Department for Environment Food & Rural Affairs

DARWIN INITIATIVE

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Darwin Initiative Main and Post Project Annual Report

To be completed with reference to the "Writing a Darwin Report" guidance: (http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Submission Deadline: 30th April 2020

Darwin Project Information

Project reference	25-022
Project title	Restoring Coastal Fisheries through Sustainable Development in Indonesia
Country(ies)	Kubu Raya, Kalimantan Barat, Indonesia
Lead organisation	Yayasan Planet Indonesia
Partner Institution(s)	Oceanwise Australia
Darwin grant value	£388,560
Start/end dates of project	1st July 2018 to the 31st March 2021
Reporting period and annual report number (1,2)	Apr 2018-Mar 2019 AR1
Project leader name	Dr. Ben Fitzpatrick
Project website/blog/Twitter	www.planetindonesia.org, www.oceanwise.com.au, https://www.facebook.com/planetindonesia1/ https://fb.me/OceanwiseAustralia
Review date	July 2019

1. Project summary

Mangroves are critically important marine ecosystems both for the unique biodiversity that they support and for the host of benefits that they provide to coastal communities. These benefits include food security from small scale fisheries, coastal protection from storms, shore stabilization, water filtration, and production of durable building materials and fuelwood. Hundreds of millions of coastal people rely on mangroves for their day-to-day livelihoods, yet in many tropical coastal developing states mangroves are being deforested at a rate of 1-2% per year; in Southeast Asia deforestation rates averaged 1.8% between 2000 and 2012. Mangrove loss is eroding coastlines and coastal livelihoods, as well as the capacity of coastal people to face the impacts of climate change. Indonesia possesses the largest coverage of mangroves on earth, yet aquaculture and coastal development, unsustainable timber harvesting and oil palm

encroachment have led to the loss of 40% of Indonesia's mangroves over the last three decades.

Indonesia is the world's second largest seafood producer, with small-scale fisheries accounting for an estimated 92% of national fisheries production and underpinning the food security of an estimated 260 million people. Mangroves provide essential nursery grounds for fish and marine invertebrates, many species that later migrate to coral reefs and the pelagic zone, and many heavily fished species such as mud crab (*Scylla serrata*) and wild tiger prawn (*Paneaus monodon*). Thus, the deforestation and degradation of mangroves poses an existential threat not only to mangrove-dependent fishing communities, but also to broader small-scale fisheries and other ecosystems.

1.) Issues identified:
Collapse in fish stocks: Communities detailed a decline in fish, crab, and shrimp populations that had directly led to reduced household income. This stemmed from lack of clear fishing grounds, inter- and intra-village conflict, and high rates of migrant fishermen from other areas entering the fishing grounds. Communities also identified the increased use of poison and industrial near-shore fishing in the area.
2.) *Lack of access to government services:* Due to the rural nature of these villages, communities noted that access to education, health, and other government services were almost non-existent. For villages that did have community health clinics and schools, many were not staffed or had been built by government agencies but then never staffed or equipped.
3.) *Forest Tenure and Governance*: Mangrove forest tenure varied greatly across the villages but most communities had been involved in a prior program that returned management rights of mangrove forests back to the villages through the Indonesian Government Social Forestry Scheme. However, the program funding had ceased and some villages had clear forest tenure while others did not know the status of their forest-use rights. In addition, no forest zoning or management plans had been developed and many communities felt there was no benefit from Social Forestry scheme.
4.) *Mangrove Loss:* Communities identified that illegal logging, aquaculture development, and logging for firewood was a cause of conflict between and within villages by resource-users. Resource-user rights were still unclear and despite some villages having management of their forests restored through the Social Forestry scheme, outside users often illegally logged and cleared within their mangrove forest areas.
5.) *Lack of 'Bargaining Power' and Supply Chain Issues:* Communities identified that they had no systems in place that allowed for fishermen or other producers to negotiate with middlemen on commodity prices. Many villages noted the lack of communal structures and noted failed past attempts to develop fishermen cooperatives and social business schemes. This led to a dependency on middlemen who often dropped prices during peak seasons and exploited resources, users and producers across the landscape.
6.) *Lack of Financial Services and Institutions:* Communities also identified that many villages had no access to financial services (loans, savings, etc). However, the majority of villages that did felt they had been exploited by Credit Unions, Banking Schemes, and loan sharks that often lured villagers into loan programs with high interest rates. This caused a negative feedback loop that drove many individuals into logging and exploitative activities to repay their debts.

Our Model: At Planet Indonesia together with Oceanwise Australia, we address the issue of social insecurities *and* lack of community-led governance that drives the exploitation of coastal and marine resources. We create village-led partnerships to catalyze sustainable governance of mangroves and small-scale fisheries (SSF) while providing services that address the root causes of SSF collapse – inequalities, food security, and lack of governance structure.

Planet Indonesia and Oceanwise's model was developed to:

(i) Create/strengthen a new/existing self-sustaining community-based governance structure to manage local mangrove natural resources (later referred to as a *Conservation Cooperative)*,

(ii) provide short-term benefit for villagers who are members of this governance structure, creating fast action to get individuals on-board,
(iii) provide services within this governance structure that address why individuals are overharvesting for long-term investment, and
(iv) develop a model that is highly adaptable and can be fit to each communities needs

We create **Conservation Cooperatives (CCs)** - community-led organizations that engage in the management of small-scale fisheries and coastal ecosystems. These CCs are the platforms where we administer services to communities to spark interest, reduce opportunity costs of conservation, and address the root causes of coastal degradation and the collapse of fisheries.

As membership increases three things happen:
(i) more villagers gain access to much needed services that are designed to decrease overharvesting of mangrove resources,
(ii) more villagers are engaged in a governance body *(Cooperative)* that is designed to decrease overharvesting of mangrove resources, and
(iii) the cooperative grows, meaning more funds and chances for a self-sustaining future.

2. Project partnerships

YPI are implementing this project in partnership with Oceanwise Australia. Darwin funding has enabled YPI to scale up a Conservation Cooperative Approach previously piloted with 200 households over 2 years. DI funding enables the scale up to a further 600 households. No other organisations or Indonesian government departments are listed formally as project partners.

The primary stakeholders are the local communities themselves who benefit from the services provided by YPI and who live in the target areas for mangrove restoration. The report notes (and this is backed up on the website information) that community stakeholders have been involved in decision-making throughout the program - from choosing to join, to engaging in trainings provided, to helping identify mangrove areas for temporary closure and monitoring progress. There are a number of processes from participatory mapping exercises to creating village-level agreements related to periodic closures and mangrove forest use.

YPI do collaborate with local village level government (evidence is provided in supporting documents and MOU's signed with village government) and with regional level government. There have been a number of meetings and planning sessions with the District Government of Kubu Raya, The Departments of Fisheries, of Forestry, of Natural Resources at both Kubu Raya level and at West Kalimantan level, and the Department of Marine Affairs and Ocean Biodiversity – Kalimantan Office. YPI have plans to establish a 5-year MOU with the District Government of Kubu Raya as after consulting with multiple agencies, it is most effective for the District Government to enter into an official partnership with us as they oversee all related government offices for the District of Kubu Raya where our project is based. No concerns are noted with the stakeholder engagement or in working with government or local communities.

3. Project progress

3.1 Progress in carrying out project Activities

Activities relating to output 1: After year 2 of the grant we have all of the target villages enrolled in our programs (Sungai Nibung, Seruat II, Mangkalang Jambu, Mangkalang, Dabung, Kuala Karang). These village-led partnerships are needed to meet the first output of 15,000 ha under community management. Temporary mangrove reserves have been implemented in all but Dabung and Kuala Karang, although fisher in these villages have been included and involved in previous closures.

