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).

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Darwin Project Information

Project reference	25-022
Project title	Restoring Coastal Fisheries through Sustainable Development in Indonesia
Host country/ies	Kubu Raya, Kalimantan Barat, Indonesia
Lead organisation	Yayasan Planet Indonesia
Partner institution(s)	Oceanwise Australia
Darwin grant value	£388,560
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Reporting period (e.g., Apr 2018 – Mar 2019) and number (e.g., Annual Report 1, 2, 3)	Apr 2018-Mar 2019
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1. Project rationale

Planet Indonesia addresses the issue of socio-economic inequalities in rural communities that drives biodiversity loss. To address this issue, we create village-led partnerships that catalyse conservation by addressing the root causes of its loss– rural poverty and socio-economic inequalities. Individuals who join our conservation cooperatives receive services in three sectors: business, education, and health, in exchange for adopting temporary mangrove reserves, engaging in restoration, and protecting mangrove forests. Our program pillars include:

Business Services: We facilitate sustainable development through (i) *identifying and intensifying* local livelihoods and sources of income, (ii) *transferring* assets and providing production training to launch communal businesses, (iii) *building community capital* by creating community-led savings and loans programs, and (iv) *providing mentoring and life skills* coaching to promote long-term sustainable development.

Education Services: Our education services are provided through our literacy program. Villagers who sign-up to join a conservation compact may opt-in to receive literacy training. This service

targets women and youth of households that have agreed to join our conservation compacts. We provide three different year-long courses based on the education level of the individual. All courses are Indonesian government certified and receive a government recognized certification for improved job market access.

Healthcare Services: Our work focuses on women in health awareness, hygiene and sanitation, and family planning. We work to empower women to be local leaders by providing pathways to better healthcare and education while engaging women in resource management decisions.

Protecting & Restoring Mangroves and their Fisheries: These three services are chosen by communities, not forced upon them. In our project area purposed to the Darwin Initiative we administer these three services in exchange for the adoption of temporary mangrove reserves (TMRs) to restore fisheries and in exchange for mangrove and shrimp pond reforestation.

TMRs are an effective management strategy for communities which rely on marine populations as a primary sustaining resource. Under this strategy small sections of coastal areas are temporarily closed (varying from 3-8 months), allowing for fish stocks to replenish before opening for harvest once again. Using ecological principles and the fast-rate-of-return of marine populations, our temporary closure system helps communities recognize the value of preserving coastal habitats that are necessary for marine population persistence. Ultimately, TMRs are positioned and designed to be the first step to incentivise village members to transition to create Locally Managed Marine Area Plans (LMMAs) consisting of spatial planning, fisheries regulations, and maintenance of ecological values.

Our project over a three-year period has integrated this approach into measurable and achievable targets. We aim to enrol 600 households in our conservation cooperative approach: 600 women and youth in the literacy program with >60% graduation rate, and 300 women in our healthcare program (family planning and women's hygiene/sanitation). Forty individuals (10 per team over 4 teams) of the forest and marine patrol unit and fisheries observers trained by Planet Indonesia will participate in of monitoring, patrolling, conducting fisheries surveys and environmental impact research, and in mangrove reforestation activities, preparing them for long-term responsibilities.

For our target district of Kubu Raya, West Kalimantan, Indonesia, so far, we have partnered with three villages in the Kubu Raya district for a total of 468 households enrolled.
This indicates the early success of our program as we have almost reached our three-year goal within the first year. Currently, villages enrolled manage roughly half (~7000 ha) of mangrove forests for our three-year target (15,000 ha). Moreover, early catch and harvest data from temporary reserves and periodic closures points to the effectiveness of this method at improving fishermen harvest rates and food security in the short-term.

2. Project partnerships

Local Communities

The priority target beneficiaries are crab and shrimp fishers and their families living in Kubu Raya, West Kalimantan, Indonesia. These stakeholders have been involved in decision-making every step of the way throughout our program- from choosing to join, to engaging in

our 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.

One example of this can be found in the Mid-term Review we conducted in Sungai Nibung (where we conducted the pilot of our *Conservation Cooperative* approach in 2016 – 2017). We conducted a mid-term review (after two years of working with the village) to gain a better understanding of how different program activities were influencing different changes within the community. We used a participatory tool that integrates village opinions and rankings of activities and changes through Focus Group Discussions (FGD). The FGDs were structured around two participatory tools, the Activity List and Influence Matrix, which are designed to attribute observed changes to project activities. The tools provide a community- determined assessment of the most important changes that have occurred in the community, the most important influences (or activities), and which influences can be linked to the changes. Influences can be assessed to be positive or negative. The full results of this activity can be found in the Monitoring and Evaluation Section and appendix.

In addition, we collect fisheries data from landing sites (e.g. where fishermen sell their harvests). We work with local community members from our various programs to assist them in collecting fisheries data (catch, weight, size, etc.) at these landing sites. This allows us to monitor the fisheries, in particular, Catch Per Unit Effort pre- and post-periodic closures / TMR to investigate the impact of our work.

Local Government

Planet Indonesia has included several local government offices in the planning and process of this project. This can be seen across scales from local village level government (evidence can be found in supporting documents and MOU's signed with village government) to regional level government. To date we have held meetings and coordination planning sessions with: The District Government of Kubu Raya, The Department of Fisheries – Kubu Raya, The Department of Forestry – Kubu Raya, The Department of Fisheries – West Kalimantan Regional, The Department of Forestry – West Kalimantan Regional, The Department of Natural Resource Management – West Kalimantan Regional, and the Department of Marine Affairs and Ocean Biodiversity – Kalimantan Office (for the entire island of Indonesian Borneo). We are currently in the process of forming 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 (Public Health, Education, Fisheries, Forestry) for the District of Kubu Raya where our project is based. We are also in the process of forming a high-level MOU with the Department of Marine Affairs and Ocean Biodiversity for which the regional office for the entire island of Kalimantan (Indonesian Borneo) is based near our project. They are interested in using our project as a *best practice example* to conduct community exchanges and government trainings with officials and villagers from the five provinces of Kalimantan.

