Darwin Initiative Main Annual Report

To be completed with reference to the "Writing a Darwin/IWT Report" Information Note:: (https://www.darwininitiative.org.uk/resources-for-projects/reporting-forms-change-request-forms-and-terms-and-conditions/).

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

Submission Deadline:30th April 2021

Darwin Project Information

Project reference	26-011
Project title	Strengthening fisheries resource co-management in PiSiSi MPA, Simeulue Island
Country/ies	Indonesia
Lead organisation	Fauna & Flora International
Partner institution(s)	Aceh Marine Fisheries Agency (DKP)
	Panglima Laot / Sea Commander
	Syiah Kuala University
Darwin grant value	GBP. 338,063.00
Start/end dates of project	01 April 2020 - 31 March 2021
Reporting period (e.g. Apr 2020 – Mar 2021) and number (e.g. Annual Report 1, 2, 3)	April 2020 – March 2021
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Report author(s) and date	Teuku Youvan; Rakhmat Dirgantara; Henry Duffy.

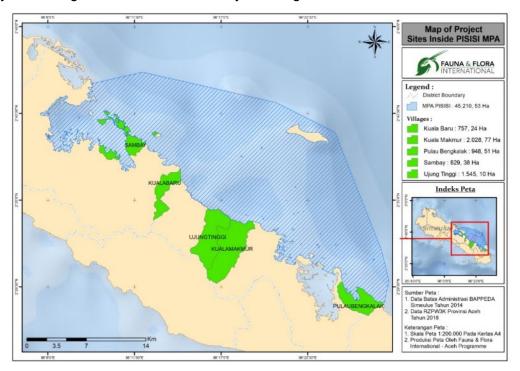
1. Project summary

In 2018, the Aceh government reserved four marine protected areas (MPAs) in Simeulue for the designation process by central government, namely; Pulau Pinang, Pulau Siumat and Pulau Simanaha (PiSiSi); Pulau Simeulue Cut; Simeulue Barat; and Pulau Batu Berlayar. For this project agreement, FFI is focusing on the PiSiSi MPA which covers 5 out of 26 villages with a population of 3,279. The location of the project site is on the north coast of Simeulue Island, off the coast from mainland Aceh.

Surveys indicate that over 65% of global coral species occur in PiSiSi MPA, with high coral cover and 162 recorded reef fish species including threatened sharks and groupers. In addition, the protected zone encompasses mangroves and seagrass. This biodiversity

provides vital marine resources to more than twenty communities with traditional fishing grounds within the MPA. However, MPA compliance is low, and long-term illegal and destructive fishing undermines management, with compressor fishing dominant. The primary poverty driver for Simeulue fishing communities is thought to be environmental degradation. Catches have declined due to destructive fishing in the MPA, and associated livelihoods are hampered by inequitable relationships, thin margins, high transport costs, low market literacy and weak quality control.

Attempts to address destructive fishing are jeopardised by limited capacity of district marine authorities, low enforcement and weakening of traditional fisheries tenure. Increasing encroachment by non-local fishers also undermines traditional management. Nested within the MPA, Locally-Managed Marine Areas (LMMAs) are based on traditional fishing grounds which are recognised by the Panglima Laot and local government. At project start only two LMMAs are formalised within PiSiSi MPA, and there is still a significant threat to the access of local communities who rely on MPA resources. FFI and partners have identified these problems through over a decade of working alongside Acehnese coastal communities, and the project is designed to address these key challenges.



2. Project partnerships

FFI has continued to grow key government partnerships during year 2, and is contributing to key policy. For example, FFI worked with the Aceh provincial government (DKP Aceh) and other partners to develop key strategic documents about the Destructive Fishing, and the final meeting with the stakeholders was held on November 12, 2020. This process resulted in the Aceh Government Road Map for tackling the Destructive Fishing Practices, and this covers the area of this project in Simeulue Island (Appendix. x Aceh Governor Decree no 532/39/2021 for Aceh Government Planning 2021 – 2025 for Tackling Destructive Fishing)

In addition, another collaborative partnership activity between stakeholders was also conducted to support the creation of the guidance of the "LMMA Management Plan" for marine conservation practitioners. The working group creating this guidance is led by DKP Aceh with the support from FFI, Wildlife Conservation Society, World Wildlife Fund and local NGOs. These guidelines capture best practice from the LMMA work conducted through this

Darwin project, and will support the standardisation and replication of LMMA approaches elsewhere in Aceh



