

Darwin Initiative Main Annual Report

To be completed with reference to the “Project Reporting Information Note”:
(<https://www.darwininitiative.org.uk/resources-for-projects/information-notes-learning-notes-briefing-papers-and-reviews/>).

It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Submission Deadline: 30th April 2022¹

Darwin Initiative Project Information

Project reference	28-005
Project title	Orangutan Honey – Beekeeping for Critically Endangered Orangutans and Livelihoods
Country	Indonesia
Lead partner	PanEco
Project partner(s)	Yayasan Ekosistem Lestari (YEL)
Darwin grant value	£402,812
Start/end dates of project	October 1 st 2021 – September 30 th 2024
Reporting period (e.g. Apr 2021 – Mar 2022)	October 1 st 2021 – March 31 st 2022, Annual report 1 (please note our project “year” is only six months due to the project beginning on October 1st)
Project Leader name	Dr Dicky Simorangkir
Project website/blog/social media	n/a
Report author(s) and date	Vicky Dauncey and YEL, May 6 th 2022

1. Project summary

Only 13,530 Critically Endangered Sumatran orangutans (*Pongo abelii*) remain in the wild, severely threatened by unrelenting forest habitat loss and fragmentation in Sumatra, Indonesia. Multiple, viable populations must be in place across Sumatra, and reintroducing ex-captive orangutans to highly-protected forests is a key government strategy alongside complementary forest habitat protection. Since 2011, PanEco, YEL and partners have been establishing an entirely new, genetically-viable population in the 16,000 ha Jantho Pine Forest Nature Reserve (hereafter Jantho) in the Indonesian province of Aceh to expand species distribution and create a ‘safety-net’ population. Despite being highly protected, Jantho remains at risk due to persisting illegal activities. Local people have also experienced multiple livelihood stresses and shocks as a result of the COVID-19 pandemic, putting further pressures on Jantho forest resources and increasing threats to orangutans.

¹ An extension was granted by Eilidh Young

This project plans to reintroduce a further 24 Sumatran Orangutans to Jantho, at a rate of approximately eight individuals per year (baseline 138 released individuals, September 31st 2021), surpassing the minimum population viability target of 150 individuals – achieving a significant species-conservation milestone. In the first six months of the project, we have already released 2 individuals, bring the total number released to date to 140. Through local community empowerment, we are working to protect Jantho through SMART patrols, monitoring and surveying activities, undertaking six patrols missions in the last six months. In addition, we are already working with two Jantho-area communities to establish new honey cooperatives to increase incomes, with one cooperative in Jantho Baru village already officially established and the other in development, this will increase to six by project end.

2. Project stakeholders/ partners

Our project represents a truly collaborative partnership. Partners have not united solely for the purpose of this project but have in fact been working closely together for Sumatran and Tapanuli orangutan (*Pongo abelii* and *Pongo tapanuliensis*) conservation within the Indonesian provinces of North Sumatra and Aceh for nearly 20 years. PanEco and Yayasan Ekosistem Lestari (YEL) work together to implement the Sumatran Orangutan Conservation Programme (SOCP), a multi-faceted programme that works in collaboration with the Nature Conservation Authorities of Aceh and North Sumatra (BKSDA Aceh and BKSDA Sumatera Utara) and the Gunung Leuser National Park Authority (BBTNGL), and under Memorandum of Understanding with the Indonesian Ministry of Environment and Forestry. The SOCP works to conserve orangutans in Sumatra through rescue, rehabilitation and reintroduction of ex-captive orangutans, surveys and monitoring of wild orangutan populations,

YEL were involved in project development processes from the outset. PanEco held all project development meetings with YEL. We do not work in a top down manner, project development and ongoing management is collaborative and bottom-up, based on the strengths and ambitions of YEL. In development processes, PanEco plays the role of bringing together and honing different ideas for achieving conservation impact into a cohesive whole. All indicators and targets were set by YEL themselves.

This collaborative approach continued into project start up and the first six-months of implementation. The project kick-off meeting took place with YEL and YEL were supported by PanEco in implementation planning and the use of the project logframe as a project management tool. Likewise with internal project reporting templates, while developed by PanEco these weren't simply sent out to YEL. Rather a specific meeting was held to explain the reporting requirements, go through the templates, and address any questions as well as plan monitoring processes.

Regular check-in meetings with YEL by the PanEco team have taken place since project outset (approximately every two months or more frequently) either by Zoom or in person where possible, and regular communication takes place via a specific project WhatsApp group. We encourage relaxed and informal communication on the WhatsApp group so that all project staff feel comfortable reaching out to the PanEco team when questions or issues arise.

Dan Montgomery-Hunt, Political Counsellor at the British Embassy in Jakarta made a visit to Jantho to see the project site in November 2021. The project had only just begun at that point, so significant progress was not yet able to be demonstrated but he spoke with project staff about plans and saw first-hand the beekeeping pilot activities, the orangutan release station, and Jantho forest itself.



Figure 1. Dan Montgomery- Hunt, Political Counsellor at the British Embassy in Jakarta visiting Jantho-area communities to learn about beekeeping pilot activities, with SOCP staff. November 2021.

3. Project progress

3.1 Progress in carrying out project Activities

Project management

i. Project start up workshop

ii. Monitoring & evaluation tools design and processes (including design of additional baselines for poverty impacts, to enhance the income indicators we have already set, and educational impacts)

iii. Internal annual reviews of monitoring data

iv. Final review

The project start-up workshop took place on September 24th, prior to the October 1st start date. Monitoring, evaluation (M&E), and reporting tools and the project M&E plan were designed over the course of October and November, with a specific project M&E and reporting workshop taking place on December 16th 2021. For more information on project M&E please see the M&E question below. The first annual review of monitoring data will take place once the project has been running for a period of 12 months (October 2022), quarterly reviews have taken place twice so far.

OUTPUT 1: Rehabilitated (and translocated) Sumatran orangutans are released and monitored in Jantho Nature Reserve

Activity: 1.1 Orangutan release

To date, after six months of project implementation, SOCP have released two Sumatran orangutans (*Pongo abelii*) at Jantho. One of these was a rehabilitated orangutan named Asel who was released on January 10th 2022, and the other was a wild orangutan, Hulu, who had

been translocated from another area² and was released on March 9th 2022. Two rehabilitated orangutans, Sule and Mark Laklak, were transferred to Jantho from the SOCP Quarantine and Rehabilitation Centre on March 3rd and are undergoing further training at Jantho prior to release.

Activity 1.2 Daily post-release monitoring

Post-release monitoring by our SOCP field team is ongoing at Jantho and our team have followed 19 different orangutans on 149 occasions, for a total of 1,168 hours of observation during the first six months of project implementation. While post-release monitoring took place at all feasible opportunities, due to high local COVID-19 cases in October 2021, nearly all post-release orangutan monitoring activities (and other activities where close proximity to orangutans was required) had to pause due to health risks for both the orangutans (great apes are susceptible to SARS-CoV-2) and staff.

Activity 1.3 Orangutan surveys (JRF)

In addition to the post-release monitoring of orangutans reported above, the Jantho Ranger Federation (JRF) conducted surveys of far-ranging orangutan encountered as part of their SMART patrol missions. In the reporting period, the JRF had seven direct encounters with orangutans and 102 indirect encounters (nest findings). JRF activity in November was impacted by heavy rainfall and thunderstorms for the majority of the month. This meant the team was unable to enter the forest as frequently as planned for safety reasons.

Supporting evidence

For supporting evidence in addition to the photos below, including maps, photos and behavioural data please see [Annex 4 Section 1](#) for orangutan release additional documentation, [Annex 4 Section 2](#) for additional post-release monitoring documentation and [Annex 4 Section 3](#) for far-ranging orangutan monitoring additional documentation.



Figure 2. Rehabilitated orangutan Sule is being taken to the transportation cage prior to transportation to Jantho

² Please note translocation of orangutans is only undertaken as a last resort, and under the instruction from the Nature Conservation Authorities, when orangutans are in serious danger from human-orangutan conflict and mitigation attempts have either failed or deemed not possible.