3. Project progress

3.1 Progress in carrying out project activities

The following activities are noted from our timeframe provided within the original proposal.

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

1.1 We successfully conducted the "Initial community socialization and hearing in four target villages." Our community hearing included seven villages, surpassing our target, and was conducted in October of 2018. At this meeting the village of Sungai Nibung spoke to the success of our partnership for the 2016-2017 year and asked the other six villages within the 15,000-ha landscape (the target of the LMMA) to

commit to replicating this program and to create an inter-village agreement on mangrove and fisheries management. This meeting was also attended by representatives of the government from various departments (see stakeholder section for list of government agencies).

1.2 The second activity from the timeframe was “Data and Knowledge sharing, bringing previous program beneficiaries to share experiences with Temporary mangrove Reserves in new villages.” This has been successfully done within the initial hearing (mentioned in activity 1.1) and at a local scale through village exchanges and learnings.

1.3 “Mangrove forest mapping with communities and zoning for temporary closures” has been completed in our four partnership villages (Sungai Nibung, Mangkalang Jambu, Mangkalang, and Seruat II). This is an important activity to provide signage on the names of rivers and boundaries of where one village forest and fishing rights end and where another begins.

1.4 “Community assessment and Patrol Unit recruitment” has been successfully conducted in all four of our current partnership villages. Patrols are active in two of the four villages, while in two villages recruitment has been conducted but patrolling will commence upon the first implementation of a TMR in June of 2019.

1.5 “Patrol Unit training and data model set up” has been conducted and will be continued through on-the-job learning and capacity development of patrol units.

1.6 “Temporary Mangrove Reserves closing.” This is a continuous activity that will be conducted throughout and well after the project lifespan with Darwin. To date, three closures have been conducted, and in June 2019 all four villages will implement their own closures.

1.1 – 1.6 are the main activities from the Darwin proposal timeline. We conclude that we are on track and up-to-date with our Darwin project activities as they relate to Output 1 in our timeframe.

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

2.1 “Community socialization and knowledge sharing of previous program in new target villages.” This activity was first conducted at the large seven-village hearing conducted in October 2018. Since this meeting was primarily attended by village leaders, sub-village leaders, and important representatives, this was then replicated in three villages (Seruat II, Mangkalang, Mangkalang Jambu) between December 2018 – January 2019. Sungai Nibung (our pilot village) was the main driver of this, bringing data and proof of concept to its neighbouring villages in the area to aid Planet Indonesia in the scaling of the project.

2.2 – 2.7 Are all related to the training, test-run, and collection of fisheries data through local data collectors. This training has been conducted in our four current partner villages. This training was led by our team with data collectors from our pilot village of Sungai Nibung. The three new villages will conduct their first *Temporary Reserves and Closures* in June of 2019, meaning that data collection will commence 21 days prior to these closures as stated in our proposal and Monitoring and Evaluation strategy.

We conclude that for Output 2, based on activities in our timeframe and proposal, we are on track to meet our goals and achieve outputs based on completed activities in year 1 of the grant.

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

3.1 “Beneficiary Identification”

We successfully identified that the village of Sungai Nibung is a prime village for restoration and shrimp pond enhancement. We have implemented a number of broad-scale surveys to collect datasets to help identify beneficiaries. This includes an analysis of long-term satellite imagery

and forest watch data layers to locate areas for field sampling, such as major areas of clearing and mangrove forest zonation. Shoreline Video Assessment Methods have enabled us to identify land use practices throughout the village tenure. Drone-based rapid visual assessments were used to gain overhead visuals of the mangrove forest and locate patches of forest cleared. App-based data records were used for quantifying the spatial extent of aquaculture farms, logging, clearing, substrate mining, and other human impacts (See Appendix 4).

3.2 “Land, Mangroves, and Biodiversity Surveys”

We have collected a range of baseline and core datasets for ongoing monitoring and to direct future program conservation priorities. For fisheries data we have compiled Fishery-Independent and Fishery-Dependent crab data consisting of crab trap success rates for rivers fished by Sungai Nibung (see Appendix 2). We have sampled mangroves in a number of different locations that vary from cleared and replanted to mature forested areas. This range ecosystems gives us an idea of mangrove zonation and dominant/sub-dominant species across the entire study area. For each site, we worked in 5m x 5m quadrats recording invertebrate diversity as well as collecting mangrove herbarium type specimens (for expert identification) and mud samples. All of this information is fundamental to inform us on species for growth in the nurseries, priority planting areas and mangrove species suited to each of these priority locations (see Appendix 5).

3.3 “Seedling and Nursery Collection / Set up” – This is the first activity from the first three outputs that was not conducted within the first year of the grant as it pertains to the timeline. This activity has been slightly delayed as we have invested considerable time and resources in site surveys within the project area to ensure that restoration activities are focused on the areas that need them most (see Appendix 3).

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

As per our Darwin proposal timeframe, there are three activities (4.1-4.3) within Output 4 to be conducted within the first year of the grant, all of which have been successfully conducted.

4.1 Beneficiary Identification and Community Hearings: This was the same activity mentioned in Outputs 1-3 in which seven villages attended a large meeting. From this, village-level meetings were conducted within three new villages as a direct follow-up. In year 2 of the grant this will be replicated in the other four villages that attended the initial kick-off meeting but have not yet enrolled in the program. The large meeting in October 2018 included the following villages: Sungai Nibung (Enrolled), Seruat II (Enrolled), Mangkalang Jambu (Enrolled), and Mangkalang (Enrolled). Dabung – Attended meeting in October 2018, follow-up meeting at village of Dabung not yet completed, village interested in enrolling but has not yet officially enrolled. Kuala Karang - Attended meeting in October 2018, follow-up meeting at village of Kuala Karang not yet completed, village interested in enrolling but has not yet officially enrolled. Seruat I - Attended meeting in October 2018, follow-up meeting at village of Seruat I completed, village interested in enrolling but has not yet officially enrolled

4.2 Baseline Data Collection for Household data: for villages and villagers enrolled in the program, baseline data has been collected upon enrolment.