Activities relating to output 2: Output 2 is about the increased harvest size and so the activities relate to the data and knowledge sharing and community socialisation of the target villages. Data from the first 4 closures points to improvements in fisher harvest rates.

Activities relating to output 3: during year 2 we conducted a large planting in abandoned aquaculture ponds and are on track to meet this output.

Activities relating to output 4: Baseline data for households was collected upon enrolment in the programme. And the SME training in administration was completed. We have nearly met our 3 year target in the first two years.

Activities relating to output 5: In year two we recruited a second class, worked with partners to ensure monthly tutoring, and they will take the national exam in April 2020. Of the class from year 1, who took the exam in April 2019, 85% graduated.

Activities relating to output 6: we have conducted initial trainings, and 18 health ambassadors are active in the project site providing monthly outreach to improve health provisions and information.

3.2 Progress towards project Outputs

Output 1: Mangrove Forests (15000 ha) protected under temporary mangrove reserves

At the end of year 2 we are close to meeting this output. Below is patrol data showing coverage of the program:

4th closure (August – October 2019)

Total patrol members: 25 individuals (villages: seruat dua 5 individuals , mengkalang 10 individuals, mengkalang jambu 10 indivdiuals)
Total villages patrolling: 4 villages
Total villages involved : 6 villages

Individuals trained in the *Spatial, Monitoring and Reporting Tool (SMART)*: Seruat Dua 4 individuals, Mengkalang Jambu 9 individuals, Sungai nibung 2 individuals
Total Village-level patrol units using SMART: 3 patrol units (Seruat Dua, Mangkalang Jambu, Sungai Nibung)

5th Closure March – June 2020
Total patrol members: 26 individuals
Total villages patrolling: 4 villages
Total villages involved : 6 villages
Individuals trained in the *Spatial, Monitoring and Reporting Tool (SMART)*: 32 individuals (12 orang Seruat Dua, Mengkalang 8, Mengkalang Jambu 2, Sungai Nibung 10)
Total Village-level patrol units using SMART: 4 patrol units (Seruat Dua, Mangkalang Jambu, Sungai Nibung, Mangkalang)

The two final villages Kuala Karang and Dabong have been involved in closures during year 2. However, as official enrollment and cooperatives/SMEs will be formed in year 3, and are the principle management unit, they do not yet have patrol teams.

Output 2: Increased harvest size by fishermen enrolled in program in TMRs zones.

Closure number 3 took place at the end of year 1, however, data had not yet been analysed and therefore we will share the data below. CPUE in this case was calculated kg / hour.

Closure Number 3
Villages Involved: Sungai Nibung
Closure Date:21 Nov 2018 – 21 Feb 2019

	control	treatment	Average
Before	0.122374589	0.206962023	0.126219473
After	0.202270239	0.228539504	0.209025193

Results from closure three show an increase in both control and treatment. After closure three we explored additional ways to analyze CPUE. In particular, the effort, or denominator of the parameter. Data collectors in the field conveyed that many fishers did not keep track of time and team members felt calculating CPUE as kg / hour was not an accurate estimation. For the fourth

closure that took place from August – October 2019 we included an additional variable for the *number of crab traps used*. This was recommended by the fishermen as the number of crab traps is directly proportional to the size of their harvest, and therefore they felt they had more accurate estimations.

Closure Number 4
Villages Involved: Sungai Nibung, Seruat Dua, Mangkalang, Mangkalang Jambu
Closure Date:21 August – October 2019

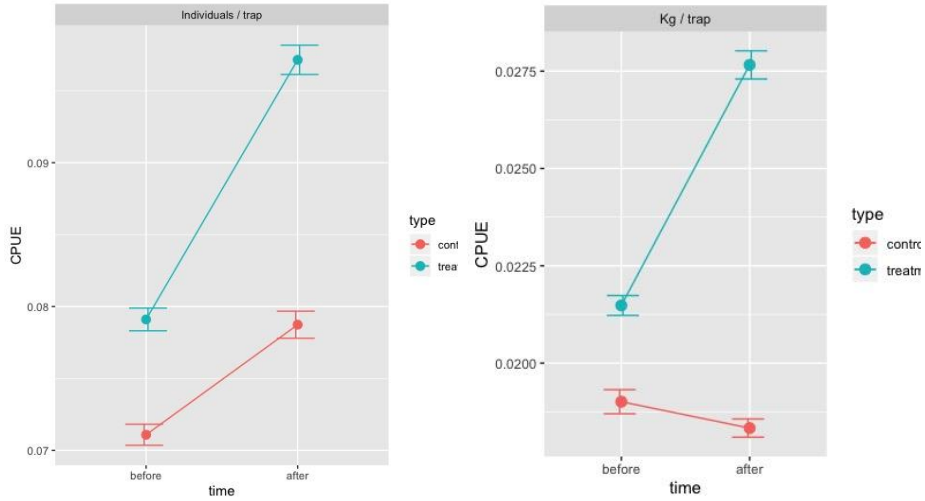

Figure 2 and 3: Show CPUE calculated in two ways, number of individuals and total weight (kg) per unit effort which was defined as 1 crab trap. Rivers that were closed are in blue (treatment) and non-closure rivers are in pink (control)

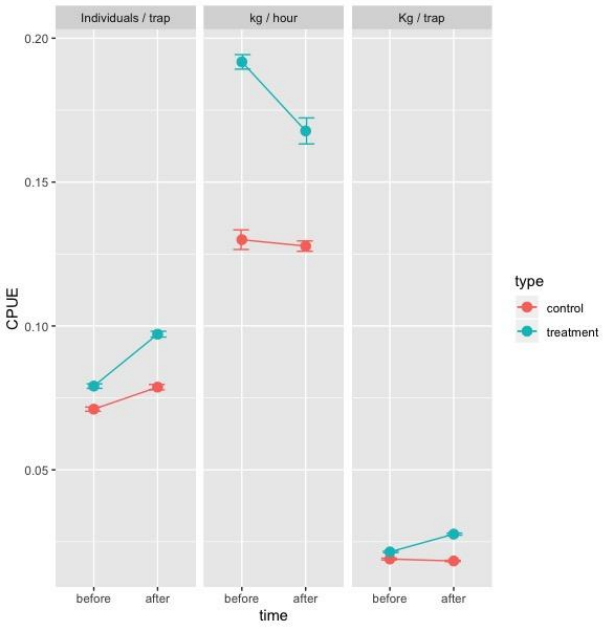

Figure 4: Shows the new method for estimating CPUE compared to the method previously used in the first three closures. This is a crucial finding as calculating CPUE from an hourly-based effort (e.g. kg / hour) yielded different estimates than per trap.

Output 3: Degraded forest patches and shrimp ponds enhanced and restored with mangrove plantings.

Total seedlings: 18,000 seedlings collected in nursery of which 15,950 survived and 2.050 died.
A total of 15,950 seedlings were planted
Community Members Involved: 25 individuals were involved on 5 teams
Planting Dates: 9-12 September 2019
Area: 3.58 hectares of abandoned aquaculture ponds

Output 4: Small Micro-enterprises are established to economically empower local fishermen while engaging them in the TMR system.

As of March 2020 we are just below our 3 year goal of 600 households reached through SMEs/Cooperatives.