Figure 3. Orangutan Cut Lewes waking up in her nest in the morning. She was followed by the post-release monitoring team during the last reporting period

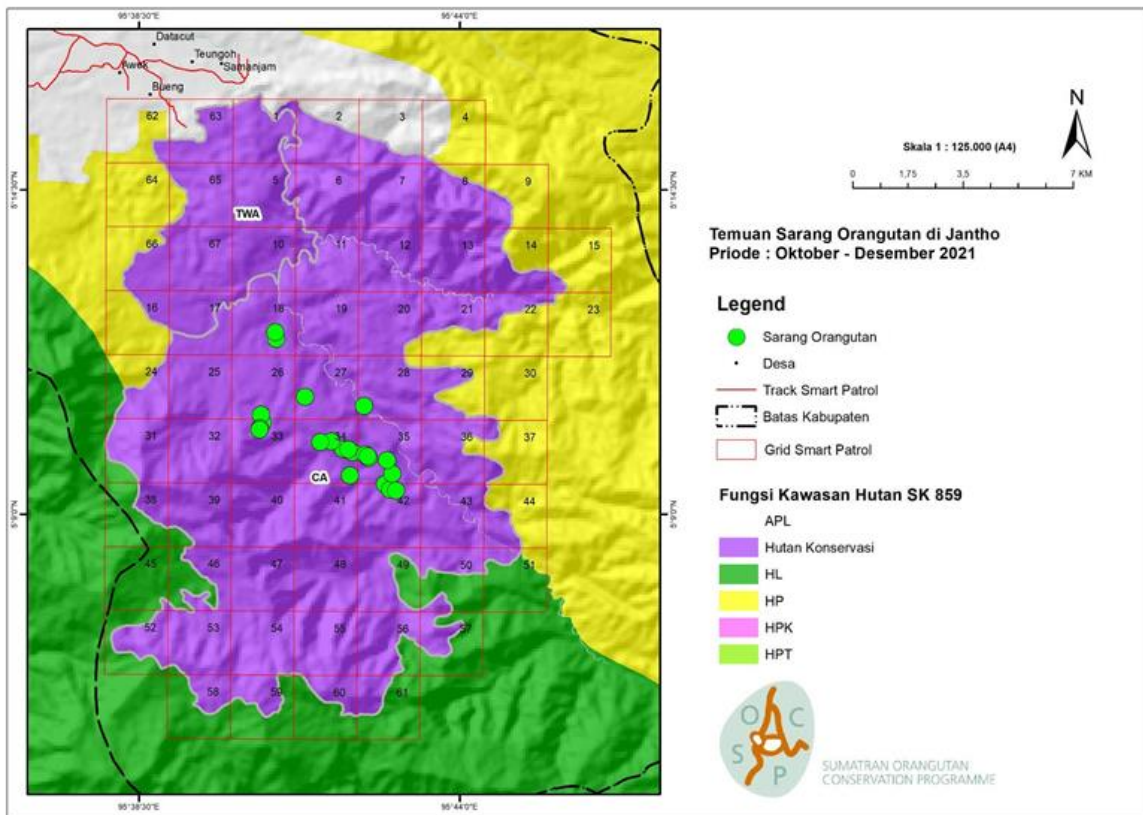


Figure 4. Orangutan nests (Sarang orangutan) found by the JRF in the October – December 2021 period

OUTPUT 2: Jantho Nature Reserve (16,000 ha) is protected by the JRF, throughout the project term and JRF capacity is increased.

Activities: 2.1 Monthly patrol missions take place (average 2 mission/month @ 10 days/mission)

In the six months since the project began, 74 days of patrols by two Jantho patrol teams (37 days by each team) have been carried out since the project began in October 2021, over six missions (3 missions by each team). These took place across October, December (42 days; 21 days each team in Q3) and March (32 days; 16 days each team - Q4), with 232 km of the reserve being patrolled in this time. As reported above, patrol activity in November was impacted by heavy rainfall and thunderstorms for the majority of the month. This meant the team was unable to enter the forest as frequently as planned for safety reasons. Furthermore, in January and February patrol activities were replaced by training activities (one training session for the Jantho team members, reported below, and the team were also required to assist with training of a newly recruited patrol team which will focus on a nearby area).

2.2 Identified threats reported to BKSDA Aceh; and

During the JRF patrols in Jantho, 15 threats were identified in total during the reporting period (10 within the Nature Reserve and 5 within the bufferzone). These were logged and reported to BKSDA Aceh. In addition to protection activities and far-ranging orangutan monitoring, the JRF also conducted routine phenology checks and habitat monitoring as part of their missions.

2.3: Community Ranger training takes place at least 2 events per (calendar) year

YEL conducted one training session for the 18 members of the Jantho SMART patrol team in Q4 as refresher training, covering field data collection and navigation.

Supporting evidence

Patrol track maps (patrol records) and a patrol team photo are given below, for further supporting evidence (photos) see [Annex 4 Section 4](#).