4.3 SME Training 1- Background and Administration: This has been completed on-time and attendance and outreach are reported below in section 3.2.

From this we conclude that we have successfully completed activities based upon our project timeline in the original proposal as they relate to Output 4.

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

5.1 – 5.3 “Beneficiary Identification, Tutor Identification, and Class sign up” – All three of these activities have been successfully completed and data towards Output 5 is reported below.

5.4 – 5.5 “Packet A, B, C, Class & Packet A, B, C, Evaluation” this one-year course has successfully started in new villages partnered with us as of February 2019. For the February 2018 – February 2019 one-year course we continued to support monthly tutoring and involvement in the national exam (March 2019).

Based on our timeframe from the proposal as it relates to Output 5, we completed activities 5.1-5.5 that were indicated to be completed in year 1 of the Darwin grant.

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

6.1 “Beneficiary and Community Hearing” –This was conducted in tandem with previous activities. Our large hearing in October 2018 was an overview of all programs, including our integrated Population – Health – Environment program, attended by seven villages. Since that time, we have begun the process of replicating our PHE approach in new villages that have enrolled in our program (our current work focuses on Sungai Nibung and Seruat II).

6.2 “Coordinate with local government clinic and Blue Ventures” has been completed

6.3 “Identification and Training of Local Health Ambassadors and baseline data collection” has been completed. We have conducted a baseline survey of roughly 100 households related to health needs (see later sections for results). We have successfully trained Health Ambassadors on health issues in the Village of Sungai Nibung. We are currently identifying potential ambassadors in the village of Seruat II.

Based on our timeframe from the proposal as it relates to Output 6, we completed activities 6.1-6.3 that were indicated to be completed in year 1 of the Darwin grant. Over the past year our activities and progress have closely followed our grant timeline.

3.2 Progress towards project Outputs

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

The village of Sungai Nibung implemented their second closure from April 1, 2018 to July 5, 2018. Therefore, this closure took place *before* the start of the grant but *opened up* right after the official start date. Sungai Nibung controls roughly ~5000 ha of mangrove forests through 18 rivers. This closure consisted of three rivers closed from April 1– July 5, 2018. This closure was ratified through a village-level agreement and then patrolled regularly (8-12 hours a day) during the closure period. The area of mangrove is maintained with a patrol system for Stage 1 is 626.56 ha, Stages 2 and 3 are 80.33 ha each. The length of the river in the mangrove area maintained by the system patrols from Stages 1-3 reached 15,364 meters, consisting of 11,865 meters in Stage 1 and 3,499 meters in Stages 2 and 3.

The villages of Seruat II, Mangkalang, and Mangkalang Jambu successfully mapped and labelled rivers during year 1 of the grant. This activity is crucial to creating village-level agreements on what rivers are closed for what activities during which periods.

Together the four villages currently enrolled in our programs roughly manage half of the 15,000-ha mangrove landscape (Sungai Nibung – 4000, Mangakalang Jambu – 1250, Mangakalang – 1000, Seruat II – 700 = 6950 ha of mangroves). This indicates that our project is on track to reach our target of implementing TMRs and eventually creating a LMMA that will encompass the 15,000-ha landscape that our seven target villages are currently involved in managing.

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

Fishery-Dependent data collected by local data collectors

Using our standard monitoring and evaluation strategy, landing sites are monitored by a team consisting of one local who has been trained in data collection methods and one Planet

Indonesia staff member. Data is collected for: time the fishermen left, time the fishermen returned, number of crabs caught, weight of crabs, crab class (Class A, Class B, and Class C), and 5 largest crab's measurements (width and length). This is collected for 21 days prior to a closure and 21 days post closure. We ask where (the river name) crabs were harvested as it also allows us to compare between closures and non-closures.

Table 1: Shows Catch Per Unit Effort (Kg caught / hours crabbing), average weight, and average number of crabs caught across landing sites before and after closures. This is combined data for three seasonal closures.

	CPUE	Average Weight (kg)	Average Number of Crabs Caught
Before	0.55	4.05	15.43
After	0.87	5.43	22.17
% Change	+58%	+34%	+4%
***All Data combined from 3 TMRs			

Table 2: Shows Catch Per Unit Effort (Kg caught / hours crabbing), average weight, and average number of crabs caught across landing sites *between control and treatment* closures. This is combined data for three seasonal closures.

	CPUE	Average Weight (kg)	Average Number of Crabs Caught
Control	0.65	4.85	18.66
Treatment	0.84	7.62	19.42
% Change	+29%	+57%	+4%
***All Data combined from 3 TMRs			

To date, three closures have been conducted. For Closure 1 (November 2017 – January 2018) *we did not have pre-closure data*. For Closures 2 and Closures 3 we have pre- and post-closure data collected at landing sites (for 21 days). Tables 1 and 2 are for all data combined between Closures 1 (only post), Closures 2 & 3 (pre and post). Preliminary data shows an improvement in CPUE, average weight of crabs, and average number of crabs caught ***before and after*** (Table 1) and ***between control and treatment rivers*** (Table 2).

Table 3: Shows average weight pre- and post- closure *and* between control and treatment rivers between all three temporary closures.