Cooperatives/SMEs	Village	Membership
Sungai Nibung Sejahtera	Sungai Nibung	98
Tj. Ruu Sejahtera	Sungai Nibung	37
Harapan Bersama	Mengkalang	134
Jambu Mandiri	Mengkalang Jambu	168
Seruat Dua Maju Bersama	Seruat Dua	111
	Total	548 (346 men and 196 women

Savings data in Cooperatives/SMEs:

Cooperatives/SMEs	Village	Savings (RP)	Assets (RP)
Sungai Nibung Sejahtera	Sungai Nibung	78,311,000.00	83,244,000.00
Tj. Ruu Sejahtera	Sungai Nibung	31,770,000.00	34,159,852.71
Harapan Bersama	Mengkalang	42,084,000.00	93,584,686.93
Jambu Mandiri	Mengkalang Jambu	50,010,000.00	101,770,034.19
Seruat Dua Maju Bersama	Seruat Dua	53,541,000.00	104,661,224.01
	Total	255,716,000.00	417,419,797.84

Loans data from Cooperatives/SMEs from 33 men and 13 women with active loans:

Cooperatives/SMEs	Village	Loan Amount	Amount Repaid	Amount Under Repayment Process
Sungai Nibung Sejahtera	Sungai Nibung	49,200,000.00	24,815,000.00	24,385,000.00
Tj. Ruu Sejahtera	Sungai Nibung	37,000,000.00	19,690,000.00	17,310,000.00
Harapan Bersama	Mengkalang	1,800,000.00	0.00	1,800,000.00
Jambu Mandiri	Mengkalang Jambu	400,000.00	40,000.00	360,000.00
Seruat Dua Maju Bersama	Seruat Dua	3,400,000.00	253,000.00	3,147,000.00
	Total	91,800,000.00	44,798,000.00	47,002,000.00

Loans have been taken out to support a number of local livelihoods and income generating activities. All loans have less than 1% interest applied to them on the total amount. This interest rate is set by the villages themselves and profits made are used to support the cooperatives/SMEs

Sungai Nibung: loans mostly taken to provide start-up capital for local businesses. Some of these have been selling day-to-day goods, opening a small café, opening a phone credit / minutes business, buying a new boat motor, fixing a boat motor, among others.

Tj. Ruu: loans mostly for fishermen activities and equipment.
Mengkalang: loan to start a new corn and coconut business
Mengkalang Jambu,: loans for health reasons
Seruat Dua: loans mostly to provide start-up capital for income generating activities.

Output 5: Literacy program continues running to improve capacity and job market access for women and youth.

Total community members enrolled in year 2: 202 (144 women ; 58 men)
Graduation rate from year 1 participants at national exam (April 2019): 87%
Graduation rate from year 2 participants at national exam: Exam is in April 2020 and will be reported in year 3

Output 6: Family Planning and Health Sanitation program established to improve access for women/youth.

Total Active Health Ambassadors: 18 Women
Total Trained Health Ambassadors: 33 Women
Total Individuals who have received PHE training: 31
Average number of household visits conducted by ambassadors: 120

3.3 Progress towards the project Outcome

The principal outcome of this project is to 'reduce socio-economic inequalities in coastal communities through improving mangrove forest management and restoring coastal fisheries." We believe based on the data presented thus far, that we are on track to achieve this outcome. We are seeing improvements in income, education, health and overall human well-being as a result of our project through preliminary results. From an environmental perspective, mangrove forest loss remains low, fishers harvest rates are improving, and movement towards a Locally Managed Marine Area is gaining ground. Based upon the indicators associated with the desired outcome from our original logical framework, achieved results and outputs suggest the outcome will be reached during the project period.

3.4 Monitoring of assumptions

Outcome:
1.1 local communities are open to new resource management plans in the face of decreasing fisheries and income
1.2 local communities are open to reforestation efforts on degraded mangrove habitats.
1.3 local women, youth and men are open to business, literacy health care and conservation programs
1.4 no natural disasters such as storms, droughts or climate change related stochastic events impact on or destroy coastal areas (e.g. tsunami, etc)

We feel that these risks and assumptions related to our outcome still remain true and are closely monitored.

Output Assumptions (1-6).
1.1 community patrol units are honest and fair in local law enforcement
1.2 most fishers abide by the closure with little to no infringements.
2.1 outside fisherman do not enter area during closure destroying population (note: role of patrol teams to protect area during closure)
2.2 after area is opened, there is not an influx of fishermen from other areas causing harvest rates to decrease because of overfishing
3.1 communities are open to reforestation on degraded lands
3.2 communities allow for enhancement plantings on aquaculture ponds/areas
3.3 stochastic environmental events do not destroy reforestation areas / increase seedling mortality

4.1 communities are active in business group and open to new methods of financial management
5.1 those enrolled in literacy program remain active in attending sessions
5.2 local tutors are impactful and effective
5.3 community members remain motivated about the prospects of graduating from program to receive government certified certificate to increase placement in local work force
6.1 local women acknowledge and are open to new reproductive healthcare services
6.2 health ambassadors are active in motivating community members
6.3 contraceptives are used correctly

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

In our year 1 annual report we reported that we had worked with a MEL consultant to develop a participatory impact assessment. Since that time we have analysed the results and a paper is under the second round of review in the journal *People and Nature* via the British Ecological Society. In year 3 we will replicate this participatory impact assessment (PIA) in all the villages we are currently working in.

The results from Sungai Nibung can act as a case study and indicator for the project's impact and intended outcomes. A more extensive description of the methodology can be found in the appendix, in the report body we will highlight major findings.

Through the participatory assessment in Sungai Nibung, community members said they had experienced an improvement in income, health, and education, while also observing a reduction in mangrove forest loss and improvement in coastal fishery harvest rates. This overarching theme appeared across both FGDs and were conducted with village leaders and community members (mixed men and women). We validated the two environmental outcomes with a forest cover analysis and fishery independent data, which supported outcomes identified in the PIA by community members. This provides more confidence in the ability for the PIA to detect environmental outcomes, and verifies that the method is capable of assessing the impact of project interventions.

For social and economic outcomes no independent data of the PIA was collected to affirm that these results reflect change beyond group perception (e.g. repeated household surveys, one-on-one interviews). However, Bennett (2016) argues that it is positive perceptions of change from resource-users that ultimately ensures the support of local constituents thus enabling the long-term success of conservation. This may suggest that despite our lack of complementary data to confirm health, education, and economic outcomes identified by PIA members, detailing that the positive perception of these changes identified by constituents may be equally if not more insightful (Bennett N.J. 2016).

So far our achieved-results and findings suggest our project is on track to create positive impact to conserve biodiversity and reduce poverty in rural coastal communities in the Kubu Raya Regency of Indonesia.

4. Contribution to the Global Goals for Sustainable Development (SDGs)

We believe or project directly contributed to the following SDGs:
SD Goal: Climate Action – by protecting mangroves and reducing emissions from carbon-rich forests
SD Goal: Life Below Water – improving fish stocks
SD Goal: Life On Land – by protecting mangroves and reducing loss the project directly contributes to important species (such as the Endemic and Endangered Probiscis Monkey) that use these forests
SD Goal: Good Health and Wellbeing & Gender Equality – by improving health provisions, income generating options, and access to education for men and women in the project site
SD Goal: No Poverty – by improving resilient livelihoods, diversifying livelihoods, and enhancing access to income generating activities via SMEs/Cooperatives

5. Project support to the Conventions, Treaties or Agreements

To address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society: our program embraces a "bottom-up" approach, we provide community-based services in three sectors (business, education, and healthcare) in exchange for the protection and restoration of ecosystems. We create bi-lateral partnerships at the village level to help communities overcome poverty while engaging in new conservation and resource management plans, directly addressing Aichi targets relating to increased awareness and positive incentives for biodiversity conservation.