Figure 5. Jantho SMART Patrol team, October 2021

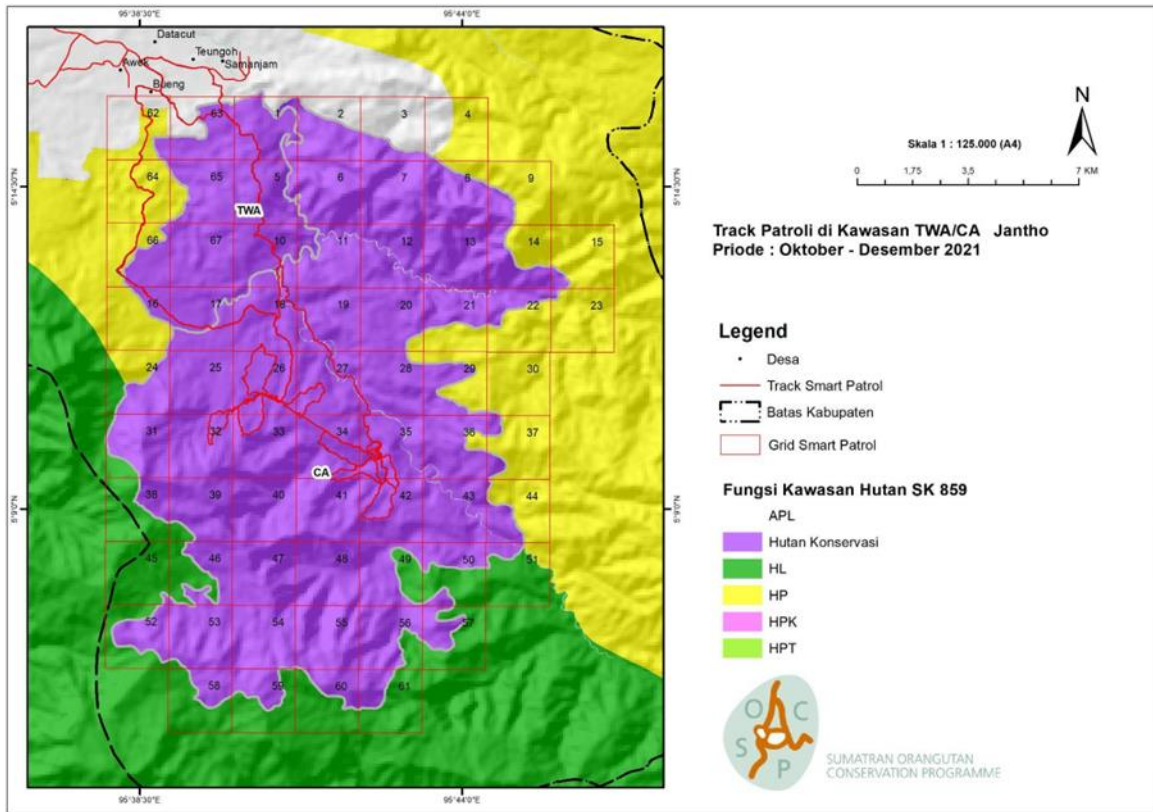


Figure 6. Jantho SMART Patrol routes October – December 2021

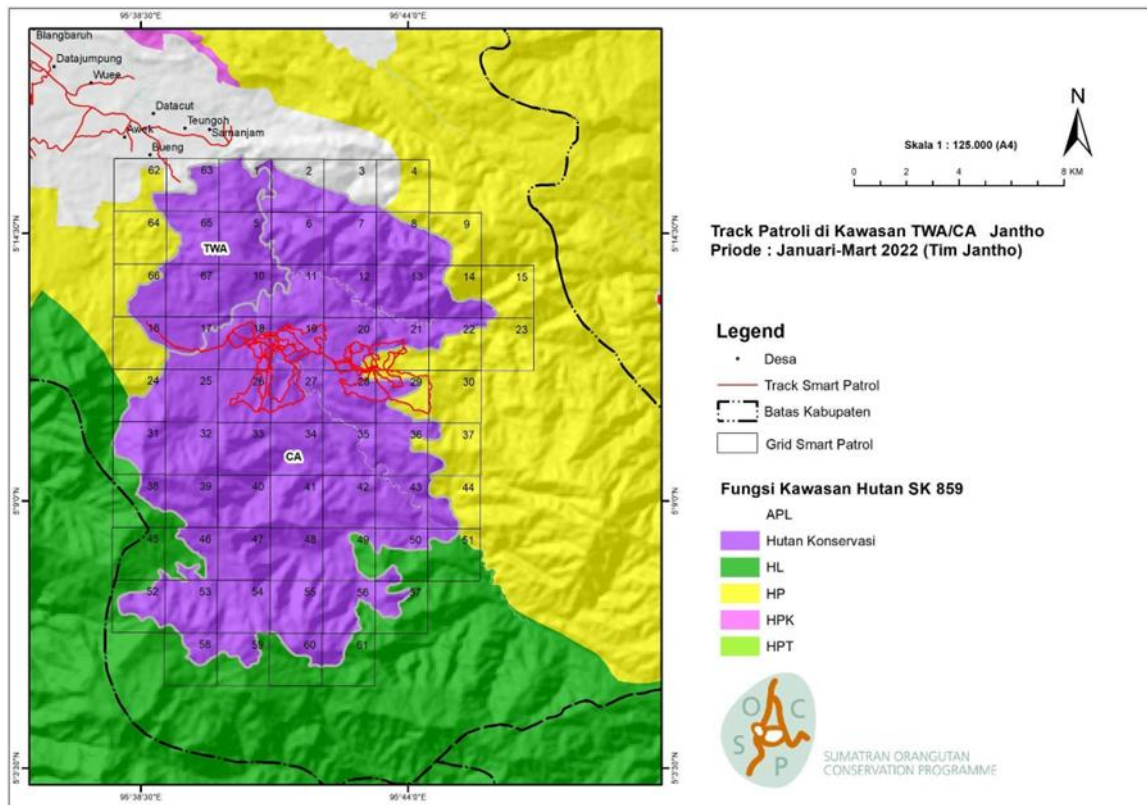


Figure 7. Jantho SMART Patrol routes March 2021



Figure 8. SMART patrol training session at *Balai Edukasi*, February 2022

OUTPUT 3: The six³ project communities have strengthened livelihoods opportunities, capacities and collaboration through newly established, functioning and profitable honey cooperatives.

Beekeeping trials (pilot)

While it was not listed as an activity in our logframe, our plan to conduct a beekeeping pilot to trial different species (taking place over the first 12 months of the project), was detailed in our Stage 2 application cover letter. We are in the midst of conducting these trials focussing on *Apis mellifera* and *Trigona sp.*, with community training being conducted concurrently with the trials. While *Trigona sp.* has proven successful in our project area and is the focal species of the first established cooperative (see below), we are still adapting our approach to *Apis mellifera*.

We received support and advice from an experienced *Apis mellifera* farmer from Riau province who came to Jantho over March 4th – 13th 2022 to evaluate our *Apis mellifera* cultivation practice. On their recommendation we have moved the *Apis mellifera* hives from their current locations to a new location to reduce competition in finding food with wild bee species (*Apis dorsata*).

In response to learning from the bee trials so far, we have worked to establish a nursery for bee foraging plants to enhance the forage naturally available for the bees in and around the community areas. The ‘Fajar Lestari’ Nursery is now up and running, with more than 4,500 plants of 70 species. Fajar is a local Community Ranger from the JRF who was already running his own plant nursesey (*Lestari* means sustainable). Fajar agreed to work with us to expand the scope and size of his nursesey to meet the newly identified needs of the beekeeping project. We decided to site the *Balai Edukasi* (Education Centre; see Output 5) at the Fajar Nursesey due to the level of community interest in the activities at the nursesey, and we saw an opportunity to link these two project elements together and mutually strengthen both.

³ In line with project planning, and activity and indicator targets, we are so far working with two project communities, and in the October 2022 – September 2023 timeframe we will initiate activities with the four additional communities



Figure 9. Mukhlisin, project staff, checking an *Apis Mellifera* frame as part of bee species trails, November 2021

Activity 3.1: Participatory training of at least 12 community members (four community members in by end of September 2022; a further 8 by September 2023) in certified, professional beekeeping including cultivation and post-harvest processing (1st stage)

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Activity 3.3 Participatory training in business management and operations

Training on *Trigona sp.* Cultivation, community group development and business management have taken place in two project villages so far, Jantho Baru and Jantho Lama. This is aligned with our target of working with two villages in the October 2021 – September 2022 period. The training was delivered over six days (three per village) on October 26th – 28th 2021 and March 29th – 31st 2022 for Jantho Baru and Jantho Lama respectively. The two training sessions were attended by 48 participants in total (28 from Jantho Baru and 20 from Jantho Lama) of which 23 of participants were women (10 from Jantho Baru and 14 from Jantho Lama), achieving a 50% female attendance rate. Training was spread across three full days each time (9am-5pm), with the first two days concentrating on *Trigona* cultivation (1st day theory, 2nd day practice), and the third day concentrating on building and developing a beekeeping community organisation. The topics covered in these sessions were:

Technical aspects of *Trigona sp.* beekeeping:

- Site selection and food plants
- Beehive maintenance
- Harvesting processes (including bee-derived products; pollen and propolis)
- Hands on practice of beehive construction maintenance, colony separation, and harvesting

Community group development and business management:

- Community group formation
- Management and development of community business groups
- Internal control systems (cooperative rules)
- Selection of group management
- Preparation of Articles of Association

Beekeeping training was delivered by Pak Mahdi Ismail, Chief of ILMI Aceh (*Inspirator Lebah Madu Indonesia/Indonesia Honeybee Inspirator, Aceh Branch*). Building and developing community organisation training was delivered by Pak M. Taufik Abda, a facilitator for indigenous groups in Aceh.

Our training activities are currently going to plan, and we have succeeded in training a significantly higher number of community members than we had hoped at this stage. We would like to clarify the activity (and subsequent indicator) wording around 'certified, professional beekeeping'. While it was thought possible at time of application, we have since learned that there is not yet a strictly 'professional-level' beekeeping training available within Indonesia. However, we have sourced the best trainers available within Sumatra, with a wealth of community beekeeping training experience and have every confidence in the level of training provided being appropriate for the project aims.



Figure 10. *Trigona sp.* hands-on beekeeping practice, Jantho Baru, October 26th – 28th 2021

Activity 3.2 Local procurement of beehives and supply to community (200 overall, 100 in by end of September 2022; a further 100 by September 2023)

Good progress has been made against this activity. In total we have purchased 235 beehives (surpassing 200 target), 170 for *Trigona sp.* and 65 for *Apis mellifera*. 69 beehives (*Trigona*) have already been distributed to the 23 cooperative households in Jantho Baru. A further distribution will be made to the second community group once they are ready, and we are confident about reaching the September 2022 target. The *Apis mellifera* have been more difficult to colonise and are still on trial under our supervision, as detailed above, and we will distribute *Apis mellifera* hives once we are more confident on cultivation of this species.

Activity 3.4 Facilitation of cooperative model establishment, equitable benefit sharing mechanisms and signing of community conservation contracts

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3.5 Cooperatives are supported with everyday operations, management and technical issues

One Community Cooperative in Jantho Baru village was officially established on December 18th 2021,with 23 household members. The cooperative-management has been formed with the election of *Ketua*, *Bendahara* and *Sekretaris*. The basic rules of the first cooperative group have been established which are currently being reviewed internally by YEL prior to being finalised by a community cooperative expert. Ongoing support to the Jantho Baru Cooperative as they continue to establish themselves is being provided by project staff

Supporting evidence

In addition to the photos below, for futher supporting evidence see [training records](#) and also [Annex 4 Section 5](#).



Figure 11. Beekeeping and community business training in Jantho Baru, October 26th - 28th 2021



Figure 12. Pak M. Taufik Abda facilitating a discussion about honey group formation, Jantho Lama



Figure 13. Project staff Mukhlisin and Ibrahim assisting new beekeepers in Jantho Baru

OUTPUT 4: YEL-owned conservation enterprise ‘SumaBee’ is established, the brand developed and marketed.