		Average Weight (kg)			
		Closure 1	Closure 2	Closure 3	All Combined
Before	**Control**	-	3.65	4.35	4.00
	Treatment	-	7.93	5.45	6.69
After	**Control**	4.7	5,9	2.3	4.3
	Treatment	10.9	6.5	3.6	7.0

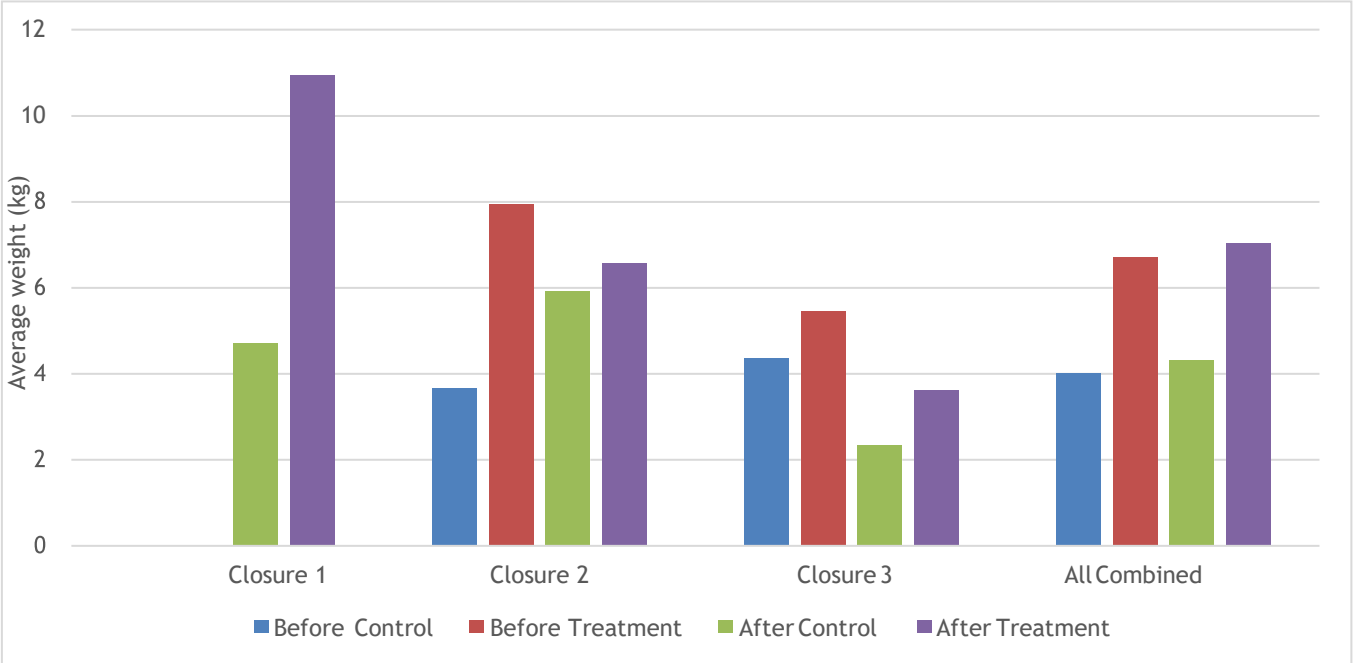

Figure 1: Shows before and after and control treatment data for the average weight of crabs caught across closures.

Table 4: Shows Catch Per Unit Effort Data across three closures before, after, and within control treatment.

		CPUE			
		Closure 1	**Closure 2**	**Closure 3**	**All Combined**
Before	**Control**	-	0.48	0.54	0.51
	Treatment	-	0.89	0.83	0.86
After	**Control**	0.50	0.93	0.46	0.63
	Treatment	0.97	0.85	0.55	0.79

Fisheries-dependent data collected at landing sites shows that there has been an improvement in fishermen harvests through the temporary mangrove reserve system. More data is needed and more closures across area and time replication to better understand the impacts of this system.

One issues with fisheries-dependent data collection is that we are restricted to collecting data at a limited number of landing sites. For example, for Closure 3, we learned that a landing site we do not monitor in a neighbouring village was offering a higher price for crabs. Therefore, we have extremely limited data for Closure 3 as the majority of fishermen did not bring harvests back to the landing sites where we were currently monitoring.

As we expand our program to new villages, we will have greater spatial and temporal replication which will allow for a larger data set. Moreover, it will also allow for us to cover more landing sites and collect more data.

Table 5: Shows income data for fishermen *before* closure number 2 over the 21-day monitoring period.

Crab Class A		Crab Class B		Weight		Price		Total Fishermen
Male	**Female**	**Male**	**Female**	**A**	**B**	**Rp 75,000**	**Rp 25,000**	**24**
299	296	311	39.05	233.65	87.1	Rp 17,523,750	Rp 2,177,500	Rp 19,701,250
Income Per Fishermen								Rp 820,885.42 USD $82.00

Table 6: Shows income data for fishermen *post* closure number 2 over the 21-day monitoring period.

Crab Class A		Crab Class B		Weight		Price		Total Fishermen
Male	**Female**	**Male**	**Female**	**A**	**B**	**Rp 67.000**	**Rp 25.000**	**30**
1588	1065	1896	1336	973.05	526.9	Rp 67,588,350	Rp 13,172,500	Rp 80,760,850
Income per fishermen								Rp 2,692,028 USD $269.00

Tables 5 & 6 use Closure 2 as a case study where fishermen harvest rates were extrapolated to income levels based on the number of fishermen, current market price, and fluctuations in catch size. This data was collected at landing sites using individual log books from fishermen in the village of Sungai Nibung.

This shows 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, despite that more fishermen were in the area (increase from 24 to 30) and the price of crab / kilo decreased by Rp 13,000 (roughly USD $1) 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.

A summary of the Fisheries - Independent data and results can be found in a short mud crab brief attached (see appendix II).

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

During this period the Oceanwise Australia team mapped out the area to identify locations for potential restoration and adjacent undisturbed areas. Preliminary trials of drone-based mapping of replanted mangroves were conducted successfully, validating this approach for monitoring mangrove growth and canopy cover. Oceanwise also conducted ground-based invertebrate surveys to assess the biodiversity in various mangrove forest areas and cleared aquaculture ponds. This has prepared the team for establishing baseline plots in mangrove forests under various levels of natural and disturbed states.

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

In September, 2018, Planet Indonesia together with Oceanwise held a meeting in Pontianak with seven village leaders and important figures from our target area, the Regional Department

of Fisheries (Dinas Perikanan), District Department of Fisheries, Regional Department of Forestry, District Department of Forestry (Dinas Kehutanan), The Ocean and River Police, and the Regional Department of Ocean and Fisheries Management (BPSPL). The meeting lasted for two days and featured presentations from Sungai Nibung on the success of the project from 2016-2018. Planet Indonesia presented the legal process for all seven villages to join the project and register their Locally Managed Marine Area (LMMA). This meeting was considered highly successful as all seven villages throughout the 15,000-ha mangrove landscape indicated they would like to join.

