

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	28-005
Project title	Orangutan Honey – Beekeeping for critically endangered orangutans and livelihoods
Country(ies)/territory(ies)	Indonesia
Lead partner	PanEco
Partner(s)	Yayasan Ekosistem Lestari (YEL)
Project leader	Dr. Ian Singleton
Report date and number (e.g. HYR1)	Half Year Report, Year 3, 12 th November 2023 HYR3
Project website/blog/social media	N/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).

The following reports progress from 1st April 2023 – 30^h September 2023 (Year 3, Q1 and Q2).

Progress on Outcomes and Impacts

Outcome data was monitored throughout Q1 and Q2 as per the project timetable for indicators 0.1 to 0.4 (indicators 0.5 and 0.6 will be analysed later in the project). Most indicators have continued on track in terms of data collection and analysis, occurring according to schedule, and will be fully reported in the Annual Report.

Overall, the known orangutan population at Jantho now stands at 159 (representing the total population of released, translocated and wild-born orangutans), increasing by nine individuals across Q1 and Q2 in year 3 of the project (Indicator 0.1). This means that only three orangutans are missing from the overall target of 162, which will most likely be reached by the end of the project.

Issues with the GLAD monitoring system (Indicator 0.4), the team utilized Integrated deforestation alert data from GLAD and RADD via Global Forest Watching. In Q1 (between the 1st of April 2023 and 30th of June 2023), there were 3 GLAD-L alerts reported in the entire Jantho reserve, and critical central river valley area, covering a total of 0.230 ha of which none were high confidence alerts. 64 RADD covering 0,785 Ha which 9 (14%) were high confidence alerts and 79 integrated deforestation alerts covering a total of 0,968 ha of which 11 were high confidence alerts.

Between the 1st of July 2023 and 30th of September 2023 (Q2), there were no GLAD-L alerts reported. 161 deforestation alerts were reported in the entire Jantho Reserve, covering a total of 2 ha of which 5 (3.4%) were high confidence alerts detected by a single system and none

were alerts detected by multiple systems. All of these were situated in the southern savannah area of the reserve.

Regarding outcome 0.5, in the first quarter, a survey was conducted to determine the average income of members in the six project communities. The average income based on the survey questionnaire was 66 - 132 USD per month or 792 -1584 USD per year (since this differs significantly from the average household income used at the beginning of the project, we will reflect this change in a CR to adjust the value of average household income in the logframe). Based on the results of this survey, the average increase in household income will be calculated at the end of the project.

Progress on Outputs/Activities

Output 1: Rehabilitated (and translocated) Sumatran orangutans are released and monitored in Jantho Nature Reserve. Activities: Orangutan release, Daily Post-Releasing Monitoring and Orangutan Surveys.

The output is on track. Activities have been implemented according to the project timetable.

Six orangutans were released into Jantho in Q1 and Q2 of year 3. Five rehabilitated orangutans were released after the adaptation process was completed at Jantho Forest School, and one wild orangutan was translocated from Nagan Raya in Q2 (see Table 1 below). In addition, four orangutans (Pongky, Mawasudin, Maria, and Poni) were still at the SOCP Jantho facility at the end of September. Maria and Mawasudin, are currently in the adaptation cage, awaiting safe release to a suitable location in the forest. Poni and Pongky are still in the forest school.

Table 1: Orangutans released at Jantho during Q1 and Q2.

Name of Orangutan	Sex	Approximate Age	Date transferred to Jantho	Date of released	Post-release monitoring
Molika	Female	9	4 th Nov., 2022	11 th May 2023	65 days
Sule	Female	10	3 rd March 2023	1 st June 2023	6 days
Pulau (translocated orangutan)	Male	30	5 th June 2023	6 th June 2023	0
Jayanti	Female	8	6 th June 2023	7 th July 2023	10 days
Megaloman	Male	9	6 th June 2023	26 th July 2023	
Ashoka	Female	8	6 th June 2023	27 th July 2023	7 days

In total, 18 orangutans have been released so far under this project (since the project started in October 2021), which is 75 % of the overall project target (24 individuals) and represents good progress across the first two years of implementation.