Activity 4.1: The SumaBee business is established as a legal Indonesian entity

Activity 4.2: Branding is established, and marketing implemented

Activity 4.3: Target volumes of honey are processed (2nd stage) and packaged

Activity 4.4: Product presence online is established

The bulk of work towards SumaBee development across these four activities noted above will take place in years 2 and 3 (as scheduled, see Output indicator section below). To date, YEL have been working with specialist consultants Stefan Mai and Rolf Holtkamp of Narimpex. Narimpex is a leading company in building honey brands, headquartered in Switzerland and with representative companies in Indonesia. Initial market research to define the target audience and define direct and indirect competitors has taken place, and data and research has been collated in the [initial marketing concept](#).

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.

5.1 Baseline survey measures existing knowledge, attitudes and practices on forest, orangutan and biodiversity protection

The baseline KAP survey on forest, orangutan and biodiversity protection has been conducted for 295 households from 8 different Jantho area communities, data is currently being analysed and will be reported in the next reporting period.

An unexpected, additional result that has been achieved is establishment of the *Balai Edukasi* (Education Centre). *Balai Edukasi* is a by-product of the Fajar Lestari Nursery (explained above under Output 3), that has evolved due to the level of community interest in the nursery. A simple structure was built to provide a central point for visitors who kept arriving to visit the nursery and we decided to name it *Balai Edukasi*, seizing on the opportunity we had to hold people’s interest

and get across further environmental messaging. The centre also serves to provide shelter for people working in the nursery. It will be the hub of our planned education activities going forward, and already has attracted some high-profile visitors (although we've not yet done any promotion or officially opened it to the public!) including the Head of the Agriculture Department at BKSDA Aceh, other BKSDA staff, students from two universities, and local people. We also conducted the JRF refresher training (Output 2) at *Balai Edukasi*.

5.2 Module outline and structure developed

The main content of the education modules is in development, as is the delivery plan. The next steps are the addition of illustrations, photos and graphics to the modules and honing of delivery methods to suit different audience types (adult community members, children, and university students).

5.3 Pre and post-training surveys developed

The evaluation tools are currently in development, in conjunction with the education module development. Updates will be detailed further during the next reporting period.

5.4 Education activities take place across all project communities

Delivery of education activities will commence in the next project period in line with original scheduling.

5.5 Kemah Konservasi takes place

As above, delivery of education activities will commence in the next project period in line with original scheduling.

3.2 Progress towards project Outputs

OUTPUT 1: Rehabilitated Sumatran orangutans are released & monitored in Jantho Reserve.

Indicator 1.1: 24 rehabilitated or translocated Sumatran orangutans successfully released into Jantho forest by project end;

On track. As reported in the Activities narrative section under Output 1, we have released 2 orangutans at Jantho since project start; Asel, released January 10th 2022 and Hulu, a translocated wild orangutan on March 9th 2022.

We aim to release 24 rehabilitated or translocated orangutans in total over the three-year project period, however, this is not a metric that is directly under the project's control. The 'releasability' of orangutans is entirely dependent on the progress and health of individual orangutans undergoing treatment and rehabilitation in our Quarantine and Rehabilitation Centre. Orangutan rehabilitation takes many years to complete on average depending on multiple factors, and in some cases, up to 10+ years. It is not a process that can or should be rushed, and it is entirely possible that we have, for example, zero orangutans moved to Jantho in a specific time period and then five the following month. Furthermore, orangutans are often transported to reintroduction sites as a group with their 'friends' as it minimises stress. During the reporting period, two orangutans, Sule and Mark Laklak, were transferred to Jantho and are now undergoing their final stages of forest training prior to release. Progress-dependent they may be released in the next reporting period, along with any other orangutans planned for transfer.

We based our indicator target on the average numbers of orangutan releases at Jantho over the past five years. Accordingly, we remain confident that the total release number will likely remain aligned with the indicator target by project end.

Indicator 1.2: Daily post-release orangutan monitoring to be conducted for 3 months (aligned to IUCN guidelines) for each orangutan released.

On track. In line with IUCN guidelines, and as reported above in the Activities narrative section, post-release monitoring took place as planned within the last reporting period. The post-release monitoring data reported above (19 different orangutans, on 149 occasions for a total of 1,168 hours of observation) includes Asel as well as orangutans released prior to the start of the project who are still being monitored. The daily release monitoring occurs for at least 3 months for each of the recently released orangutans.

Indicator 1.3: 100% of found far-ranging (previously released) orangutans are monitored as part of JRF missions throughout the project term.

On track. As reported above in the Activities narrative section, the JRF encountered seven far-ranging orangutans and recorded 102 indirect orangutan signs (nests). Each of the seven orangutans encountered (100%) were followed by the team.

Supporting evidence

Two photos are given below, for further supporting evidence including maps, photos and behavioural data please see the Activities narrative section and also [Annex 4 Section 1](#) for orangutan release additional documentation, [Annex 4 Section 2](#) for additional post-release monitoring documentation and [Annex 4 Section 3](#) for far-ranging orangutan monitoring additional documentation.



Figure 14. Two orangutans (Sule and Mark Laklak) arriving in Jantho



Figure 15. Orangutan Broe was encountered and followed by the JRF

OUTPUT 2: Jantho Nature Reserve (16,000 ha) is protected by the JRF, throughout the project term and JRF capacity is increased.

Indicator 2.1: At least 66 JRF missions (22 per [calendar] year; average 10 days per mission) take place including SMART patrols, habitat monitoring, and biodiversity surveys are completed by project completion.

Six missions were carried out across the reporting period (three per team), totalling 74 days overall (37days per each per team). Our indicator target aims for an average of just under two missions per month and therefore we are slightly behind due to patrol missions not taking place in November, January, or February. This was due to the dangers presented by adverse weather conditions in November and followed by necessary SMART team training in January and February (in January the team was deployed to support training of a newly recruited SMART team and in February underwent refresher training themselves). While slightly behind on the targeted number of missions, we have achieved a higher than targeted average number of days per mission. Looking ahead, we have every confidence that we will catch up and achieve the target average number of missions and days overall.

Indicator 2.2: 100% of threats reported to BKSDA Aceh between Oct 1 2021-30th Sept 2024.

On track. 100% of threats encountered (all 15 threats identified by patrol teams during the reporting period) have been reported to BKSDA Aceh, as reported above.

Indicator 2.3: At least 6 JRF training events take place (2/calendar year) within the project period and Community Rangers are confident and using new skills as part of patrol missions.

On track. One JRF training event took place in February 2022, covering field data collection and navigation.

Supporting evidence

Photo provided below, for further supporting evidence see Activities narrative section and also [Annex 4 Section 4](#).



Figure 16. Zulfikar, a member of the Jantho SMART Patrol team, securing a threat found inside the Jantho Nature Reserve

OUTPUT 3: The six project communities have strengthened livelihoods opportunities, capacities and collaboration through newly established, functioning and profitable honey cooperatives.

Indicator 3.1: (i) At least 4 community members (from two communities) are trained in professional, certified beekeeping by end of September 2022; (ii) a further 8 community members (from a further four communities) are trained in professional certified beekeeping by the end of September 2023.

On track. Please see Activities section above for progress towards this indicator and supporting evidence. In summary, to date, 48 people (50% women) from two communities have been trained in technical aspects of *Trigona* sp. beekeeping.

Indicator 3.2: At least 100 beehives are provided to each of the two Y1 communities by the end of September 2022; and a further 100 beehives per community are provided to each of the additional four Y2 communities by end of September 2023.

On track. Please see Activities section above for progress towards this indicator and supporting evidence. In summary, to date, 235 beehives (surpassing 200 target), 170 for *Trigona* sp. and 65 for *Apis mellifera*. 69 beehives (*Trigona*) have already been distributed to the 23 Cooperative households in Jantho Baru.

Indicator 3.3: Two honey cooperatives (minimum 20 households/cooperative) are established, and training provided in business management and operations by end of September 2022; and a further four honey cooperatives (minimum 20 households per

cooperative) are established, and training provided in business management and operations by the end of September 2023.

On track. Please see Activities section above for progress towards this indicator and supporting evidence. In summary, to date, one community honey cooperation has been formed in Jantho Baru village.

Indicator 3.4: (i) Cooperative rules and processes are established, (iii) conservation contracts signed between YEL and each cooperative by the end of September 2023 (2 initial communities) and project end (4 further communities).

On track. Please see Activities section above for progress towards this indicator and supporting evidence. Rules and processes of the Jantho Baru cooperative are in development.

Indicator 3.5: Each honey cooperative produces a minimum of 1 tonne of quality honey annually, by project end.

Progress towards this indicator cannot be assessed at this early stage.