For our current project of Sungai Nibung and several sub-villages, a Conservation Cooperative or SME has already been up and running since the end of 2016. Currently, a total of 468 villagers are members and the Village Savings & Loans program has grown to a total size of IDR 135,872,000 or roughly USD $9,627. Coastal assets amount to IDR 140,841,000 or roughly USD $9,979. So far, five people have borrowed money from the loans program to set up fishing activities (four individuals) or to help set up their own private business (one individual).

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

A total of 134 individuals enrolled in the program (49 male and 85 female) and have begun monthly tutoring sessions to prepare for the government test or have already taken it. For students that have already taken the final exam, 52 out of 59 have officially graduated (an 88% graduation rate). For the session that just occurred in April of 2019, 33 people showed up to take the exam and we are awaiting the results. It is expected that anyone who doesn't pass the exam this round will continue studying in preparation for the next opportunity.

Tutoring sessions continue on a weekly basis on Sundays and are conducted by 12 trained and certified tutors from our partners at PKBM. PKBM is a registered Indonesian NGO certified to provide literacy training and administer the government national exam. Students who pass this exam can receive a certificate that helps with job placement in the workforce.

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

Our Population – Health – Environment program is currently underway in the village of Sungai Nibung, and we are conducting early FGDs in the village of Seruat II.

Our baseline survey of 100 randomly selected households conducted in September of 2018 revealed some interesting findings in Sungai Nibung. Eighty-five of 100 respondents noted they had never received any type of Health Education. Health Education was related to nutrition, family planning, sanitation, or basic health information that could be provided as a preventative health care. Eighty-four of 100 respondents noted they had never received information or "training" related to family planning, however, 49% noted they did use some form of contraceptive, but inconsistently (80% used an occasional shot). Other data revealed the village was almost entirely dependent on rainwater (94%) for a freshwater source, which in the dry season often required them to drink semi-saline river water. The survey revealed a need for basic health interventions related to family planning, sanitation, and nutrition training. This is in line with the PHE model which focuses on 'easily implementable' interventions that are high-impact.

From this information in Sungai Nibung, 25 Health Ambassadors have been selected from the community to learn more about services we provide and to help engage other community members. A three-day training was conducted with government officials from the department of health and the ambassadors. Training topics included: family health, family planning, pre-natal nutrition, and environmental health (with a focus on sanitation / trash). These health ambassadors were then provided with materials (flyers etc.) to distribute in the neighbourhoods of the Sungai Nibung Village, acting as a catalyst to distribute basic health information through

the village. In addition to our already established data collection, Planet Indonesia is partnering with Blue Communities of the UK; we have a PhD student from Exeter University who is further evaluating the impacts of Health Interventions on driving the adoption of conservation strategies and programs for coastal communities. The project is an 'assessment of the well-being benefits (e.g. reduced air pollution, fewer symptoms of anxiety and depression, greater levels of physical exercise, and stronger senses of community) and risks of coastal living associated with environmental change (e.g. land/water use, water salinity), demographic change (e.g. inward migration, changing age profiles) and climate change' – Blue Communities.

3.3 Progress towards the project Outcome

Project Outcome: Reduced 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 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 within the project area (Global Forest Watch 2017). Also, fishermen harvest rates are improving, and movement towards a Locally Managed Marine Area is gaining ground.

We have helped individuals increase their own capacity through finance and leadership training. These trainings range from basic finance, such as bookkeeping, with the option to follow through to advanced accounting that covers how to calculate shares, dividends, and distribution of those. These trainings have allowed members to tailor their benefits to their personal goals. The same can be said regarding education and healthcare; individuals who have enrolled in these services seem likely to continue their education until a degree is received or display an increased involvement in health promotion.

We have also noticed an overall change in mentality around natural resources and how to manage them; participants express concern for their environment and are more aware of activities that degrade it. This seems to be a somewhat unexpected side-effect of our services; literacy, healthcare, education, and business training have all been referenced by participants as having expanded their understanding and knowledge of conservation.

3.4 Monitoring of assumptions

Important Risks and Assumptions from the proposal and logical framework:

Outcome Assumptions:
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 considered.

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 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

Our project provides preliminary evidence towards improved human well-being and reduced environmental loss tied with positive impacts on biodiversity as a whole.

***Mangrove Forest Cover**:* We also conducted a limited spatial analysis to test for the occurrence of tree cover loss and mangrove clearing during the project period. We analysed tree cover data and mangrove forest coverage utilizing data from the Global Forest Watch platform from the World Resource Institute (Hansen et. al. 2016; 2017; 2018). The goal of this analysis was to test for disturbance using tree cover loss, GLAD alerts, Terra Alerts (Hansen et. al. 2016; 2017; 2018), within the 3054ha that the project was operating within the village of Sungai Nibung (as other villages have just joined, we did not yet measure our interventions). We are aware of the limitations the Global Forest Watch platform at calculating fine-scale forest disturbance and therefore restricted our analysis to mangrove forests within the area using (Bunting et. al. 2018 Global Mangrove Watch v2.0). We analysed tree cover loss at greater than 75% canopy density from January 1st 2001- December 31st 2018 and GLAD alerts from January 1st 2015 – April 30th 2019. In all cases we chose the earliest possible date the dataset was available till the latest possible date the dataset had been updated by Global Forest Watch.

Using Global Forest Watch data, a total of 143 ha of mangrove forest was lost within the project boundaries between 2001-2016, roughly 9.5 hectares a year. Since the start of our project we found that forest loss was 0.95 ha per year or 1.97 ha over the two-year period. In looking at terra-I alerts a total of 10 ha of forest was loss from 2004-2016 and since the start of our project there has been no indication of large clearing through terra-I alerts. GLAD disturbance alerts were available starting in 2015. The number of alerts decreased by 50% from 92 alerts in 2016 to 46 alters in 2017 within the first year of our project. In the second year of our project (2018) only 25 GLAD alerts were detected for a further 45.65% decrease in the total number of disturbances detected through the Global Forest Watch platform.