To reduce the direct pressures on biodiversity and promote sustainable use: It is imperative that community-led solutions be engaged that combine sustainable development with conservation. Our mangrove reserves program creates incentives for communities to more sustainably manage mangrove forests through restoring fish habitat and crab, shrimp, and estuary fisheries - the main livelihood for these coastal communities. We incentivize community adoption of temporary mangrove reserves [TMRS], mangrove and shrimp pond reforestation.

To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity: This grant will be a stepping stone to assist progressing implementation of our Temporary Mangrove Closure model in 1 village, and expand to 4 neighboring villages. Once communities become familiar with the model, we will move into a greater design for a Locally Managed Marine Area (LMMA). This will be managed locally with oversight from the Department of Forestry and Fisheries (Dinas Kehutanan and Dinas Perikanan), helping to meet Aichi targets relating to the increased protection and effective management of at least 10% of marine areas at a landscape scale.

Enhance the benefits to all from biodiversity and ecosystem services: Our community-based services (business, education and healthcare) target gender inclusion and reduce inequalities in rural communities. We aim that 60% of our beneficiaries for our business services will be women. Our literacy program primarily targets women and youth, with an aim of 70% of target beneficiaries being women. Our healthcare program (family planning and women's hygiene/sanitation program) aim to reach 300 women. Our work is centered on catalyzing fair and equitable development for rural communities helping to achieve Aichi targets relating to addressing health, sustainable livelihoods and gender imbalance and inclusion in solving these biodiversity issues.

Enhance implementation through participatory planning, knowledge management and capacity building: our program also helps communities own every step of the planning, implementation, and managing of initiatives, as we understand this to be essential for long-lasting, sustainable change. Our conservation compact approach is a bi-lateral relationship between our organization and a village covering all aspects of financial planning, management and transparency of small micro-enterprises and cooperatives. This incorporates Aichi targets of 'integrating local development and poverty reduction strategies and planning processes' into solving biodiversity issues.

6. Project support to poverty alleviation

Improving Income: Our PIA revealed via multiple FGDs with community members and village leaders that improved income and access to start-up capital was a major outcome of the project. Moreover, our temporary closures provide insights into reduce poverty through improved income. Our data showed that before the closure on average fishermen made USD $82.00 over a 21-day period, or roughly USD $3.90 per day. After the period, the average income per fishermen improved to USD $269.00 per 21 days, or roughly USD $12.80 per day. This data is a preliminary finding and needs to be verified and triangulated through time. However, it does

show that through this closure system we were able to lift community members from below the world poverty line (<USD $5.00 a day) to above, at an average income of USD $12.80 per day.

Improving Financial Services: Our model improves economic security by providing access to financial services through a Village-level Savings and Loans program. In addition to financial literacy training via the Cooperatives/SMEs, individuals also have access to start-up capital. A total of is available in cooperatives/SMEs for community members. To date a total of has been taken out in low interest (1%) loans by community members from their local Coops/SMEs.

7. Consideration of gender equality issues

Community health and Education: Within the first two years our outputs and indicators point to findings that the project is providing positive impact to women and girls through our Education and Health services. A total of 202 individuals (144 women) have been reached through the literacy program and have begun monthly tutoring sessions to prepare for the government test or have already taken it. 85% of those who have taken the national exam have graduated. Our PHE model has trained 25 local health ambassadors who conduct weekly activities to improve community health and family planning needs in their village reaching hundreds of individuals a year, far beyond our target. These findings are further elaborated upon within the logical framework and detailed description of outputs above.

8. Monitoring and evaluation

Fishery-Dependent Monitoring and Evaluation:

We collect fisheries data for 21 days prior to a post-closure, and 21 days intensive post-closure opening. We continue to collect data at a rate of 3 days per week. Landing site data is collected for fishermen name, location, species caught, weight, length, and price. This is used to calculate Catch per unit effort. We also have a small subset of fishermen recording the same data in daily logbooks; this is used to compare to landing site data, to quantify CPUE before and after closures, between treatment and control at different sites.

Fishery-Independent Monitoring and Evaluation:

We deploy non-destructive sampling methods that approximate fishing methods employed by fishers to assess target assemblages. We deploy Baited crab traps to assess the structure of crab populations and measure abundance (MaxN), biomass, average size, and sex of all target and non-target species. Sites within and adjacent reserves are sampled, and data are used to monitor the health of the population of target crab stocks and associated ecosystems.

Mangrove Forest Integrity Monitoring and Evaluation:

Planet Indonesia uses the Global Forest Watch program (World Resource Institute), which is updated daily in Indonesia, to monitor forest disturbance and track forest loss or gain over time. Utilizing the MBACI design, we track forest disturbance before, during, and after a temporary mangrove closure. We compliment this coarse data with Drone based surveys of mangroves at revegetated plots and healthy mangrove sites. We do baseline surveys of multiple forest plots before and after replanting and at control sites, during which we assess biodiversity associated abundance and biomass of molluscs, crustaceans and other key species. We also assess mangrove health along sets of transects inside and outside of revegetation trial plots including measures of density, canopy cover, leaf health, flowers, fruits, herbivory impacts, death and leaf senescence. Data is compiled on a monthly basis to evaluate the impacts of TMRs on forests in TMR active and non-active sites.

Attribution and Contribution - Monitoring and Evaluation Strategy:

During the 2018-2019 Darwin Grant Period we did work with a M&E expert to improve the Monitoring, Evaluation, Accountability, and Learning strategies of Planet Indonesia. She worked with us from January – April of 2019 and conducted an intensive 10 day training with our staff in February. With this consultant we have:

- Revised the organization-wide Theory of Change
- Revised and updated the organization-wide Logic Model
- Revised and updated the organization-wide Logical Framework (note the logframe for the Darwin project has not been changed)
- Conducted a two-day training on facilitation and social survey methods
- Conducted a one day training on a feedback loop to integrate complaints from communities into adaptive management

In year 2 of the Darwin project we have been implementing and utilizing the tools provided to us during year 1 in working with the MEL consultant and Oceanwise.

Influence Matrix Approach, A New M&E Tool Developed for our Darwin Project:

Purpose:

The activity list and influence matrix are participatory tools designed to attribute observed changes to project activities. Community members and YPI get an idea of the most important changes in the community, the most important influences, and which influences can be linked to the changes. The influences can be assessed to be positive or negative. After assessing the impact of different activities in achieving desired changes, some activities might be strengthened and others reconsidered.

See appendix I for full breakdown of how tool is used and results.

9. Lessons learnt

Coordination with government agencies for data, permits, and other information often takes longer than planned, so for future endeavours we will calculate this lag time into our goal timeline. In the future we will focus on capturing differing opinions of the community based on gender and age demographics to better understand issues of inequality.

Overall, project implementation has worked quite well as we expanded our core approach that we were already familiar with. With more funding and opportunity to flesh out our Conservation Cooperatives approach, we have been able to pinpoint nuances in implementation in each village, as each scenario is unique. The use of the Influence Matrix (see attached learning module) has been critical for gaining insights on community perceptions of useful aspects of the project and will continue to be used in the future.