OUTPUT 4: YEL-owned conservation enterprise 'SumaBee' is established, the brand developed and marketed.

Indicator 4.1: At least 2 tonnes of quality honey are purchased (by SumaBee) from the honey cooperatives by the end September 2023; at least 6 tonnes of quality honey are purchased (by SumaBee) from the honey cooperatives by project end.

Indicator 4.2: At least 2 tonnes of quality honey are processed and packaged by SumaBee by the end of September 2023; at least 6 tonnes of quality honey are processed and packaged by SumeBee by project end.

Indicator 4.3: The SumaBee products (2-4 SKUs 60g – 450g) and brand is developed and digitally marketed in line with the SumaBee business planning.

Indictor 4.4: SumaBee products are available through at least 3 online, direct to consumer platforms by the end of September 2023.

Indicator 4.5: SumaBee realises a per item margin of \$3 USD per kg of honey, by project end.

Please refer to the Activities narrative sections above (Output 4) for progress towards Output 4. Data collection for these indicators will not occur until later in the project.

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.

Indicator 5.1: At least 3 community education modules are developed, including presentations and interactive digital media (videos, photos, etc) by end of September 2022. Topics include ecosystem services, conservation and sustainable use;

Indicator 5.2: At least 600 people (minimum 50% women) in 6 communities participate in 5.1 module delivery activities by end of project (End of September 2022: Target 100 people; End of September 2023: Target 500 people (cumulative); end of project: Target 600 people (cumulative));

Indicator 5.3: 100 local youths (across 6 villages neighbouring Jantho) are inspired and unified as forest protectors through “Kemah Konservasi” training by project end. Training topics include tropical rainforest, endangered species, sustainable use of natural resources, threats to biodiversity.

Please refer to the Activities narrative sections above (Output 5) for progress towards Output 5. Data collection for these indicators will not occur until later in the project.

3.3 Progress towards the project Outcome

OUTCOME: The Jantho orangutan population is viable, with Jantho Nature Reserve protected and illegal activities reduced; aided by strengthened local environmental stewardship and enhanced livelihoods through profitable, sustainable honey enterprises

0.1: Jantho orangutan population increased by at least 17% (from 138 to 162 individuals)⁴, reaching and exceeding the minimum viable orangutan population size, by project end

On-track. Progress towards indicator 0.1 is given earlier in the report under the Activities and Output sections relating to Output 1 (Orangutan reintroduction). The known population now stands at 140, an increase of two individuals (1.45%) from a baseline of 138 at project start.

0.2: (i) 25% reduction in annual snares/traps encounter rate per kilometre patrolled across the entire Jantho Nature Reserve from the baseline 0.04/km (2017 - 2019 average); by project end; (ii) 75% reduction in annual snares/traps encounter rate per kilometre patrolled within the critical central river valley area of Jantho from baseline of 0.04/km (2017 - 2019 average) by project end

Indicators 0.2 (i) and (ii) relate to the threat from snares, across the entire Jantho Reserve and within the critical Central River Valley. Thus far, snare encounters are 0.4/km (JRF patrol data), which is the same as our baseline. This is to be expected at this early stage of the project until the community cooperatives, and specifically the conservation contracts activities, are fully up and running and the education aims being realised.

0.3: (i) The average annual number of VIIRS Fire Hotspots across the entire Jantho Reserve over the three-year project timeframe is at least 25% lower (10.8 or fewer) than baseline (14.4; 2012-2020 average) (measured at project end). (ii) The average annual number of VIIRS Fire Hotspots within the critical central river valley area of Jantho over the three-year project timeframe is at least 75% lower (3.6 or fewer) than baseline (14.4; 2012-2020 average) (measured at project end)

Indicators 0.3 (i) and (ii) relate to the average annual number of Fire Hotspots across both the entire Jantho Reserve and the critical Central River Valley. Thus far in the project, we have not experienced any fires as we have not yet entered into a dry season. We may begin to see fires in the next quarter. However, as with snare encounter rate, we would not expect progress at this early stage of the project.

0.4: (i) 25% reduction in canopy cover disturbance across the entire Jantho Reserve from a baseline of 1.8 hectares/year (baseline 1.8; 2002-2019) by project end; (ii) 75% reduction

⁴ Please note the baseline originally given in the application has increased due to orangutan releases in the time between submission and project start. The target has been adjusted accordingly.

in canopy cover disturbance within the critical central river valley area of Jantho from a baseline of 1.8 hectares/year (baseline 1.8; 2002-2019) by project end

Indicators 0.4 (i) and 0.4 (ii) relate to canopy cover disturbance. In the first six months there was 1.29 ha of disturbance across the entire reserve with no disturbance recorded within the central valley. We will need to wait for a full 12-month period to pass before assessing this indicator, and as with the indicators 0.2 and 0.3, we will need to wait until the supporting aspects of the project are fully operational. In the next project period, we will send patrol teams to ground-truth the deforestation spots and determine the cause of the disturbance.

0.5: Average household income of 120 honey cooperative members increases by at least 18% (Baseline: \$1,967) % by project end

We have completed a community baseline income survey for 295 households from eight different Jantho area communities. The results of the survey will update baselines previously given in our application and was necessary due to the time lag between application and project start. The data is currently being analysed and will be reported in the next reporting period.

0.6: Knowledge, attitudes, and practices (KAP) show increased support for biodiversity conservation in all six communities, by project end

We have completed a KAP baseline survey for 295 households from eight different Jantho area communities. The data is currently being analysed and will be reported in the next reporting period.

Supporting evidence



Figure 17. Rehabilitated orangutan Asel being released into the wild at Jantho



Figure 18. A SMART Patrol team member cuts a snare

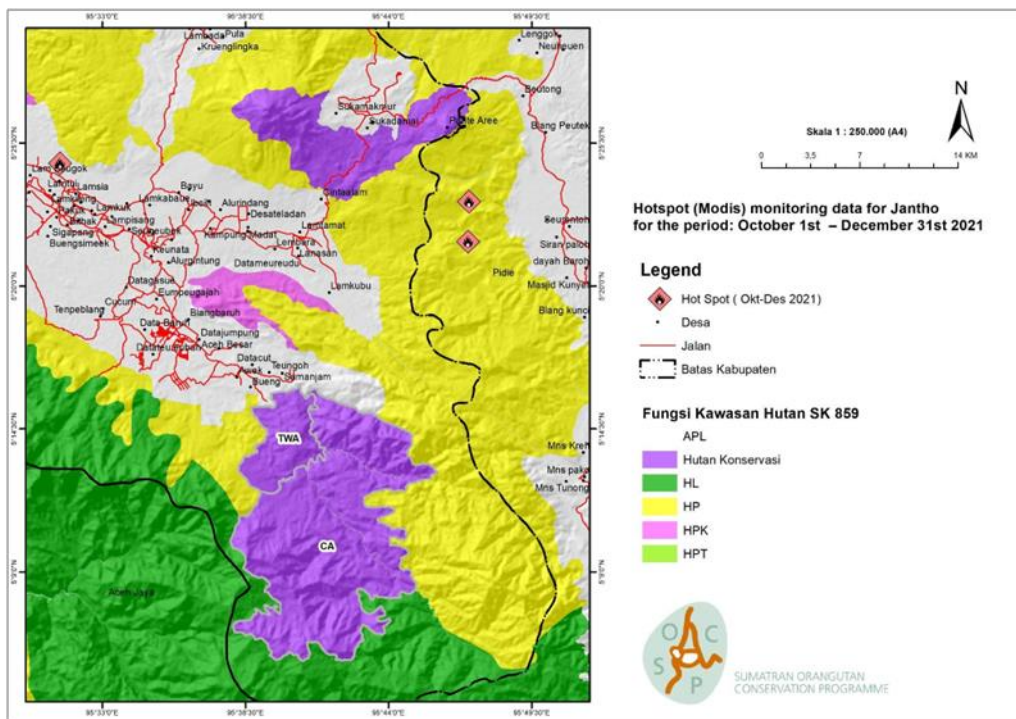


Figure 19. Map showing zero fire hotspot alerts for Jantho in the October – December 2021 period