***Fisheries**:* In the above sections and attached “Mud Crab Briefs” we provided preliminary evidence that crab stocks are improving using both fisheries dependent and independent data.

***Human well-being & rural poverty**:* Using Sungai Nibung as a case study we have attached a *Participatory Impact Assessment (PIA)* that provides evidence of improved income, better access to education, and improved community health. This method uses community perspectives to “harvest” outcomes achieved by the project. Results previously presented and reiterated in section 6 further speak to the success of this.

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

- No poverty: our communal business approach (e.g. Small micro-enterprises) provides entrepreneurship, training and business investments to low-income communities living in tandem with biologically important ecosystems.

- Good Health and Wellbeing: Our family planning and women’s hygiene program empowers

women and families to live happy healthier lives that are rooted in sustainable resource management.

- Gender Equality: Our program reaches nearly 3000 households currently and over 65% of our total beneficiaries are women. From revitalizing traditional art to empowering women farmers, gender equality is at the heart of our model. In 2015 we won an award through the UN Women's Project Inspire competition for combing conservation and gender inclusion work.

- Climate Action: We work closely to provide community-based services to communities in 3 sectors (business, education, and health) in exchange for protecting and restoring ecosystems. Our work is centred on both climate change mitigation and adaptation through catalysing fair and equitable development for rural communities.

- Life Below Water & Life on Land: Our mangrove reserves program creates incentives for communities to more sustainably manage mangrove forests through restoring crab, shrimp, and estuary fisheries which are the lifeline and main livelihood for coastal communities.

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 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. For Sungai Nibung and several sub-villages, a Conservation Cooperative or SME has already been up and running since the end of 2016. At the end of 2018 Village Savings & Loans program has grown to a total size of IDR 135,872,000 or roughly USD $9,627. Coastal assets amount to IDR 140,841,000 or roughly USD $9,979. So far, five people have borrowed money from the loans program to set up fishing activities (four individuals) or to help set up their own private business (one individual) and loan repayment is at 100%.

7. Project support to gender equality issues

Community health and Education: Within the first year our outputs and indicators point to preliminary findings that the project is providing positive impact to women and girls through our Education and Health services. A total of 134 individuals have been reached through the literacy program (49 male and 85 female) and have begun monthly tutoring sessions to prepare for the government test or have already taken it. For students that have already taken the final exam, 52 out of 59 have officially graduated (an 88% graduation rate above our 60% target). For the session that just occurred in April of 2019, 33 people showed up to take the exam and we are awaiting the results. 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 over 100 individuals within the first year, above our targes.. These findings are further elaborated upon within the logical framework and detailed description of outputs above.

8. Monitoring and evaluation

We should note that attached to our Annual report are three learning briefs related to the project:

1) Mid-term Review and Influence Matrix of Sungai Nibung
2) Mangrove & coastal erosion brief (see appendix III)
3) Mud crab brief (see appendix II)

These three briefs are meant to be part of the Monitoring and Evaluation Results of our Darwin Project. However, as they are extensive and evaluate specifics aspects of the project related to human well-being, improvements in community-based natural resource management, fishery independent catch monitoring, and targets for mangrove restoration, we have attached these as *learning modules* related to our Darwin project.

Monitoring and Evaluation Methods and Categories:

Community-based Indicators:

We use a household survey to track progress towards indicators. Our community-services team has conducted baseline surveys in Sungai Nibung and Seruat II. We use a MBACI design to track indicators before and after program intervention (on a 3 – 5-year timeframe), between treatment and controls and multiple communities (e.g. households who sign up for a conservation compact and those that do not). This data will be collected during the Darwin project (BEFORE) but as the timeframe we use is on a 5-year scale the AFTER data will most

likely be collected post-Darwin. However, we feel it is an important aspect of our M&E strategy.

Fishery-Dependent Monitoring and Evaluation:

We collect fisheries data for 21 days prior to a closure, and 21 days after a closure (as in, the river is open for harvest again). We continue to collect data at a rate of three 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, treatment and control at different sites, and to quantify CPUE before and after closures.

Fishery-Independent Monitoring and Evaluation:

We use non-destructive sampling that approximate fishing methods employed by fishers to assess target assemblages. Oceanwise deployed crab traps to assess the structure of mud crab assemblages, measuring size, abundance, and sex of all target species caught. Sites within and adjacent to reserves are sampled and data are used to monitor the health of the population of target 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. Using 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 worked with an 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 the help of this consultant's expertise 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 addition, we worked with her to develop a new M&E tool that looks to break down our integrated approach.

We have developed an innovative approach and have begun using it to enhance our M&E strategy. The approach is as follows:

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 as 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)

Regarding a previous concern for clarification of our fisheries approach, Planet Indonesia has a system in place for data collection and management. Data is collected by our fisheries technicians in tandem with local communities. Through funds from the Darwin initiative we have bolstered efficacy and sustainability of data collection and monitoring via several trainings on Fishery-Dependent Monitoring, Sampling Schemes, and Data collection (conducted with Blue Ventures in late 2017).

Our water sampling of crab trapping activities was conducted successfully, validating our approach to fisheries-independent sampling of assemblages by Oceanwise Australia. This approach will be further refined to include the use of single underwater video cameras preferable to stereo video cameras due to limitations of underwater visibility.

Concerns regarding specific monitoring protocols, specific aspects of micro-projects, and sustainability of the overall project have been addressed in their respective sections.

11. Other comments on progress not covered elsewhere

Overall, Planet Indonesia's approach of community-led protected area management alongside development initiatives coordinated through a central Cooperative is having positive impacts on conservation and communal well-being in villages. One strong example of successfully established community ownership of the approach is members' advocacy to neighbouring villages to reduce illegal logging and fishing activities. We plan to investigate how Cooperative members are attempting to influence neighbouring villages' natural resource management, and whether our project could bolster these efforts. Planet Indonesia will continue to work with these communities in the future, with intent to expand to others. We would like to design a monitoring method to capture more data on the efficacy of an education and health curriculum to invest in conservation, so that other agencies working in the field may adopt a similar approach.