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

Our year 1 review was positive and received a score of “1” (likely to be completed / achieved). We also hosted the Darwin team for a MTR in December 2019. The first report did state that activities and lessons learned were sometimes lacking clarity between Darwin funded and non-Darwin activities. We realize this was confusing during the year 1 report since some data was shared that was obtained prior to the Darwin funding, used as baseline. In this report **all activities, outcomes, data, and lessons learned** are supported through Darwin funding. The MTR was helpful and well received by our team, partners, and the communities we work with. We have enacted several aspects, in particular have tried to clarify gender related impact more clearly in the year 2 report (e.g. data is gender aggregated when appropriate). We also have put in a formal request to revise our logical framework in two main areas. First, a considerable amount of impact is not being captured in the Health indicator. Since we have slightly revised our methodology to engage health ambassadors we wish to add new indicators related to total

household visits and outreach conducted. Second, we wish to revise restoration targets as the number of seedlings is correct, however, we miscalculated the total area (hectares). Therefore, we intend to reduce the total area targeted for restoration / planting activities.

11. Other comments on progress not covered elsewhere

12. Sustainability and legacy

The Conservation Cooperative / SME approach is intended to support long-term self-sustaining governance. CCs undergo monthly meetings, annual evaluations, and democratic election processes. Groups decide how to use excess funding, interest rates on loans, and sanctions for violations of conservation and membership agreements. Our approach places a heavy emphasis on building the necessary infrastructure to support village-led conservation and development efforts. We view working with communities as a long-term commitment and we aim to make our projects self-sustaining into the future. From a literacy and education standpoint, completion of our literacy-training and education programs is in and of itself, sustainable. Graduates of these programs have cultivated skill sets that will enhance their access to income-earning opportunities for the rest of their lives. From a healthcare standpoint, continued access to basic healthcare and family planning resources is also sustainable by nature. Planet Indonesia will continue to provide access to family planning and healthcare for people currently accessing these benefits and will conduct future focus group discussions to assess ongoing needs.

From an environmental standpoint, the ultimate goal of this project is to create a Locally Managed Marine Area (LMMA) from the current TMR zones. We have used the TMR system to introduce community-based fisheries management to each of these villages, so that the formalization of a LMMA with management standards already in place is quite feasible. This LMMA will cover roughly 15,000 ha of mangrove forest and coastal fisheries will be managed by 7 villages in tandem with the local communal SMEs. Once the LMMA is created, fishers will pay a small fee to use a temporary closure, which is then used to run future periodic closures. The community capital fund will be leveraged to support local patrol units. Decisions related to the sustainability of the project will be made by local communities but facilitated by our team.

13. Darwin identity

The UK Government's contribution to our programs has been recognised internally via a series of meetings and mention of the Darin Initiative on all documents that relate to our Coastal Project which it funds. Publically, we have recognised the Darwin Initiatives contribution to our programs by making mention of the name in all blogposts, social media posts, e-newsletter campaigns and all other front-facing communications that reference our Coastal Project. It was also recognized in Mongabay Indonesia and International who covered the project. It was recognised as a funding program initiated by the UK Government dedicated to decrease biodiversity loss and increase sustainable development models. In the host country of Indonesia, there would be a strong understanding of the Darwin Initiative within the conservation community but little awareness of the initiative in the general public. Our Instagram, Facebook and Youtube channels reach an average of 700-1000 people per post and are followed by almost 30,000 people. We tag the Darwin Initiative or make mention of it when talking about relevant programs and we will usually see a small spike in the number of shares or engagements.

14. Safeguarding

In 2019, Yayasan Planet Indonesia created and has implemented new safeguarding, whistleblowing, anti-fraud, anti-terrorism, and sexual harrassment policies. All policies were drafted by the HR department and approved by senior management. Then, internal training was provided by HR and management on each policy to all staff. Policies are currently in bahasa Indonesia, but can be provided to the Darwin committee upon request. In 2019 we also revised our Monitoring, Evaluation, and Learning (MEL) approach to include “A” accountability. The MEAL team has intensified village visits to capture and discuss with beneficiaries all aspects of programs. In these semi-structured interviews the team also has added questions related to sexual harassment, fraud, corruption, and staff behavior. Finally, we hope in the next two years to move this to a SMS text messaging system, where villagers (in areas that do have signal) will be sent text messaging surveys and be provided with a YPI hotline to call in the case of an emergency, compliant, question, or compliance factor.

15. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2019 – 31 March 2020)

Project spend (indicative) since last annual report	2019/20 Grant (£)	2019/20 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2019-2020

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
Impact Achieving Sustainable mangrove fisheries through the Fair, equitable and sustainable development of low-income coastal communities of West Kalimantan, Indonesia**.**		Indicators presented in this logical framework point to an indication we are on-track to reach our intended impact. We are on track to reach social, economic, fisheries, and forestry goals for the project.	
Outcome Reduced socio-economic inequalities in coastal communities through improving mangrove forest management and restoring coastal fisheries.	1.1 Locally Managed Marine Area (LMMA) created by the end of the project covering 15,000 ha of mangrove forest and coastal fisheries. 1.2 Increased harvest rates (25-50%) as a result of TMR system 1.3 Increased use of temporary reserves by non-target species and high conservation value species 1.4 Decreased socio-economic inequalities in target communities indicated by % increase in income, total access to savings/loans, % graduation rate from literacy, and total # of women reached through health and voluntary family planning program. 1.5 Increased forest cover across 15,000 ha through active reforestation and natural regeneration in TMR areas	0.1 ~12050 ha of mangrove forest is protected and under agreements related to current or future use in a Temporary Mangrove Reserve (TMR) or periodic closure with active forest and fishery patrol teams. 1.2 Fishermen harvest rates (using only CPUE) improved 58% before and after TMRs and 29% when comparing control – treatment data 1.3 We submitted a change request to modify our crab stock assessment methodology from baited stereo-video camera surveys to traditional crab trap surveys. As a result limited information on the presence of non-target species and high conservation value species can be derived. So this indicator has become largely redundant due to this approved change request. 1.4.1 Progress has been made at improving access to Savings & Loans (>USD$9000 in VSLs) through Conservation Cooperatives 1.4.2 548 households	- the LMMA is the end result of our project, after 7 villages have been enrolled and involved in TMRs these set of TMRs will transition to an LMMA. During the 2020-2021 year we will finalize zoning and LMMA certification - We will enhance biodiversity monitoring efforts in and around TMRs to better understand impacts non-target species - We will continue expanding our literacy, cooperatives, VSLs, and health services as new village enrol in these services

		enrolled in Conservation Cooperatives/SMEs which is ahead of our target	
		1.4.3 Using fisheries data fishermen have improved income by over 100% from an avg of USD$3.00 a day to USD$12.00 1.4.4. Graduation rate was 85% from literacy program, well above target of 60% 1.4.5 18 active health ambassadors providing health information and provisions to roughly 120 households a month	
Output 1. Mangrove forests protected under temporary mangrove reserve (TMR) system SD Goal: Climate Action	1.1 15,000 ha of mangrove forest will be protected in the TMR system 1.2 Three Forest patrol units have been created and are active in improving community-led TMR law enforcement 1.3 Comparison of biodiversity indices using baited cameras and surveys between TMR and non TMR sites	1.1 ~12050 ha of mangrove forest is protected and under agreements related to current or future use in a Temporary Mangrove Reserve or periodic closure 1.2 Four Forest patrol units created and where TMRs are active patrol daily 1.2.1 Three out of 4 patrol teams actively using SMART to improve patrol effectiveness Planned for Next Period: As we continue to expand our program and add new villages, we will approach our goal of 15,000 ha of mangroves protected through a Locally Managed Marine Area (LMMA). In the final year we will work on zoning the LMMA and ratification. 1.3 An approved change request and change crab population assessment methods from baited stereo video cameras to crab trap sampling methods has resulted in a change in the dataset generated. Nonetheless clear differences in the crab populations have been clearly demonstrated for size abundance and proportion of female, male and juvenile crabs between TMR and nonTMR sites. These have been written up and compiled into a manuscript and submitted for publication. Baseline surveys of biodiversity between TMR and non-TMR sites have been undertaken in the first year. Results from these first round of surveys have been written up and compiled into a manuscript and are due to be submitted for publication in the first quarter of	