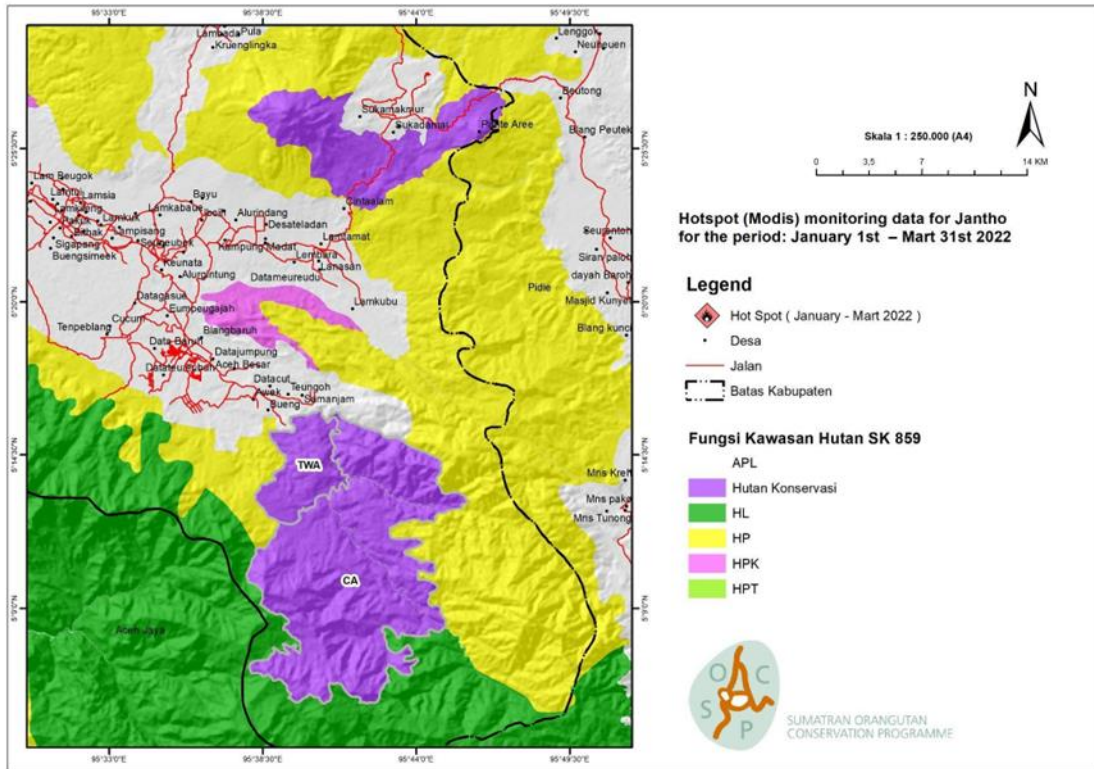


Figure 20. Map showing zero fire hotspot alerts for Jantho in the January – March 2022 period

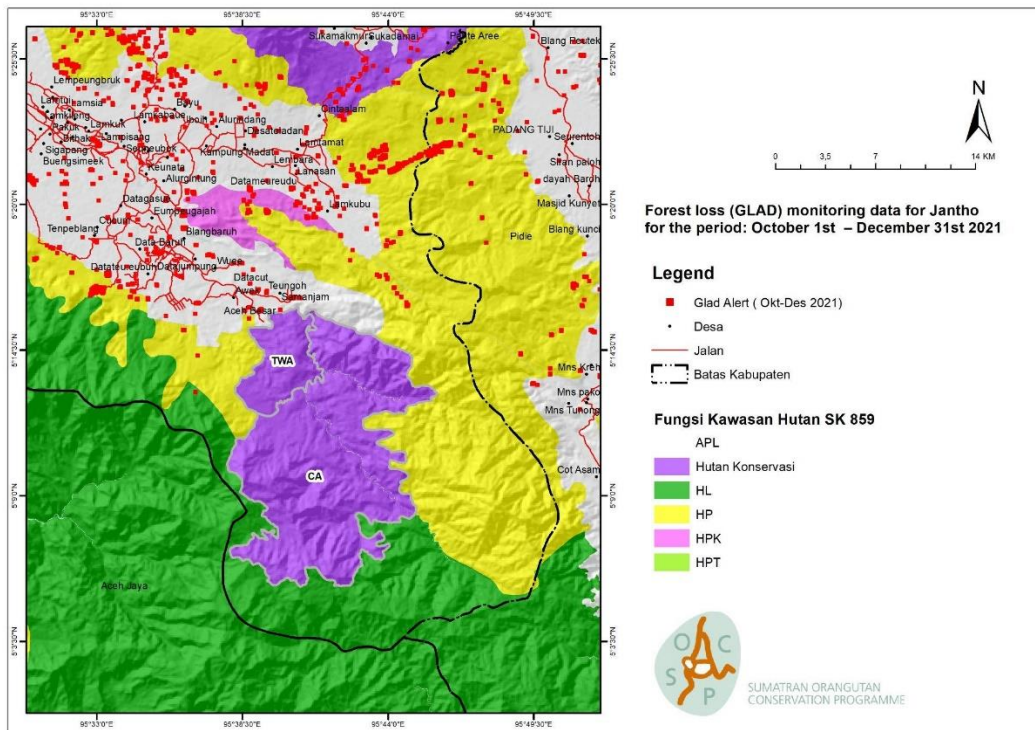


Figure 21. Map showing zero GLAD alerts within Jantho in the October – December 2021 period

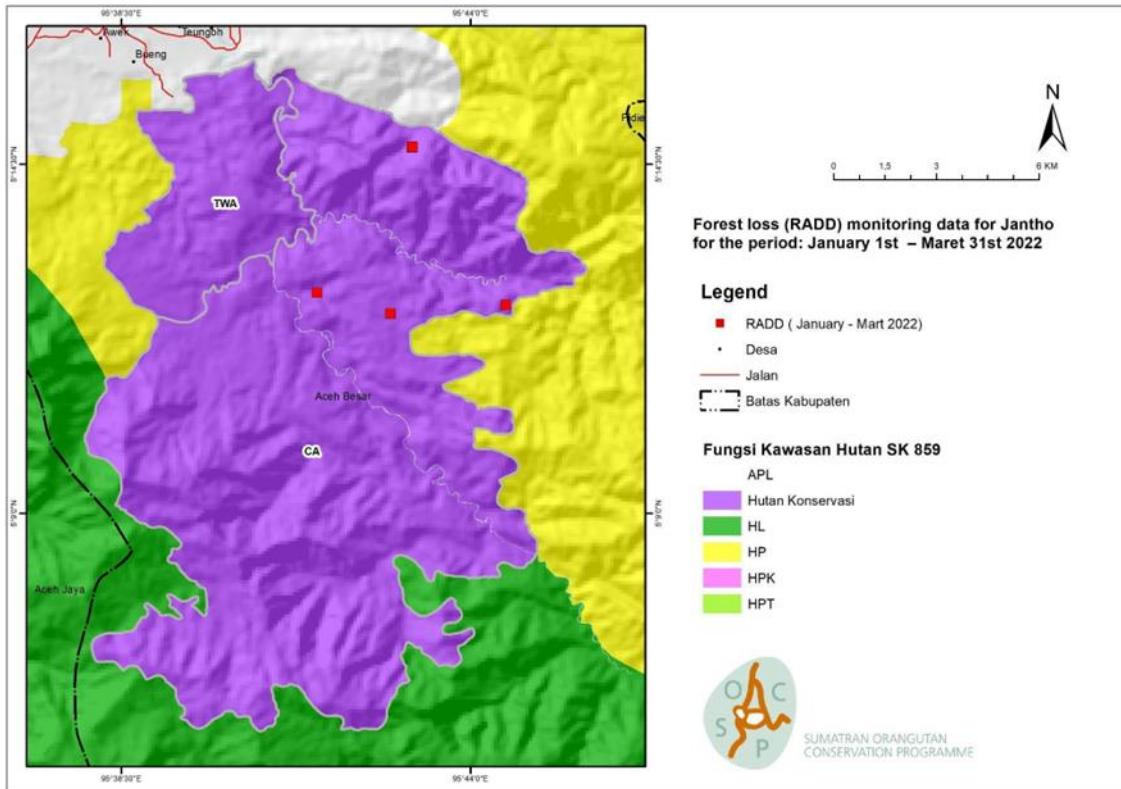


Figure 22. Four RADD alerts (the GLAD servers were under maintenance during this time) totalling 1.29 ha in Jantho in the January – March 2022 period.



Figure 23. The *Apis mellifera* group conducting a routine check on beehives in a new trial location.

3.4 Monitoring of assumptions

OUTCOME Assumptions:

PanEco will continue to have permission to rescue and release orangutans in Jantho Pine Forest Nature Reserve (this relationship has existed for 10 years, is part of ongoing agreements for collaboration and we see no reason why this should cease).