12. Sustainability and legacy

At Planet Indonesia we view working with communities as a long-term commitment and we aim to make our projects self-sustaining well 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 skillsets 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 FGDs to assess ongoing needs.

From a business and finance standpoint, our field staff meet with community beneficiaries monthly to open the safety deposit box together and monitor the growth and change in the Village Savings & Loans (VSL). VSLs consist of a variety of income sources from fishermen to farmers and can be used as members see fit in their community; so far members have taken out small loans to start new private businesses or for fishing activities. After the first year we move more towards leadership training and long-term mentoring; the communal SME will decide whether to increase their status to a full "cooperative," which in Indonesia has its own legal status, set of bylaws, and annual elections. Whatever route the communities choose, the funds will continue to be used as the communities see fit, with intermittent guidance from our team where necessary.

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 managements standards already in place is quite feasible. This LMMA will cover roughly 15,000 ha of mangrove forest and coastal fisheries be will be managed by seven 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 what 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. Project expenditure

Table 1: Project expenditure <u>during the reporting period</u> (1 April 2018 – 31 March 2019)

Project spend (indicative) in this financial year	**2018/19** **D+ Grant (£)**	**2018/19** **Total actual D+ Costs (£)**	**Variance %**	**Comments (please explain significant variances)**
Staff costs				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items				
Others (Please specify)				
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2018-2019

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	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 early indication we are on-track to reach our goals. Fishermen harvest rates are improving, the number of mangroves protected through community agreements is on the rise, graduation rates from our literacy program is well-above the target, and we are on-track to reach our goal of 600 households enrolled in our program almost 1.5 years ahead of time.	
Outcome Reduced socio-economic inequalities in coastal communities through improving mangrove forest management and restoring coastal fisheries.	0.1 Locally Managed Marine Area (LMMA) created by the end of the project covering 15,000 ha of mangrove forest and coastal fisheries. 0.2 Increased harvest rates (25-50%) as a result of TMR system 0.3 Increased use of temporary reserves by non-target species and high conservation value species 0.4 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. 0.5 Increased forest cover across 15,000 ha	0.1 ~6950 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. 0.2 Fishermen harvest rates (using only CPUE) improved 58% before and after TMRs and 29% when comparing control – treatment data 0.3 We have not yet seen progress towards this indicator 0.4.1 Progress has been made at improving access to Savings & Loans (>USD$9000 in VSLs) through Conservation Cooperatives 0.4.2 Enrolment in Conservation Cooperatives is ahead of targets at 468 households enrolled in	- 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 2019-2020 year we will begin zoning the LMMA through a participatory mapping exercise. - 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

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
	through active reforestation and natural regeneration in TMR areas	year 1 (year 1 target was 200) 0.4.3 Using fisheries data fishermen have improved income by over 100% from an avg of USD$3.00 a day to USD$12.00 0.4.4. Graduation rate was 88% from literacy program, well above target of 60% 0.4.5 22 women have been trained as local health ambassadors and reached over 180 households through outreach over the past year	
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 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 cameras and surveys between TMR and non TMR sites	1.1 ~6950 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 Forest patrol units created and where TMRs are active patrol daily 1.3 We have submitted project amendment in regards to baited cameras. We are using crab traps to compare biodiversity indices between TMR and non TMR sites. 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)	
Activity 1.1 Initial community socialization and hearing in 4 target villages		Our community hearing included 7 villages surpassing our target and was conducted in October of 2018. At this meeting the village of Sungai Nibung spoke to the success of our partnership for the 2016-2017 year and asked the other 6 villages within the 15,000 ha landscape which is the target of the LMMA to commit to replicating this program and to create an inter-village agreement on mangrove and fisheries management. This meeting was also	Has been completed, will be done at a local village level in 3 villages not yet enrolled but that did attend the large community hearing

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
		attended by representatives of the government from various departments (see stakeholder section for list of government agencies).	
Activity 1.2 Data and knowledge sharing, bringing previous program beneficiaries to share experience with TMR in new village		has been successfully done within the initial hearing (mentioned in activity 1.1) as well as a local scale through village exchanges and learnings.	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 our 4 partnership villages (Sungai Nibung, Mangkalang Jambu, Mangkalang, and Seruat II). This is an important activity to provide signage on the names of rivers and boundaries of where 1 village forest and fishing rights end and where another begins	Has been completed for 4 villages, will be done for next 3 villages enrolled
1.4 Community assessment and patrol unit recruitment		this has successfully been conducted in all 4 of our current partnership villages. Patrols are active in 2 of the 4 villages, while in 2 villages recruitment has been conducted but patrolling will commence upon the first implementation of a TMR in June of 2019.	Has been completed for 4 villages, will be done for next 3 villages enrolled
1.5 Patrol unit training and data model set up for recording visitation, incidental sightings and infrastructure.		has been conducted but will be continued through on-the-job learning and capacity development of patrol units.	Has been completed for 4 villages, will be done for next 3 villages enrolled
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 3 closures have been conducted, and in June 2019 all 4 villages will implement their own closures.	Total of 3 closures completed, 4 villages currently enrolled will each implement a closure (4 total closures) during the 2019-2020 year