		2020 - 21 financial year. These same field plots will be surveyed during this financial year to enable a comparison with year one baseline data.	
Activity 1.1 Initial community socialization and hearing in 4 target villages		Completed and reported in year 1	Completed and reported in year 1

Project summary	Measurable Indicators	Progress and Achievements April 2020 - March 2020	Actions required/planned for next period
Activity 1.2 Data and knowledge sharing, bringing previous program beneficiaries to share experience with TMR in new village		Completed and reported in year 1. However, sharing the results with communities is a central value to our approach and after every closure we hold community hearings to share results and discuss findings	Will be conducted for each and every TMR
1.3 Mangrove forest mapping with communities, building zones for temporary closures, ecosystem assessments		Has been completed in four of the villages	For the two final villages: Dabong and Kuala Karang, this is a year 3 activity.
1.4 Community assessment and patrol unit recruitment		Completed and reported in year 1. Patrols active in 4 villages	Will be done in the final two villages.
1.5 Patrol unit training and data model set up for recording visitation, incidental sightings and infrastructure.		Completed and reported in year 1. Year 2 focused on improving the patrol effectiveness via our SMART patrol team	Will be done in final two villages
1.6 Temporary Mangrove Reserve (TMR) closing		This is a continuous activity that will be conducted throughout and well-after the project lifespan with Darwin. To date 5	Continuation and ongoing.

		closures have been conducted, and all villages have been involved.	
Project summary	**Measurable Indicators**	**Progress and Achievements April 2018 - March 2019**	**Actions required/planned for next period**
1.7 Patrol unit patrolling		This is ongoing	This is ongoing
1.8 TMR opening		5 openings completed	Ongoing
1.9 Meeting, Evaluation and Data Sharing of TMR Closure 1		Data shared after all of the closures and	Ongoing and will be conducted for each closure onwards.
1.10 TMR Closing II		4 closures completed ; 1 ongoing	Total of 3 closures completed, 4 villages currently enrolled will each implement a closure (4 total closures) during the 2019-2020 year
1.11 Patrol unit patrolling		This is ongoing	This is ongoing
1.12 TMR Opening		4 openings completed	Ongoing
1.13 Meeting, Evaluation and Data Sharing of TMR Closure 2		This is ongoing	This is ongoing
1.14 Mangrove forest mapping and ecosystem assessments after closures focusing protected and on rehabilitated areas and adjacent control sites.		This is ongoing	This is ongoing
1.15 Final Report and Data Compilation		This is ongoing	This is ongoing
Output 2. Increased harvest size by fisherman enrolled in program in TMRs zones SD Goal: Life Below Water	2.1 25-40% increase in crab and fish harvest rates in TMR zones over two annual closures using a Before - After Control - Treatment evaluation structure	2.1 CPUE Improved by 58% before (0.55) and after (0.87) a closure 2.1.1 CPUE Improved 29% between control (0.65) and treatment (0.84) areas 2.1.2 Average weight (kg) of harvest improved 34% before (4.05) and after (5.43) a closure 2.1.3 Average weight (kg) of harvest improved 57% between control (4.85) and treatment (7.62) areas Planned Activities: As we add new villages, we are able to implement more TMRs and collect more data through spatial and temporal closures which will further allow us to investigate the	
Project summary	**Measurable Indicators**	**Progress and Achievements April 2019 - March 2020**	**Actions required/planned for next period**
2.1 Community Socialization and Knowledge sharing of previous program in new target villages		Completed and reported.	

2.2 Baseline crab surveys - fisheries independent baited crab trap assessments inside and outside TMC pre and post each of two closure periods		Progress towards this is combined as this is an ongoing activity. This activity has been completed in all villages as data is taking at landing sites /middlemen across the landscape	Activity is ongoing
2.3 Community Data Collectors Training			
2.4 Community Data Collectors Trial Run (Monitoring and Evaluation for Landing Sites and individual fishers)			
2.5 Community Data Collectors Evaluation and Training			
2.6 Community Data Collectors Implementation (year- long with sampling scheme)			
2.7 Intensive Data Collection on CPUE pre and post each of two closure periods			
Output 3. Degraded forest patches and shrimp ponds enhanced and restored with mangrove plantings SD Goal: Life On Land	3.1 150 ha of degraded lands will have been replanted at a density of 250 individual mangroves per hectare at a rate of 50 hectares per year 3.2 120 ha of degraded forest patches actively protected, restored and replanted to a density of at a density of 250 3.3 At least 30 ha of active aquaculture ponds will receive supplemental planting with 10 fishers or more participating with an increase to 250 individual mangroves per hectare for replanted areas (10 hectares per year 2018-21) . 3.4 a total of 35,000 mangrove seedlings planted with 5000 in the first year, 10,000 in the second year and 20,000 in the final period before the end of the project life.	3.1 3.58 hectares of land replanted 3.2 0 hectares restored 3.3 3.58 ha of aquaculture ponds restored 3.4 15,950 seedlings planted Planned Activities: We will continue planting in year 3. *However*, we do wish to revise this output as the targeted hectare / expansion of the landscape and number of seedlings do not match.	

Activity 3.1 Beneficiary Identification	Reforestation and planting team formed	Team will engage in plantings again during year 3
Activity 3.2 Land, mangroves and biodiversity surveys	Conducted in year 2.	Ongoing in year 3
Activity 3.3 Nursery and Seedling Collection	Oceanwise Australia has identified appropriate seedling collection and nursery locations. Specimens should be collected from the same location they are going to be replanted in order to gather appropriate species for that area.	Priority areas for planting highlighted in mangrove brief (see appendix III).
3.4 Planting I	Not applicable	Seedlings to be planted in priority areas identified by Oceanwise Australia.
3.5 Evaluation		Ground-based invertebrate surveys will be conducted by Oceanwise Australia to assess the effect of replanting on the biodiversity in the applicable areas (continued throughout project).

Commented [1]: Maybe we can update this a bit, and in the appendix provide some of the new briefs, mangrove guides, etc from Oceanwise.

Project summary	**Measurable Indicators**	**Progress and Achievements April 2019 - March 2020**	**Actions required/planned for next period**
3.6 Planting II		Not applicable	Seedlings to be planted in priority areas identified by Oceanwise Australia in year 3
3.7 Mangrove Survival Rate Evaluation and biodiversity surveys			Drone-based mapping and ground-based surveys will be repeated by Oceanwise Australia to assess canopy cover (growth) and effects on biodiversity in the replanted areas.
3.8 Final Report and Data Compilation			End of project activity

Output 4: Small micro-enterprises (SMEs) are established to economically empower local fisherman while engaging them in the TMR system	4.1 600 fishermen will be enrolled in the program through Small Micro-enterprises (SMES) / Cooperatives (rate of 200 beneficiaries added per year)	4.1 A total of 548 households have enrolled in our Cooperatives / SMEs 4.1.1 USD $ 39,000 available in Cooperatives Savings & Loans Groups as of March 31st 2020 Planned Activities: We have surpassed our year 2 goal of 400 households enrolled. As we continue expanding our program and enrolling new villages, we expect to surpass our target of 600 households / fishermen enrolled in the program	
4.1 Beneficiary Identification and Community Hearing		Reported in year 1: This was the same activity mentioned in Outputs 1-3 in which 7 villages attended a large meeting. From this, village-level meetings were conducted within 3 new villages as a direct follow-up. In year 2 funds were used to enrol additional villages	Final enrolment of the Kuala Karang and Dabung
4.2 Baseline Data Collection: Mon/Ev Household Survey I		This is underway	This will be continued throughout project
4.3 SME Training I: Background and Administration		This has been completed with 548 households	Ongoing for new households / villages enrolled
4.4 SME Training II: Financial and Group Management		This has been completed with 548 households	Ongoing for new households / villages enrolled