Figure 1 Destructive Fishing Taskforce meeting

3. Project progress

3.1 Progress in carrying out project Activities

Output 1: By 2022, five coastal communities are engaged in co-management of new LMMA (Lhok) areas within PiSiSi MPA

➤ Activity 1.6 Support, with technical advice and data, the creation of LMMA action plans based on results of 1.4

Based on the previous results from Participatory Rural Appraisal (PRA) in year 1, and the limited meetings conducted within the Covid-19 restrictions, the Sambay LMMA Management Plan revision has been implemented while the LMMA Management Plan revision of Pulau Bengkalak still requires at least two more meetings (Appendix xx. SB-PB Management Plan). Meanwhile the customary law agreement, underpinning the implementation of LMMAs by traditional fishers, in Sambay and Pulau Bengkalak further LMMAs has been completed (Appendix xx. Customary Law of SB-PB).

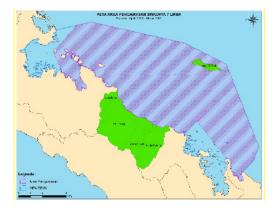
Activity 1.7 Train and community support members to undertake SMART patrol activities, including both independently-led and collaborative patrols

Through the Darwin project and the wider FFI programme in Simeulue, FFI has supported coastal communities to conduct extensive monitoring and monitoring in seven LMMAs. In year 2, communities in Pulau Bengkalak and Sambay villages have particularly increased their voluntary patrol efforts, with patrols also continuing in the 5 other villages (Appendix xx. Annual report), as presented in the table below.

Patrol type	LMMA	Time period
	Air Pinang	April 2020 – March 2021
	Pulau Siumat	April 2020 – March 2021
	Kuala Makmur	April 2020 – March 2021
Volunteer	Ujung Tinggi	April 2020 – March 2021
	Kuala Baru	April 2020 – March 2021
	Sambay	May 2020 – March 2021
	Bengkalak Island	July 2020 – March 2021
	Air Pinang	11 November 2020 & 28 November 2020
	Pulau Siumat	October 28th, 2020
Routine	Kuala Makmur	August 25, 2020 & November 11, 2020
	Ujung Tinggi	August 26, 2020 & November 11, 2020
	Kuala Baru	October 20, 2020 & November 11, 2020

With a participation target of at least 20% of fishers in each LMMA, the number of fishers who have participated in voluntary patrols in the period April 2020 - March 2021 reached 242 across all communities with a total of 19,592 voluntary patrol trips with an average ± 1,633 trips / month for all LMMAs. In accordance with the original purpose of voluntary patrols, inkind financial support was provided by fishers in line with the operational costs of fishing trips, so that during year 2 the in-kind contribution from fishers reached IDR with an average expenditure of ± IDR per trip. The Panglima Laot network sends quarterly reports to relevant authorities such as DKP Simeulue, the local fisheries authority, ensuring that patrol results are considered by relevant government authorities, and maintaining communication between communities and government (Appendix xx. Quarterly Report)

The increasing spatial coverage of the surveillance area will improve the security of the PiSiSi MPA through active, locally-led management, whilst also increasing the chances of locating violations (illegal or destructive fishing activities). Based on spatial analysis of the patrol area using the Maximum Convex Polygon (MCP) method, the area of voluntary patrol surveillance in Year 2 amounted to ± 39,062.6 ha (Figure 2) which is proportional to 88% of the total area of PiSiSi MPA. The area increased by 31% (13,921.75 ha) compared to the same period in the previous year (Figure 3). This demonstrates how local patrol effort is growing through the support of this project.



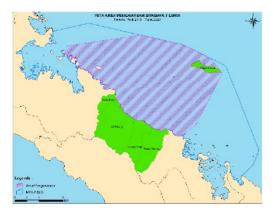


Figure 2 Patrol area based on MCP analysis April 2020-March 2021

Figure 3 Patrol are based on MCP analysis April 2019

– Maret 2020

The voluntary patrols detected 157 violations, where 155 violations occurred inside the PiSiSi MPA (across 52 locations) and 2 violations outside the PiSiSi MPA (2 locations). Based on the number of trips conducted in the period April 2020 - March 2021 is approximately 0.01 incidents / trip. This value has decreased slightly when compared to violations in Year 1 of 0.02 incidents/trip, but most important is that overall levels of violations within PiSiSi MPA are being maintained at a very low level so far during the project (Figure 4).