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		3 openings completed	Total of 3 closures completed, 4 villages currently enrolled will each implement a closure (4 total closures) during the 2019-2020 year
1.9 Meeting, Evaluation and Data Sharing of TMR Closure 1		Data shared after all 3 of the closures and from first 2 closures are large community hearing (with 7 villages) in October 2018	Total of 3 closures completed, 4 villages currently enrolled will each implement a closure (4 total closures) during the 2019-2020 year
1.10 TMR Closing II		3 closures completed	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		3 openings completed	Total of 3 closures completed, 4 villages currently enrolled will each implement a closure (4 total closures) during the 2019-2020 year
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 (084) 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 2018 - March 2019	Actions required/planned for next period
		effectiveness of TMRs are improving fishermen harvest rates	
2.1 Community Socialization and Knowledge sharing of previous program in new target villages		This activity was first conducted at the large 7 village hearing conducted in October 2018. Since this meeting was primarily attended by village leaders, sub-village leaders, and important representatives, this was then replicated in 3 villages (Seruat II, Mangkalang, Mangkalang Jambu) between December 2018 – January 2019. Sungai Nibung (our pilot village) was the main driver of this, bringing data and proof of concept to its neighbouring villages in the area to aid Planet Indonesia in scaling of the project.	
2.2 Baseline fish assemblage surveys - fisheries independent baited underwater video assessments inside and outside TMC pre and post each of two closure periods		Progress towards this is combined as this is an ongoing activity. Meaning, as a village enrols activities 2.2-2.7 are completed *prior to closures*. For the 4 villages currently enrolled 2.2-2.7 have been completed.	Planned activities for this are combined as these activities will be conducted in the new village (3 village are yet to enrol)
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	3.1 0 hectares of land replanted 3.2 0 hectares restored 3.3 0 ha of aquaculture ponds restored 3.4 0 seedlings planted Planned Activities: We have not yet begun planting seedlings although this is planned within our Darwin grant as the first year of the grant was intended to provide an in-depth look into potential sites, aquaculture ponds, and areas that needed restoration. Oceanwise Australia has identified priority areas for seedling replanting	

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
	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 period before the end of the project life.	based on areas vulnerable to coastal erosion and cleared areas from logging and aquaculture (see appendix III).	
Activity 3.1 Beneficiary Identification			
Activity 3.2 Land, mangroves and biodiversity surveys			
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).

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
3.6 Planting II		Not applicable	Seedlings to be planted in priority areas identified by Oceanwise Australia.
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 468 households have enrolled in our Cooperatives / SMEs 4.1.1 USD $ 9,979 available in Cooperatives Savings & Loans Groups as of March 31st 2019 Planned Activities: We have surpassed our year 1 goal of 200 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		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 of the grant this will be replicated in the other 4 villages that attended the initial kick-off meeting but have not yet enrolled in the program.	-
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 486 households	
4.4 SME Training II: Financial and Group Management			Target for year 2

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			Target for year 2
4.6 SME Training IV: Targeted Incubator and Market Access			Target for year 3
4.7 Monthly Follow-up and data tracking (membership, savings/loans)		Ongoing	Ongoing
4.6 Mon/Ev Survey and Final Data Compilation			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) 5.2 88% graduation rate for the 2018-2019 1-year course Planned Activities: We were slightly below our year 1 goal of 200 individuals reached although still well within range and well surpassed our graduation rate (goal 60% and 88% graduated). We expect as we add new villages that will reach our target of 600 individuals reached over the 3-year period. In 2019-2020 as we expand into 3 new villages that are currently enrolled in the program as a whole but individuals are just now enrolling in the literacy program, we expect this number to improve considerably.	
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			This will be completed for new individuals who enrol (enrolment currently underway)
5.7 Packet A, B, C Evaluation: First/Mid/Final – 2-year course			This activity will be conducted in March 2020 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 22 local health ambassadors' employees (all women) and trained through Department of Public health 6.1.1. 188 individuals reached in year 1 through health ambassador outreach Planned Activities: We are currently implementing our Population – Health – Environment method in the village of Sungai Nibung. We have begun baseline data collection and FGDs in the village of Seruat II as of March / April 2019. We will expand our PHE programs (e.g. health services) to this village during the 2019-2020 year.	
6.1 Beneficiary and Community Hearing		was conducted in tandem with previous activities. Our large hearing in October 2018 was an overview of all programs, including our integrated Population – Health – Environment program, attended by 7 villages. Since that time, we have begun the process of replicating our PHE approach in new villages that have enrolled in our program (our current work focuses on Sungai Nibung and Seruat II).	
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	This will be replicated in new villages

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
		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		There has been a slight modification to these activities. These activities will be completed as 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.	
6.5 Evaluation I			
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)

N.B. if your application's logframe is presented in a different format in your application, please transpose into the below template. Please feel free to contact Darwin-Projects@ltsi.co.uk if you have any questions regarding this.

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.	0.1 Locally Managed Marine Area (LMMA) created by the end of the project covering 15,000 ha of mangrove forest and coastal fisheries. 0.2 Increased harvest rates (25-50%) as a result of TMR system 0.3 Increased use of temporary reserves by non-target species and high conservation value species 0.4 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. 0.5 Increased forest cover across 15,000 ha through active reforestation and natural regeneration in TMR areas	0.1 LMMA report and agreement created and certified by the department of fisheries (DINAS PERIKANAN) 0.2 Fishery/crab harvest rate from TMR zones and adjacent areas fished all year round by fishermen enrolled in the program. 0.3 increase in mangrove cover and biodiversity from baseline surveys to post protection and revegetation surveys. 0.4 results of acquisition and retention rate in 3 programs: Cooperatives/SMEs, literacy program, and women's healthcare. 0.5 Records quantifying graduation rate from literacy program 0.6 Results of socio-economic surveys pre, mid, and post intervention and the impact of our project. 0.7 Amount of funds in community-owned savings/loans program. 0.8 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 cameras 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. 1.6 Records of incidental sightings from fishers, patrol rangers, public,	- 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.

		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	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	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	- 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

service, creating strong incentives for adopting new rss mngt. SD Goal: Reducing Inequalities & Gender Equality		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.	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	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
6A	Financial household management training,	Men and women	Indonesia	468	200*	200*	468	600 households
6A	Literacy training	Men and women	Indonesia	134	200*	200*	134	600 households
6A	Health ambassador training	Women	Indonesia	25	0	25	25	50 health ambassadors
6A	Health ambassador outreach (e.g. how many individuals the trained ambassadors reach)	Men and Women	Indonesia	113	100	100	113	300

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)

	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.	yes
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.	no
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.	Yes
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.	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.	