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
4.5 SME Training III: Entrepreneurship and New Business Expansion		This has been completed with 548 households	Ongoing for new households / villages enrolled
4.6 SME Training IV: Targeted Incubator and Market Access		This has been completed with 548 households	Ongoing for new households / villages enrolled
4.7 Monthly Follow-up and data tracking (membership, savings/loans)		Ongoing	Ongoing for new households / villages enrolled
4.6 Mon/Ev Survey and Final Data Compilation		See PIA paper for mid-term review	End of project activity

Output 5: Literacy program continues running to improve capacity and job market access for women and youth. Only women/children whose household joins the TMR system have access to this service, creating strong incentives for adopting new rss mngt.	5.1 Each year for three years, 200 women/children enrol in literacy program and receive access to this program and; 5.2 60% or more graduate (600 people during the project)	5.1 134 individuals reached through literacy program (49 male and 85 female) in year 1 5.1.1 202 individuals reached through literacy program (58 men and 144 women) in year 2 (*note: 31 individuals from year 1 joined again in year 2 but in a higher class)* 5.1.2 316 total individuals reached over first two years 5.2 85% graduation rate Planned Activities: We were slightly below our two year goal of 400 individuals. We expect as we add new villages that will reach our target of 600 individuals reached over the 3- year period. Graduation rate is far above our intended target of 60% pointing to the quality of the service provided.	
5.1 Beneficiary Identification and Community Hearing		All three of these activities have been successfully completed and data towards Output 5 is reported below.	Completed
5.2 Tutor Identification and Training			
5.3 Class sign-up for 4 levels (packet Illiterate, A, B, C)			
5.4 Packet Illiterate, A, B, C – 1-year course		this 1-year course has successfully started in new villages partnered with us as of February 2019. For the February 2018 – February 2019 1-year course we continued to support monthly tutoring and involvement in the national exam (March 2019).	Completed
5.5 Packet A, B, C Evaluation: First/Mid/Final – 1- year course			
5.6 Packet Illiterate, A, B, C – 2-year course		Similar to the year 1 course individuals take the national exam every March/April The year two course started in April 2019 and will finish in March / April 2020.	T
5.7 Packet A, B, C Evaluation: First/Mid/Final – 2-year course			This activity will be conducted in March 2021 when the national exam is
5.8 Final report and Data Compilation			End of project activity

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
Output 6: Reducing Inequalities: Family Planning and Health Sanitation program established to improve access for women/youth SD Goal: Good Health and Wellbeing & Gender Equality	6.1 100 individuals annually join program and receive training and access to sanitation & contraceptives (total of 300 people during the project)	6.1 31 local health ambassadors' employees (all women) and trained through Department of Public health and YPI's PHE team 6.1.2 18 health ambassadors remain active conducting monthly health visits 6.1.1. ~120 households a month reached through health outreach and provisions Planned Activities: We are currently implementing our Population – Health – Environment method in the village of Sungai Nibung. In January 2020 and February 2020 we recruited health ambassadors in the village of Seruat II and conducted the initial trainings. We were set to implement the first household visits in March 2020 but have delayed due to corona virus.	
6.1 Beneficiary and Community Hearing		Completed and reported in year 1	
6.2 Coordination with local government clinic and Blue Ventures – Indonesia on Population – Health - Environment Model		This has been completed but is ongoing	This is an ongoing activity as we closely work with the government to ensure the right health services are reaching the communities we work with. Also, we are working closing with BV to share project learnings etc.
6.3 Identification and Training of Local Health Ambassadors / Baseline Data Collection		conducted a baseline survey of roughly 100 households related to health needs (see later sections for results). We have successfully training health ambassadors that work monthly on health issues in the Village of Sungai Nibung. We are currently identifying potential ambassadors in the village of Seruat II	
6.4 Training I: Family Planning		From year 1:There has been a slight modification to these activities. These activities will be completed as	

6.5 Evaluation I	planned, but are administered in two ways. First, these trainings are administered at a higher level to our local health ambassadors. In this way, all three trainings have been implemented in 1 Village, Sungai Nibung, where our PHE program is active. Our health ambassadors (22 women in Sungai Nibung) then conduct monthly outreach events and meetings within their neighbourhoods (there are 22 women for the 22 RT or neighbourhoods of the village). When we expand to other villages, we will replicate this approach. We are currently collecting baseline data and conducting FGDs in the village of Seruat II. Therefore, Activity 6.4-6.8 have been completed for one village, but are also planned for the next period in a new village. For year 2: this revision still stands in place. We suggest that a revision be made to the logical framework to better capture the impact of the PHE program as our initial target of 100 individuals has been far surpassed with the revision of our PHE / health strategy.	
6.6 Training II: Sanitation and Hygiene		
6.7 Evaluation II		
6.8 Training III: Recap, WASH and Family Planning		
6.9 Evaluation Final		End of project activity
6.10 Final Report and Data Compilation		End of project activity

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Achieving Sustainable mangrove fisheries through the Fair, equitable and sustainable development of low-income coastal communities of West Kalimantan, Indonesia. (Max 30 words)			
Outcome: (Max 30 words) Reduced socio-economic inequalities in coastal communities through improving mangrove forest management and restoring coastal fisheries.	1.1 Locally Managed Marine Area (LMMA) created by the end of the project covering 15,000 ha of mangrove forest and coastal fisheries. 1.2 Increased harvest rates (25-50%) as a result of TMR system 1.3 Increased use of temporary reserves by non-target species and high conservation value species 1.4 Decreased socio-economic inequalities in target communities indicated by % increase in income, total access to savings/loans, % graduation rate from literacy, and total # of women reached through health and voluntary family planning program. 1.5 Increased forest cover across 15,000 ha through active reforestation and natural regeneration in TMR areas	1.1 LMMA report and agreement created and certified by the department of fisheries (DINAS PERIKANAN) 1.2 Fishery/crab harvest rate from TMR zones and adjacent areas fished all year round by fishermen enrolled in the program. 1.3 increase in mangrove cover and biodiversity from baseline surveys to post protection and revegetation surveys. 1.4 results of acquisition and retention rate in 3 programs: Cooperatives/SMEs, literacy program, and women's healthcare. 1.5 Records quantifying graduation rate from literacy program 1.6 Results of socio-economic surveys pre, mid, and post intervention and the impact of our project. 1.7 Amount of funds in community-owned savings/loans program. 1.8 Annual data reports will be compiled with a preliminary summary	- local communities are open to new resource management plans in the face of decreasing fisheries and income - local communities are open to reforestation efforts on degraded mangrove habitats. - local women, youth and men are open to business, literacy health care and conservation programs - no natural disasters such as storms, droughts or climate change related stochastic events impact on or destroy coastal areas (e.g. tsunami, etc)

		of data collected for this monitoring and evaluation undertaken and preliminary findings.	
Outputs: **1**. Mangrove forests protected under temporary mangrove reserve (TMR) system SD Goal: Climate Action	1.1 15,000 ha of mangrove forest will be protected in the TMR system 1.2 3 Forest patrol units have been created and are active in improving community-led TMR law enforcement 1.3 Comparison of biodiversity indices using baited crab traps and surveys between TMR and non TMR sites	1.1 GIS spatial mapping of target zones before during and after zoning and areas rehabilitated will be completed. 1.2 Enrolment in forest patrol units reaches the goal of 12 individuals. 1.3 Records of all patrols. Records of visitation within reserves recording number of people, what activities they are undertaking in the reserve. Installation of infrastructure such as signage and markers. Data include names of personnel, time, location, photo data and other supplementary evidence. 1.4 Minutes from community meetings defining reserve boundaries before and after each implementation. 1.5 results of biodiversity assessments undertaken at TMR sites and revegetation plots including list of species, their abundance and biomass, mangrove canopy cover, density and health. Crab and Demersal fish assemblage data including species, abundance, biomass, assemblage composition and related indices.	- no stochastic events destroy mangrove forests -government does not give land rights away to logging / pulp companies - community patrol units are honest and fair in local law enforcement - Most fishers abide by the closure with little to no infringements.