In June 2023, the veterinary team successfully implanted a radio transmitter on Pongky for monitoring purposes. With this advanced tracking technology, we can closely monitor Pongky's activities and intervene as needed to ensure his well-being as he continues his journey towards rehabilitation and eventual release into the wild. In July we started to open his cage every day so that he could move freely outside the cage. He moved mainly on the ground and occasionally climbed trees, although he did not yet move between trees.

Post-releasing monitoring also occurred according to the project plan, with 21 different orangutans monitored on 188 different occasions, for a total of 1.476 hours of observation. This included monitoring of the four orangutans recently released into Jantho for a total of 78 days. The JRF recorded 148 indirect encounters (orangutan nests), and experienced seven direct encounters during their orangutan surveys.



[REDACTED]

Output 2: Jantho Nature Reserve (16,000 ha) is protected by the JRF, throughout the project term and JRF capacity is increased. *Activities: Monthly patrol missions, reporting identified threats to BKSDA Aceh, and Community Ranger Training.*

The output is on track. Activities have been implemented according to the project timetable.

In the first six months of the third project year, the two Jantho ranger teams patrolled for a total of 127 days (each team completed patrol missions on average 10 days per month, 12 missions in total across Q1 and Q2), covering a total distance of 998,73 km (879.42 km on foot and 119.31 km by car), in the Jantho forest.

During this period, 46 threats were identified and reported to BKSDA Aceh. These included the presence of snares and traps, plantations, shelters/camps, logging activities, access roads and the presence of people (hunters, gold miners, loggers). The most common threats were shelters (25 detections) and snares and traps (15 detections). No training events were carried out during the period.

Output 3: The six¹ project communities have strengthened livelihoods opportunities, capacities and collaboration through newly established, functioning, and profitable honey cooperatives. *Activities: Beekeeping trials, participatory training, cooperative establishment, etc.*

The output is mostly on track. Activities are on-track, or in some cases, have been completed ahead of the project timetable schedule. However, there have been some minor delays.

Activity 3.1, the professionally trained “honey team” for the cultivation and harvesting of *Trigona spp.* and *A. mellifera* has been increased from four to five members in recent quarters. The members of this “honey team” monitor, support, and assist with beekeeping and harvesting in the six communities. So far, all members of the professional “honey team” are men, but two women from the Linot Jantho group are in the process of training to become members of the professional “honey team”.

The honey team members for the other four groups (Jalin, Weu, Data Cut and Suka Tani) have not yet been determined, as these villages are still in the process of consolidating their community groups. Once suitable candidates are found, after they have gained more experience in beekeeping, professional training in cultivation and harvesting will begin.

¹ 6 project communities will be established as cooperatives according to the work plan. 2 groups in Jantho Lama and Jantho Baru villages have obtained the legal status of the institution through the establishment of notary deeds. Institutionally, these established groups have various documents such as articles of association, and also the same institutional functions as cooperatives. So although in the notary deed, it is not referred to as a cooperative, the institution and function are the same as a cooperative.

Activity 3.2, In total 446 *Trigona spp.* (stingless bee) hives and 60 *A. mellifera* hives have been procured and distributed to six project communities². It is planned that the target of 600 beehives will be achieved by the end of the year 3 project.

Over the past six months, 66 *Trigona spp.* beehives have been distributed to the two project communities Data Cut and Suka Tani group, and six to the newly established Tepi Sungai Nursery (see table 2 below). So far, five of the *Trigona spp.* beehives failed due to attacks by other bee species and macaques and fourteen of the *A. mellifera* beehives were destroyed by sun bears.

In April the *A. mellifera* colonies in Riau were very weak due to heavy rain and attacks by bee-eaters bird attacks. Even worse, the nectar production of the acacia trees is decreasing because of their old age. Therefore, we continue to provide sugar water to the colonies (see section 2a for more information).

Table 2: List of project communities and their distribution of beehives and the status of cooperative establishment.

Honey Group	Number of household	Number of beehives distributed until Y3Q2	Number of beehives failed	Article of association
Rumah Linot	23	68		fixed
Linot Jantho	20	60		fixed
Jalin (3 rd community)	26	78		submitted
Weu (4 th community)	23	66		submitted
Data Cut (5 th community)	23	66		submitted
Suka Tani (6 th community)	23	66		drafting
Fajar Lestari Nursery	-	36	4	
Tepi Sungai Nursery	-	5	1	
Stinging bee (Riau)	-	46	14	

Activity 3.3 and 3.4 The community cooperatives continued to be supported as planned. In year 2, the legal status of the two project communities (Rumah Linot and Linot Jantho) was officially established. Regular group meetings were held throughout the reporting period. The Linot Jantho Group held meetings in June 2023 (Q1) and the Rumah Linot Group held meetings in August 2023 (Q2). In these meetings, the program plans of the group were discussed and the profits were shared among the members according to the profit-sharing mechanism.