PanEco is in the process of renewing its MoU with the Indonesian Government, as it normal every three-year period. YEL has already renewed its MoU and retains permission to rescue and release orangutans at Jantho.

COVID-19 circumstances or government restrictions do not impede the release of orangutans into Jantho (there are current restrictions in place but we anticipate these lifting by July 2021).

As previously reported, COVID-19 impeded on the delivery of some activities in October due to high case numbers. Please see the COVID-19 Impact section for more details. At the moment, no further restrictions are anticipated, but this will depend on how the pandemic situation evolves.

Jantho will continue to receive protection under Indonesian law, and our partnerships with BKSDA and the Indonesian Government's Directorate General of Natural Resource and Ecosystem Conservation will continue (we see no reason why this should cease and have provided a government support letter).

No changes to report.

Fires within Jantho and their severity, although ignited by people, can be impacted by the weather and if we have particularly wet or dry years then this indicator could be skewed. However, we have opted to measure two other additional indicators of conservation outcomes in Jantho (frequency of 'threat signs' and deforestation rate) and therefore we will be able to robustly track project impact even in the case of weather skewed fire data.

No changes to report.

The impact of the COVID-19 pandemic on livelihoods does not outweigh the desired project impacts; we have made conservative targets as part of the project to mitigate against this risk.

The baseline survey nearing completion will provide further insights in order for the project team to adjust baselines and review targets accordingly. This will be reported on during the next period.

OUTPUT 1 Assumptions

Operational permissions maintained and considerations around COVID-19.

See above

COVID-19 restrictions or safety concerns do not impede monitoring or patrols in Jantho. Most of 2020 was disrupted due to COVID-19 and necessary biosecurity measures related to the resident orangutan population. However, we expect to be functioning normally again by July 2021.

As above, the COVID-19 impact has remained relatively minimal.

OUTPUT 2 Assumptions

COVID-19 restrictions or safety concerns do not impede monitoring or patrol plans in Jantho. Most of 2020 was disrupted due to COVID-19 and necessary biosecurity measures related to the resident orangutan population. However, we expect to be functioning normally again by July 2021.

As reported above, post-release monitoring was impacted by COVID-19 in October.

The total mission numbers are calculated by an average two missions per month taking into account occasions such as Ramadan necessary adjustments to schedules will need to be made.

The necessity of adjustments has been demonstrated by progress reported above, with mission delayed due to necessary training.

OUTPUT 3 Assumptions

Household continue to maintain interest and willingness to participate in honey-enterprise activities, including willingness to support and agree to rules and contracts developed through a participatory process with communities.

The honey cooperatives have generated significant interest from the communities, as anticipated and reported above.

PanEco maintains honey specialist consultants (who has supported SOCP in business planning). PanEco has been able to recruit the honey specialists to support project activities, as reported above.

Market research conducted by the specialist consultant is accurate of the current market situation.

To be reported on later in the project.

OUTPUT 4 Assumptions

600 beehives (100 in each of the six project communities) are producing at least 6 tonnes of honey annually by the end of year 3 - this assumes 9 kilograms per beehive, which is a modest, achievable amount based on our bee-keeping research and technical expert input.

No change, see information reported above.

We assume that we will be able to draw on YEL's existing business expertise, including supply chain networks for processing and packaging developed through its other successful enterprise initiatives, this is in combination with the expertise of Stefan Mai, the specialist honey business consultant we are working with for this project.

No change. The project has been fortunate to benefit from the expertise of Stefan Mai and others.

OUTPUT 5 Assumption

Communities (including youth) are willing and able to participate in our conservation activities. SOCP maintains existing relationships with communities, and we are confident there will be significant interest, particularly in conjunction with cooperative activities.

No change.

3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation

Impact Statement: Multiple, viable Sumatran orangutan populations safely thrive in protected, sustainably-managed forest habitat across Sumatra, stewarded by local communities enriched by sustainable, eco-friendly livelihoods, with biodiversity conservation highly-prioritised across Indonesia.

For the long-term survival of Sumatran orangutans, there must be multiple, dispersed, viable and effectively protected populations within Sumatra (Output 1). To effectively protect these populations, local communities must have sustainable livelihoods and be engaged, actively supporting and ultimately at the forefront of the long-term conservation of Sumatran orangutans and their forest habitat (Outputs 2-5).

Through orangutan reintroduction into Jantho (Output-1), this project is contributing directly to the creation of multiple, dispersed, viable Sumatran orangutan (*Pongo abelli*; Critically Endangered) populations. To achieve effective protection of Jantho, our two-fold approach includes direct forest protection action to deter illegal activities, achieved through JRF patrols and monitoring (Output 2), thereby empowering the local people to lead Jantho protection efforts. This is complemented by sustainable community development and education (Output 4 & 5).

This project is working to economically empower six communities in Jantho (those situated closest to the reserve border and to which we attribute illegal activities found within Jantho), who are primarily rice farmers and are forest-adjacent, vulnerable communities. Our theory of change is that by investing in local communities to build sustainable income sources linked to forest conservation (Outputs 3 & 4) then individuals are less likely to fall back on illegal activities within Jantho Reserve. Conservation aims are further strengthened by conservation contracts with communities (part of Output 3) and environmental education (Output 5).

Empowerment of the six project communities to earn long-term sustainable income will result in robust livelihood impacts. The expected yield per community (>100 hives per community) will be a minimum 1 ton annually from the first year onwards of beekeeping. This will generate at least \$10,000 USD annually per community, representing an average \$500 additional sustainable annual income per household (there will be a minimum of 20 households per cooperative: 120 households in total), and an average 25% increase from baseline average household income. While upskilling community members in professional beekeeping, cooperative management and operations, these enterprises offer a more sustainable future, while disincentivising fall-back on illegal activities.



Figure 24. The Jantho-area communities are rice farmers and are often busy in their paddy fields so our field team will arrange meetings in the field

4. Project support to the Conventions, Treaties or Agreements

By achieving our project outcome “The Jantho orangutan population is viable, with Jantho Nature Reserve protected and illegal activities reduced; aided by strengthened local environmental stewardship and enhanced livelihoods through profitable, sustainable honey enterprises” – and particularly Project Outputs 1 & 2, we will support:

CBD Article 8. In-situ Conservation (d) “Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings”; and (f) “Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies.”

Through project Output 3 & 4 (Honey Enterprises) we are supporting: “CBD Article 8 (e) “Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas.”

Through project Output 2 (Forest Monitoring and Protection) we are supporting: CBD Article 10. Sustainable Use of Components of Biological Diversity (d) “Support local populations to develop and implement remedial action in degraded areas where biological diversity has been reduced.” Through project Output 5 (Community Conservation Education) we will support CBD Article 13. Public Education and Awareness (a) “Promote and encourage understanding of the importance of, and the measures required for, the conservation of biological diversity, as well as its propagation through media, and the inclusion of these topics in educational programmes.”

CITES

Sumatran orangutans (*Pongo abelii*) are a CITES Appendix I listed species. This project enables Sumatran orangutans that have become victims of illegal wildlife trade to be rehabilitated and ultimately have a long-term conservation impact towards the survival of the species by forming vital new populations.

UNFCCC

Through Output 2, in line with Article 4, (d) commitments: “Promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests, and oceans...”

The Ministry of Environment and Forestry is the Indonesian CBD, CITES, and UNFCCC national focal point. PanEco is working in close collaboration and under a Memorandum of Understanding with the Ditjen of Natural Resources and Ecosystem Conservation, a Directorate General under the Ministry of Environment and Forestry, for all our work in Indonesia. In addition, the Jantho programme is run under its own MoU with the Acehese Provincial Department of Natural Resources and Ecosystem Conservation, and liaison regarding this specific project is planned.

5. Project support to poverty reduction

Please reference question 3.5. Direct poverty reduction-related outcomes are anticipated to be realised through activities embedded across the project, including those for JRF community rangers and honey enterprise participants in Jantho-adjacent communities. This includes:

- Our bee-keeping enterprises (Outputs 3 & 4) is beginning the process to empower vulnerable people to increase their household incomes. We are targeting vulnerable people carrying out illegal activities in Jantho, including those economically impacted by the COVID-19 pandemic.
- The forest monitoring and protection activities (Outputs 1 & 2, including activities carried out by the JRF) is providing employment and skills development to local people living around Jantho. Not only does this initiative provide JRF members with a livelihood and income source to support themselves and their family, it is also empowering them to be essential environmental stewards and critical protectors of the forest and orangutans.