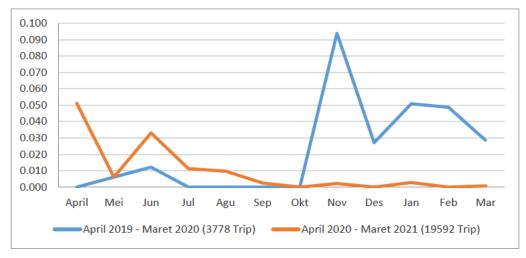


Figure 4 Index graph comparing trends in detected violations per patrol between the first and second year project periods

Meanwhile, scheduled supervision (routine patrols) has been conducted by Panglima Laot along with fishers and community leaders in each LMMA. A total of 13 routine surveillance has been conducted throughout the LMMAs and involved 250 people with a total of ±19 patrol participants/ trip. The total surveillance distance covered was 271.76 km with an estimated surveillance area of 8,510 ha, which is equivalent to 19% of the total area of PiSiSi MPA. The area covered by routine patrols increased by 4,780 ha (11%) from April 2019 to March 2020. From the 13 routine patrols, 2 violations were detected and found to involve the use of fishing gears that are prohibited from operating within LMMAs. Specifically, fishers were using a combination of lift net boats and compressors. The action taken was to give a reprimand to fishers using the *bagan* net lift (November 11, 2020); as well as securing the compressor fishers and their fishing gear (29 November 2020) and reporting them to DKP Simeulue for formal legal processing on December 8, 2020 because the compressor fishers in this case were not willing to consider case resolution through customary traditional fishing court courts procedures.

➤ Activity 1.8 Facilitate the participation of government and enforcement agency personnel in LMMA co-management patrols which also involve communities

The compressor fishing violation by 5 perpetrators on December 14, 2019 at LMMA Ujung Tinggi, which was successfully secured by Panglima Laot and reported to DKP Simeulue, resulted in sentencing by Simeulue district court on July 13, 2020 with a sentence of 2 months imprisonment and a fine of 1 million rupiah. Also in this reporting period, 5 compressor fishers were reported on December 8, 2020, and the case was taken over by the Lampulo PSDKP Base (Regional Supervisory Unit-Ministry of Marine Affairs and Fisheries) for processing in accordance with the national law. The examination was conducted collaboratively with Acehnese authorities and involved provincial DKP investigators, as well as district fisheries authorities from Simeulue and adjacent Aceh Singkil district. During this reporting period the compressor fishers are still awaiting trial in court and, if found guilty of fishing violations, are likely to receive a similar sentence to that described for the previous case, earlier in this paragraph.

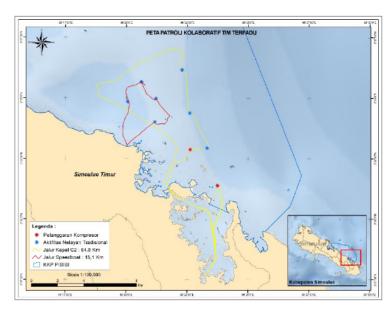


Figure 5 Tracks and locations of collaborative patrols in PiSiSi MPA

During this period two collaborative patrols, involving Panglima Laot as community representatives, fisheries authorities and enforcement bodies, have been conducted, covering a distance \pm 79.9 km, generating a total area of surveillance \pm 3,014 ha and a total patrol time of \pm 15 hours (Table 1) and Appendix X (Patrol Form). FFI has provided support to DKP Simeulue and the local police to conduct these collaborative patrols and to ensure that MPA and LMMA regulations are appropriately enforced. Government authorities responsible for monitoring the utilization of marine resources and fisheries agreed to conduct these operations to reduce destructive fishing. The patrol team secured two units of compressor fishing ships operating inside the PiSiSi MPA as well as securing nine illegal fishers found using the prohibited gear. This was reported in online news entitled "The Patrol Team from Water Police, DKP and Pokmaswas curbed the use of compressors, 9 fishers were arrested" in Indonesian language. The nine suspects are also awaiting trial.

FFI also supports patrols led by The Lampulo-MMAF PSDKP Base in collaboration with Panglima Laot which was conducted on March 28, 2021. This patrol is in order to monitor fishing activities within the conservation area during the day, and no violations were detected.