In the first quarter, a training on beekeeping and group development was held for the fifth community namely Data Cut village (22 participants; 21 women, 1 man). In the second quarter beekeeping and group development took place for the sixth community, Suka Tani village (attended by 22 participants; 14 women, 8 men). Both communities, Data Cut (in June) and Suka Tani (in July) took the official decision to create honey groups consisting of 22 households and elected the chief, secretary and treasurer, with four women elected to these six positions. Group

² The total number of beehives that have been distributed to 6 community projects is 404 hives. In accordance with the project target, 600 beehives will be distributed to community groups. However, beehives are also distributed to two nurseries that will be developed into beekeeping learning centres. As of September 2023, the procurement of beehives has not yet reached the project target, which will be achieved by the end of year 3 of the project.

members of both communities jointly formulated organizational values and profit-sharing mechanisms whereby Data Cut already finalized the article of association. It is planned that the Suka Tani group will draft the article of association in the next quarter.

In mid-September, three community groups (Jalin, Weu, and Data Cut) submitted the articles of association to a notary for legalise of the group.

Activity 3.5. In total 391 kg of *Trigona* honey was harvested in Q1 and Q2. The community groups Rumah Linot, Linot Jantho, Jalin and Weu harvested a total of 91 kg of honey in the first quarter. Due to bad weather conditions, honey production was low. The communities decided to keep the first harvest for their own use and not to sell it. In Riau 46 kg of *A. mellifera* honey was harvested in the first quarter which is below average 70 kg/month (see section 2 for details).

In Q2, four community groups (Rumah Linot, Linot Jantho, Weu, and Data Cut) harvested honey twice, in July and in September. The remaining two community groups (Jalin and Data Cut) harvested one time, a total of 300 kg of *Trigona* honey harvested in the second quarter. The period between harvests is usually 45 days for *Trigona* honey.

Output 4: YEL-owned conservation enterprise ‘SumaBee’ is established, the brand developed and marketed. Activities: SumaBee legality established, branding and marketing established, honey processed and packaged and online product presence.

In the first two quarters, SumaBee purchased 350 kg of *Trigona* honey from the six community groups. The honey was packaged by SumaBee and is sold in jars of three sizes: 138 g (100 ml), 250 g (182 ml), and 500 g (363 ml), with a market price of USD 35 per kg. The honey is sold through e-commerce platforms Tokopedia and Shopee, as well as at local markets around Medan. In addition, the community group's honey products received a Household Industry Food Certificate (PIRT)³ issued by the district government of Aceh.

Currently, the focus remains on selling honey in the local market. SumaBee also participated in several local and national exhibitions to open market opportunities. The quality of the honey continues to be tested regularly and post-harvest treatments continue to be carried out to improve the of acidity and water content parameters.

Output 5: The six project communities are informed and engaged in actions to protect local forest biodiversity including Sumatran orangutans, through conservation educational and awareness-raising activities. Activities: Baseline survey, Module outline structure, pre and post training surveys, educational activities, and Kemah Konservasi take place.

Output 5 is mostly on track. The education module is under development and was under review at the end of the second quarter. In accordance with the project implementation schedule, the content of the interactive modules covers ecosystem services, conservation, and sustainable use. However, educational activities using these modules have not yet been delivered to the communities. Therefore, we are slightly behind schedule and the team is working on a strategy to prepare and deliver the modules through the media conjunction with the local culture of the

³ Pangan Industri Rumah Tangga/PIRT (Home industry foods), is a certification for industries that produce food and beverages on a home scale. PIRT certification is only given to processed food products with a low risk level. This permit is issued by the Regent or Mayor through the local Investment and One-Stop Integrated Service Office, PIRT is mandatory for household-scale businesses. PIRT processing can be done online through the SPPIRT Application managed by the national food and drug agency of the Republic of Indonesia or through the Online Single Submission (OSS).

communities. We will catch up with these educational activities on community level before the end of the year.

