

4. Output 4. By 2024, the Bornean orangutan population in BBRNP increases its viability and resilience.

In June, we successfully reintroduced six fully rehabilitated orangutans (five females and one male) into the Mentatai Resort area of BBRNP, meeting our yearly target [Indicator 4.1]. Since the start of the project, we have already reintroduced 24 orangutans in BBRNP. This represents an increase by 47% of our original orangutan population (baseline n=51 individuals), nearly meeting our Project target of at least an 50% increase [Indicator 4.].

The reintroduced orangutans have been closely monitored by our local team of field monitors. They have shown significant signs of adapting well, and four previously reintroduced females have now given birth within BBRNP. The reintroduction efforts have not only been paramount for the conservation of the species in the landscape but have also given nearly 90 local community members the opportunity to improve their economic conditions and instil a sense of pride and ownership in protecting natural resources.

Monitoring & Evaluation:

Biodiversity Monitoring:

BBBRNP:

- **Wildlife Census:** between April to August 2023, there were 864 wildlife observations of 86 species comprised of 13 species of mammals, 45 species of birds, 18 species of amphibians and 19 species of reptiles, of which 20 are threatened by extinction (2 CR, 14 EN, 4 VU) and 24 species were for the first time recorded. The most frequently encountered species was *Hylobates albibarbis* with 84 encounters, followed by *Psilopogon duvaucellii* and *Buceros rhinoceros*.
- The value of the Shannon-Wiener diversity index (H') for all taxa showed a small increase compared to the previous year, with increments between 0.08-0.27 across the four taxa.
- **Camera trap monitoring:** Between April to July 2023, 19 camera traps were active for a total of 2,288 days. *Pongo pygmaeus* and *Arctictis binturong* showed an increase in RAI (Relative Abundance Index) and Naïve Occupancy value when compared to the previous year. *Macaca nemestrina* also showed an increase in Naïve Occupancy.
- *Sus barbatus* was not encountered in the forest since January 2022, probably due to the large impact of the African swine flu virus had on the population.
- Overall, based on direct (census) and indirect (camera trap) wildlife monitoring carried out since 2017, 194 species of wildlife were recorded in BBRNP, comprised of 51 species of mammals, 97 species of birds, 27 species of amphibians and 19 species of reptiles. Detailed information regarding the list of species can be accessed via the following Dashboard link: [\[REDACTED\]](#)

BPF:

- Biodiversity data from Batutegi are still being collected and analysed. The results will be completed for the final report.
- In addition, four students from the University of Lampung (UNILA) and the National University (UNAS) carried out research on (1) distribution of carnivores, (2) distribution of rhinoceros hornbills, (3) checklist of golden cat prey species and (4) a checklist of Artiodactyls in Batutegi Protected Forest.

Forest Cover Loss:

BPF:

- Forest cover loss in Way Sekampung has decreased from 4.9 ha (using Sentinel) (3.6 using Landsat) in 2022, to 0.9 ha in 2023.

- When combining the two Core Blocks: Way Sekampung and Rindingan in Batutegi Protected Forest, forest cover loss has also decreased from 47.8 ha in 2022 (Sentinel) to 8.9 ha by mid-2023.
- This represents an estimate decrease of 63% in forest cover loss between 2022 and 2023 [Indicator 0.5].

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.

Below we provide some details on the problems, unexpected developments, and lessons learned over the last six months:

BBBRNP:

- The low water level of the Mentatai River has had a significant impact on the farmers who heavily rely on the Vegetable Boat as their primary transportation method to sell their produce at the market. When the water level is particularly low, the boat cannot operate, leading to disruptions and challenges for the farmers. Deliveries have been delayed, causing potential financial losses for the farmers. To address this issue, the 58 farmers who regularly use the Vegetable Boat have collectively decided to prioritize saving funds (*iuran*) for the future purchase of a suitable car. This car will serve as an alternative mode of transportation during the dry season, ensuring that the farmers can continue selling their products without solely relying on the water level conditions. By taking proactive steps and investing in a more stable transportation system, the negative effects of low water levels can be minimized, providing a reliable means to transport their produce throughout both the wet and dry seasons.
- Despite the effectiveness of the ‘umbrella’ method in rubber farming the uptake was lower than hoped. The project will use the success with the farmers that engaged to reach out to and engage with other farmers on the numerous benefits and ease of using umbrellas for protecting rubber resin, thereby increasing quality and revenues.

BPF:

- The lack of rain through the dry season has been problematic for tree planting along the Core Zone border. Many trees died due to a lack of water. For this reason, planting activities had been put on hold temporarily until the rainy season. The prolonged period without rain, attributed to the combination of El Niño and the effects of Climate Change this year, has also resulted in a higher risk of forest fires. In recent weeks, there have been incidents where both KPH and the Project team had to intervene to extinguish fires before they could spread into the forest Core Zone.
- There has been a lower than hoped participation in farmer training sessions. This is primarily due to a lack of consistency from some farmers due to the effort needed to travel to the agricultural plots. The project is working on how to remove barriers to acquiring knowledge. Implementing new methods to repair the damaged land and increase crop yield can take time, and patience is required. In the absence of evidence that the time spent on the training will be beneficial and contribute to improving their economic situation in the long term, some farmers may begin to lose motivation. It is important that we highlight the small successes along the way, to provide evidence of the gradual positive changes that are occurring.

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

Discussed with NIRAS: No

Formal Change Request submitted: No

Received confirmation of change acceptance	No
Change request reference if known:	

<p>4a. Please confirm your actual spend in this financial year to date (i.e. from 1 April 2023 – 30 September 2023)</p> <p>Actual spend: ██████████</p> <p>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)?</p> <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Estimated underspend: £</p>
<p>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.</p> <p>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.</p> <p>NB: if you expect an underspend, do not claim anything more than you expect to spend this financial year.</p>
<p>5. Are there any other issues you wish to raise relating to the project or to BCF management, monitoring, or financial procedures?</p>
<p>N/A</p>

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**