Table 1 Collaborative Patrols conducted in MPA PiSiSi

	Stakeholders	Fishery Activities	time	distance	broad
14/12/2020	DKP, Polairud, NGO, Panglima Laot/POKMASWAS	3 jukung ships; 2 Compressor violations	11 hours	64.8 km	2,129 ha
28/03/2021	PSDKP Lampulo MMAF, NGO, Panglima Laot	5 jukung ships	4 hours	15.1 km	885 ha

> Activity 1.9 Support, with facilitation and knowledge of good practice, committees to conduct and oversee LMMA management actions as defined in action plans

The national television talk show "Susi Cek Ombak" hosted by Susi Puji Astuti (former Minister of Marine Affairs and Fisheries of Indonesia) undertook a visit to Simeulue Island. During this visit the Panglima Laot Network were invited to share the learning of fishery management and share best practice on the application of local wisdom and traditional

customs to promoting compliance and reducing MPA violations, with FFI support (Figure 6). The talk show premiered on December 16, 2020.



Figure 6 Still image of Simeulue Panglima Laot appearing on "Susi Cek Ombak".

A further area of LMMA support in year 2 related specifically to octopus, a socioeconomically important fishery in PiSiSi MPA communities. In an octopus management mini workshop on November 19, 2020 we invited the Panglima Laot Network to evaluate octopus fishery management in 7 LMMAs. They also learned about octopus fishery management in Indonesia in the World Fisheries Day Webinar held by Blue Ventures (Figure 7).





Figure 7 Attendees from Simeulue joining the online octopus management workshop (left) and a still image from the Blue Ventures webinar workshop stream (right)

In order to apply LMMA management to improving the observed declining trend of octopus fishery production in Simeulue, the Panglima Laot built the initiative of octopus management in LMMAs supported by this project with the following management recommendations which will be applied for the remainder of this project and after.

- 1. Prohibiting the capture of octopus through the destruction of coral reefs.
- 2. Develop an open-cap system, and restrictions on capture size and depth of octopus catching (see Table 2, with specific measures according to LMMA needs.

Table 2 Octopus management recommendations made by Panglima Laot for each LMMA

LMMA	Ma	Management Recommendation				
LIVIIVIA	Temporary closures	Catch Size Limitation	Depth restrictions			
Air Pinang	X	< 3 ons				
Pulau Siumat		< 3 ons				
Kuala Makmur		< 3 ons				
Ujung Tinggi		< 3 ons	0-25 meter*			
Kuala Baru	X					
Sambay		< 3 ons				
Pulau Bengkalak		< 3 ons				

As described in the March 2021 change request, further work under Acitivity 1.9 has been delayed by ongoing legal procedures in Air Pinang village, at request of government partners.

Output 2 Fishers, market actors and supporting organisations have improved understanding of the fisheries market system and collaborate to create equitable relationships within it.

> Activity 2.2 Conduct participatory market mapping & action planning workshops

Fisheries market mapping was completed in Pulau Bengkalak Village and market action planning workshop for 3 villages (Bengkalak Island, Kuala Baru and Sambay) have been implemented (Figure 8) and Appendix X participatory market mapping & action planning workshops. Thus market mapping and action planning throughout all participating LMMA communities has been implemented and will be continuously updated based on the results of on-going mentoring and quarterly monitoring with actors of grouper and octopus fishing market.







Figure 8 Market mapping and action planning meetings in LMMA villages, and financial management training activities (three images)

➤ Activity 2.3 (Organise and support exposure visits for fishers and traders to mainland seafood markets)

As described in the two change requests submitted in year 2, this activity has been delayed by Covid-19 travel restrictions and subsequently due to the Air Pinang legal case, which is ongoing at the time of writing.

Activity 2.4 Provide training in quality control, cold chain maintenance & financial management, and provide on-going mentoring to trainees

Based on the action plans developed in collaboration with fishery actors in Simeulue, the key needs are to strengthen the market chain, develop positive relations between market actors and increase fish price standards. As a step towards achieving this, FFI has facilitated capacity building for market actors on good fish handling practices and post-harvest

practices, in order to improve product quality and reduce losses or damage in the supply chain. In collaboration with DKP Simeulue, FFI facilitates training activities at the fisher level, with collectors in the village level and larger-scale collectors in city areas. Due to Covid-19 restrictions this activity was held virtually by inviting instructors from the Center for Fisheries Training and Extension (BPPP) Belawan / North Sumatra to make presentations to Simeulue market actors (Figure 9).