In Q1 2023, a workshop was conducted with the topic "how to properly treat snake bites". This topic was chosen because there are many snakebite cases in Indonesia, with people working in the forest and farmers being the two most vulnerable groups. Mortality of snake bites in Indonesia is largely due to improper handling of them. The training was attended by more than 160 people from across Aceh and North Sumatra, including medical doctors, veterinarians, nature enthusiasts from several universities, rangers, police and army members, and local communities including members of the six project communities. The workshop combined presentations and hands-on activities, with the keynote speaker Dr. Tri Maharani M.Si, Sp. Em, being a specialist in human medicine in emergency situations. She is a well-known researcher in the field of snake bites and other health problems caused by venomous animals. The workshop was organized by YEL in collaboration with Kopala Pidie, a community of young adult nature enthusiasts based in Pidie Regency (Eastern part of Jantho Nature Reserve); and Artancala ISBI, a university club for ISBI students interested in culture and nature based in Kota Jantho.

Conservation educational activities were carried out when conducting cultivation training of the project groups and were also given to guest who visited Fajar Lestari and Tepi Sungai nurseries. These educational conservation activities also include information on beekeeping and honey cultivation and emphasize the importance of biodiversity conservation. Fajar Lestari Nursery and Tepi Sungai Nursery currently serve not only as plant nurseries, but also as a place where the public can learn about beekeeping and biodiversity conservation. As a result, fajar lestari has been visited in the last 2 quarters by Syah Kuala University and PUGA (Peduli Uteun Gampong) a village community from South Aceh. PUGA wanted to learn more about stingless honeybee culture (meliponic culture) to improve their own honeybee project and increase their yields.

The "Conservation Camp" has not yet been done as the technical implementation is still under discussion due to the local culture in Aceh. Permits from local authorities are required for mixed-gender youth camps, which slows down the organization process. We hope to hold the youth camp at the beginning of Q4.

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.

[REDACTED]

These issues will not impact the budget or timetable.

Beehive Loss Challenges

As mentioned above (output 3), the *A. mellifera* colonies were weakened due to the bad weather and low nectar production from the acacia trees, so the colonies continue to be supplied with sugar water.

In order to preserve the *A. mellifera* bee hives, it was decided at the end of April to relocate the colonies to a new site where the acacia trees are still young and produce more nectar than at the previous site. By the end of May, the colonies were still not strong enough and to produce honey. The honey harvest could only take place in June, and the quantity was still below the average harvest.

A *trigona* species colony at Tepi Sungai nursery was attacked by another stingless bee species (*T. laeviceps*) and failed because of this.

This problem has no impact on the budget or schedule

Community Groups

Under the work plan, six project communities have gained new livelihood opportunities and increased capacity through the establishment of cooperatives. However, there are villages in the buffer zone of the Jantho Nature Reserve (Boeng Village and Aweek Village) where dependence on the forest is quite high and where forest honey is also frequently harvested. For this reason, these two villages will also be included in the community project as they meet the objectives of this programme.

This will not affect the budget, but may have an impact on the schedule, as some outputs such as the distribution of beehives and the establishment of the cooperatives will take a little longer than originally planned.

Honey Quality and Quantity

Maintaining sustainable honey quality will continue to be a challenge, as quality is affected by several climatic and ecological factors that cannot be controlled. In order to assess and further improve the quality of the honey, we also conducted laboratory tests to evaluate the post-harvest treatment procedures are optimal. The results show that our on-site self-test is comparable to the laboratory test in terms of moisture content. However, some parameters did not yet correspond to the internationally recognized standard parameters for honey. However, these standard parameters apply to *A. mellifera* honey, which differs significantly from that of *Trigona spp.* As a result of the laboratory tests, we have improved some of our post-harvest treatment procedures, including reducing the temperature in the processing room.

Impact: These quantitative and qualitative challenges in honey production may have an impact on the quantity of honey produced and sold and consequently on household income (indicator 0.5). However, monitoring and data collection of honey production will continue in order to support and determine management options and measures.

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
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Formal Change Request submitted:	No (not yet, in next days)
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Received confirmation of change acceptance	No
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Change request reference if known:	
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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?

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**