In terms of notable achievements, the project was able to make significant progress with the honey enterprises during the first six months of the project, so far engaging 48 people in total including 24 women across two villages (as reported above). As training and other activities progress and expand the honey enterprise establishment process, including reaching even more people, we are confident this will realise measurable livelihoods benefits to the people and communities participating as the project continues. Training activities were also able to further develop skills of JRF team members (as reported above), while also supporting their livelihoods that provide a critical project service i.e., implementing core project activities centred on orangutan and forest protection.

6. Consideration of gender equality issues

We are actively working to ensure women have equal opportunity to access training and empowerment opportunities. We are doing this by specifically scheduling training events on days and times that enable easier female participation. Furthermore, our staff's long-term relationship with these communities eases challenging gender dynamics within the Acehnese cultural context. We have also been specifically working with pre-existing housewife groups in the villages (connections built through pre-project education activities) to promote and encourage female participation in beekeeping training. To date, we are proud to have achieved an average of 50% female participation at the training events.

Likewise, for the educational delivery (Output 5) we will ensure the balanced participation of women and men, and girls and boys. Participant records will ensure disaggregated data by gender is collected and reported.

Our approach contributes to FCDO's strategic vision for women and girls, including economic and political empowerment, by supporting women's meaningful participation in community level cooperatives i.e., economic, decision-making structures. The project review will incorporate key evaluation questions exploring project effectiveness in achieving outcome level changes by gender, through incorporating Focus Group Discussions and/or Key Informant Interviews with both women and men.



Figure 25. Women meeting Dan Montgomery-Hunt from the British Embassy



Figure 26. Women participating in hands-on beekeeping training

7. Monitoring and evaluation

As reported above in the Impact section, we have a clear theory of change, further defined by the connections across our activities and Output level indicators through to our Outcome indicators.

The project's indicators are detailed above in the Output and Outcomes sections, as well as below in our logframe. During the first six months of the project, PanEco and YEL have worked collaboratively to develop a full project M&E plan. PanEco holds overall responsibility for coordination, tracking, and recording of M&E data, while also providing support and guidance for M&E plan development and good M&E practice. Across all indicators, the M&E plan details target

values, measurement methods, MoV, data recording, frequency, partner responsibilities, baseline values and MoVs, and reporting frequency.

The M&E plan is a living document and revisited quarterly as part of PanEco-YEL check-ins and internal project reporting to determine if changes or updates are needed. Various improvements have been made so far as partners have begun to get the project off the ground and honed M&E methodologies. While PanEco takes overall responsibility for the M&E plan, it is held as a Google Sheets document inside a shared GDrive folder entitled “Darwin Project Management” that YEL project staff have access to and is used as a central location for all project information. In Y2 of the project, PanEco has specific capacity building exercises planned around reporting and M&E techniques.

Linked to and based on the M&E plan, PanEco has developed a full project results tracker to record progress towards activities, Output Indicators and Outcome Indicators (this is in addition to quarterly internal narrative reporting). YEL also use the results trackers as project management tools to guide everyday project implementation. To add extra strength to our M&E systems and processes, PanEco has invested in occasional support from an M&E consultant at different points across project implementation.

8. Lessons learnt

As described above in the progress narrative section, one important piece of learning was gained around the availability of bee foraging plants (especially for *Apis mellifera*). In response, we established the Fajar Lestari Nursery. A second lesson was around community time availability. Due to the delayed announcement of Darwin Initiative results and the subsequent shifting of the start and end date of the project, community training has occurred at different times of the year than originally intended. Obstacles were experienced due to the community members’ need to prioritise rice harvesting over training. Of course, we are very happy to flex to these vital community responsibilities, but it does mean that delivery hasn’t been as fast as desired. Reassuringly, this hasn’t affected our targets at this stage. One way we have adapted to these realities was by arranging to meet community members at their rice paddies where possible to conduct activities, such as baseline questionnaires. If we were to plan the project again, we would allocate more time and human resources. This would support adapting activities to incorporate learning (such as setting up the Fajar Lestari Nursery) and general operational management.

9. Actions taken in response to previous reviews (if applicable)

N/A – this is our first report

10. Other comments on progress not covered elsewhere

We feel all aspects are comprehensively covered throughout the rest of the report.

11. Sustainability and legacy

The project is embedding approaches that work together to create sustainable, long-term change. For Outputs 1 & 2 (Jantho reintroductions and JRF forest protection), these initiatives are part of SOCP’s long-term strategic priorities beyond the project lifetime, as they are essential to ensuring Sumatran orangutan species survival. Accordingly, we will build on achievements made through this project while evolving and supporting similar activities in the future through a combination of new and existing partnerships and stakeholders dedicated to species

conservation. We expect to retain many JRF members trained through this project over the long-term, while providing new opportunities for their continued professional development.

The project is establishing self-sustaining honey cooperatives and ‘SumaBee’ through YEL’s business arm, both of which are designed to be managed for the long-term. The latter is rooted in a business model that will be tested and refined throughout the project cycle to ensure sustainability. We will provide on-going training and support to the communities to further develop the cooperatives beyond the project lifetime. YEL and PanEco will support SumaBee until profitability through unrestricted fundraising (of which we are confident based on previous years and forecasting); based on our business planning we expect profitability by project end. It should be noted that as the project has only been running for a period of six months, described here is how we intend to ensure the legacy of our project relating to the new cooperatives and SumaBee. As the project continues to develop over the next two years, we will be able to report more fully on the sustainability of these aspects.

12. Darwin identity

While PanEco has posted about the project supported by the Darwin Initiative in several social media posts relating the project so far, as have YEL, this is an aspect of the project we intend to realise more fully in Y2. Due to the delayed start of the project, stemming from the delayed announcement of results, it’s been really challenging to quickly start-up the project as planned. Therefore, aspects such as promoting the Darwin Initiative identity have taken a back seat. However, we have some communications materials currently in development for our website and a suite of social media posts.

The Darwin Initiative funding contributes to a larger programme, in concert with several other donors. However, as Darwin Initiative is the primary donor, we will promote it distinctly in project posts and materials. We will have more to report on this by the next reporting period.

13. Impact of COVID-19 on project delivery

COVID-19 has not had a large impact on project delivery so far. At the onset of the pandemic in 2020, the SOCP needed to react very quickly and modify all our health and safety procedures, especially those relating to direct orangutan work, due the risk posed to great apes by the SARS-CoV-2 virus. We implemented a host of biosecurity measures right across multiple programmes and these remain in place today.

As reported earlier, there was a high number of COVID-19 cases in the Jantho area in October, and this impacted our ability to post-release monitoring due to the risk of transmission to orangutans. We do not anticipate further delays due to COVID-19 at the moment, but this will depend on how the pandemic continues to evolve (new variants, etc.)

The development of sustainable livelihoods, which can act as an alternative to income generating activities such as the illegal wildlife trade, will reduce the risk of future pandemics.

14. Safeguarding

Please tick this box if any safeguarding or human rights violations have occurred during this financial year.

If you have ticked the box, please ensure these are reported to ODA.safeguarding@defra.gov.uk as indicated in the T&Cs.

PanEco’s safeguarding policies and procedures are in development and we aim to be able to report progress further in the next reporting period. These policies will set out how we will ensure and support downstream partners to carry out project implementation in a way that aligns with our principles.

15. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2021 – 31 March 2022)

Project spend (indicative) since last Annual Report	2021/22 Grant (£)	2021/22 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)	██████	██████	██████	Our Technical Director position was vacant for four months of the project, other staff time was increased.
Consultancy costs	██████	██████	██████	
Overhead Costs	██████	██████	██████	
Travel and subsistence	██████	██████	██████	
Operating Costs	██████	██████	██████	
Capital items (see below)	██████	██████	██████	
Others (including M&E)	██████	██████	██████	Underspend on M&E due to project staff who are allocated under staff costs undertaking the majority of M&E responsibility, and it therefore not coming under ‘Other’ according to the Finance guidance. For Y2 we would like to adjust to reflect this in staff costs
Others (see below)	██████	██████	██████	
TOTAL	112,176	107,731.53		

16. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

I agree for the Darwin Initiative Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here).



Figure 38. Trainer, Pak Madhi, teaching participants during hands-on practice, October 2021

- **Checklist for submission**

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the correct template (checking fund, type of report (i.e. Annual or Final), and year) and deleted the blue guidance text before submission?	Yes
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	