		1.6 Records of incidental sightings from fishers, patrol rangers, public,	
		project related personnel from predefined datasheets.	
2. Increased harvest size by fisherman enrolled in program in TMRs zones SD Goal: Life Below Water	2.1 25-40% increase in crab and fish harvest rates in TMR zones over two annual closures using a Before - After Control - Treatment evaluation structure	2.1 Collection of baseline data of fishers' harvest rates pre and post TMR closure and opening 2.2 Records of crabs/fish sold to markets consistently recorded all year round. 2.3. Catch per unit effort data gathered from fishers participating in SME including data on size biomass, location effort.	- outside fisherman do not enter area during closure destroying population (note: role of patrol teams to protect area during closure) - after area is opened, there is not an influx of fishermen from other areas causing harvest rates to decrease because of overfishing

3. Degraded forest patches and shrimp ponds enhanced and restored with mangrove plantings SD Goal: Life On Land We would like to revise this output and associated indicators to better reflect the project's achieved results and revise seedlings per ha estimates.	3.1 150 ha of degraded lands will have been replanted at a density of 250 individual mangroves per hectare at a rate of 50 hectares per year 3.2 120 ha of degraded forest patches actively protected, restored and replanted to a density of at a density of 250 individual mangroves per hectare or 50% canopy cover (40 hectares per year 2018-21) 3.3 At least 30 ha of active aquaculture ponds will receive supplemental planting with 10 fishers or more participating with an increase to 250 individual mangroves per hectare for replanted areas (10 hectares per year 2018-21) . 3.4 a total of 35,000 mangrove seedlings planted with 5000 in the first year, 10,000 in the second year and 20,000 in the final	3.1 and 3.2 Drone and/or ground-based GIS spatial mapping of reforestation zone with estimates of %canopy cover, trees per hectare, tree health surveys prior to replanting and management interventions and again in December 2020 nearing the end of the project period. 3.3 Total number of seedlings planted and seedling survival rate by plot surveys will be counted and total change in canopy cover calculated, and the effort needed to achieve each hectare of rehabilitated areas. 3.4 Number of fishers who allow enhancement plantings on shrimp aquaculture ponds will be collated together with metrics on the total area of their ponds, the amount of area replanted with mangroves and the effort needed to achieve each hectare of rehabilitated areas.	- communities are open to reforestation on degraded lands - communities allow for enhancement plantings on aquaculture ponds/areas - stochastic environmental events do not destroy reforestation areas / increase seedling mortality

	period before the end of the project life. 3.5 Biodiversity has increased within reforested mangrove areas doubling the abundance and diversity of invertebrate and vertebrate species recorded prior to replanting program.	3.5 Abundance and species diversity assessment of the biodiversity at multiple revegetation plots and nearby control plots measured before during and at the end of the project will be measured using visual surveys in quadrats and along transects.	
4. Small micro-enterprises (SMEs) are established to economically empower local fisherman while engaging them in the TMR system SD Goal: No Poverty	4.1 600 fishermen will be enrolled in the program through Small Micro-enterprises (SMES) / Cooperatives (rate of 200 beneficiaries added per year) 4.2 Funds in the savings/loans program increases by 25% each year for the first three years (e.g. community contribution to community-run safety fund)	Several redundant methods will be deployed to produce relevant verifiable data as described below: 4.1 Collection of baseline data pre and post intervention quantifying each fishers' business activity including income from fish sales, effort for catching fish and costs associated with fishing. 4.2 Fisher surveys measuring the impact of the TMC including their opinion of the impact of the TMC on their business. 4.3 Enrolment and retainment rate in communal business group. 4.4 Amount of funds in savings/loans program measured on monthly basis By 31st of March 2021 a report will be compiled summarizing this monitoring and evaluation undertaken.	- communities are open to temporary mangrove reserves system - communities are active in business group and open to new financial management methods

5. Literacy program continues running to improve capacity and job market access for women and youth. Only women/children whose household joins the TMR system have access to this service, creating strong incentives for adopting new rss mngt. SD Goal: Reducing Inequalities & Gender Equality	5.1 Each year for three years, 200 women/children enrol in literacy program and receive access to this program and; 5.2 60% or more graduate (600 people during the project)	5.1 Enrolment rate in program by women (% and age) and youth (% and age) 5.2 Scores on pre and post-test provided to participants before, mid, and after year long course 5.3 Individuals (%) that graduate and receive gov't certified certificate 5.4 Results from household surveys used to verify benefits of the program.	- those enrolled in literacy program remain active in attending sessions - local tutors are impactful and effective - community members remain motivated about the prospects of graduating from program to receive government certified certificate to increase placement in local work force
6. Reducing Inequalities: Family Planning and Health Sanitation program established to improve access for women/youth SD Goal: Good Health and Wellbeing & Gender Equality We would like to revise this output and associated indicators to better reflect the impact of the program as the impact is far beyond 300 individuals during the project's timeline.	6.1 100 individuals annually join program and receive training and access to sanitation & contraceptives (total of 300 people during the project)	6.1 Enrolment rate in program by women (age class) 6.2 number of women health ambassadors who will locally lead program 6.3 pre and post test data results from program to show increase in knowledge on reproductive health 6.4 Long-term monitoring of health indicators (family size, contraceptive use, age of first birth, desired age of first birth, etc.) through Planet Indonesia's yearly impact survey	- local women acknowledge and are open to new reproductive healthcare services - health ambassadors are active in motivating community members - contraceptives are used correctly

Annex 3: Standard Measures

Please expand and complete Table 1: new projects should complete the Y1 column and also indicate the number planned during the project lifetime. Continuing project should cut and past the information from previous years and add in data for the most recent reporting period. Quantify project standard measures over the last year using the coding and format from the Darwin Initiative Standard Measures (see website for details: http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms) and give a brief description. Please list and report on relevant Code No's only. The level of detail required is specified in the Standard Measures Guidance notes under 'definitions and reporting requirements' column. Please devise and add any measures that are not captured in the current list. Please note that these measures may not be a substitute for output level objectively verifiable indicators in the project logframe.

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
Established codes								

In Table 2, provide full details of all publications and material produced over the last year that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Mark (*) all publications and other material that you have included with this report.

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)

Annex 4 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

Checklist for submission

	Check
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 need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	
Do you have hard copies of material you want 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.	
Have you involved your partners in preparation of the report and named the main contributors	
Have you completed the Project Expenditure table fully?	
Do not include claim forms or other communications with this report.	