Figure 9 Delivery of online training in fisheries postharvest techniques for Simeulue market actors

BPPP is a work unit under the national Ministry of Marine Affairs and Fisheries, with responsibility for providing training services in order to improve competence in the field of marine and fisheries management across Sumatra The 34 Simeulue market actors who participated in the training present gained new knowledge and understanding of the risks of mishandling fish, and solutions to reduce mishandling issues In order to ensure effective application of learning in the Simeulue market system, and due to the limitations of virtual training, all market actors and parties requested the support of in person training once this is permitted under domestic travel restrictions. Thus, this online training is not considered a full replacement for the full in-person training programme now planned for year 3 (see December 2020 change request) (Appendix x. Training Report on Good Fish Handling

In addition training in the financial management of fisher households and the financial bookkeeping of fishery businesses is one of the identified capacity gaps and activities prioritised in the market action plans of participating villages. Financial management training was conducted in 7 LMMA communities. Participants involved in the financial management training of fishing families were primarily women, as the key financial actor at household level, with 131 women from fishing households participating, as well as 17 fish collectors (Figure 8) and Appendix x, Management and Pemukuan Training Report)

➤ Activity 2.5 Hold quarterly monitoring meetings with market actors

Quarterly monitoring meetings have been held in Kuala Baru, Kuala Makmur, Bengkalak Island, Sambay and Ujung Tinggi, although the frequency and scale of these meetings was limited due to Covid-19 restrictions. Quarterly monitoring meetings are conducted in order to obtain information on market system changes, adjust action plans and conduct monitoring and evaluation of project interventions. During year 2 there have been several changes in the dynamic market chains across the participating LMMA villages. Many market actors at the village level experienced high business volatility, with some quitting the fishery business and others inactive as a result of the negative market situation caused by the pandemic, as well as a lack of experience in fishery business management. Meanwhile, capital shortages, low ice production at the village level, and low trust among market actors are also obstacles that have not been overcome independently, and will require continued support during year 3 of the project.

Output 3: By 2022, coral reef fish biomass within the MPA has increased compared to 2018 baseline, with ecological data made accessible through the PiSiSi Atlas of Coastal Resources

➤ Activity 3.1 Undertake coral reef fish assemblage surveys in new LMMA areas.

No further coral reef surveys were conducted in year 2. Following the baseline surveys conducted in year 1, a further round of coral reef surveys are planned in year 3 to assess changes in the reef fish assemblage within PiSiSi MPA and within participating LMMAs.

> Activity 3.2 Undertake Spawning Aggregation (SPAG) surveys in new LMMA areas.

This activity has been discontinued due to insufficient data on spawning fish populations, and resources have been re-allocated, as described in the change request submitted during year 2.

➤ Activity 3.3 Disseminate the results of the reef fish and SPAG surveys with target communities and key stakeholders.

The survey results were previously disseminated during a public consultation on the PiSiSi MPA zoning plan on in late 2019 in conjunction with the community around the PiSiSi MPA and the parties in Simeulue. Following this dissemination, during year 2 FFI and government partners designed a proposed PiSiSi MPA zoning plan based on ecological, economic and social parameters, with feedback obtained from LMMA communities. The PiSiSi MPA Zoning Plan has been approved and has been determined through the Decree of the Minister of Marine Affairs and Fisheries on August 4, 2020 (Appendix. MMAF's Decision on the Determination of PiSiSi MPA).

> Activity 3.4 Upload (annually) data to the 'PiSiSi Atlas of Coastal Resources' online database.

This activity will be implemented in Year-3, as described in the change request submitted in December 2020 of year 2.

➤ Activity 3.5 Present, train, and support use of the database with key resource governors and data users.

This activity will be implemented in Year-3.

Output 4 Marine resource governance actors in Simeulue and Aceh are empowered and motivated to co-manage LMMA and MPA networks in line with policy commitments

➤ Activity 4.3 Facilitate initial meetings and arising activities for LMMA Networks
Working Group

The LMMA Network Working Group was formed on Simeulue Island based on the decision of the Regent of Simeulue in the middle of the 1st year of the project. Since then, during year 2 the working group has been actively collaborating as the Panglima Laot's networking forum, reporting the results of surveillance, and conducting collaborative patrol preparation meetings (Figure 10). Therefore the Working Group is acting as a crucial new forum for collaboration between community representatives and fisheries management authorities, building empowerment and motivation between these key project stakeholders.



Figure 10 Voluntary patrol report meetings and collaborative patrol preparations with government and Panglima Laot traditional institution members.

➤ Activity 4.4 Found the MPA management body and facilitate initial meeting and workplan creation with support from a provincial-level Governor's decree

The Governor has appointed the MPA management body on February 9, 2021. Now formed, this new institution is responsible for carrying out operational and technical activities related to the management of all MPAs in Aceh, including PiSiSi and other MPAs on Simeulue Island. Meanwhile, the Government of Aceh has only just appointed officials and staff who will fill key positions within the MPA management body, as of April 6, 2021. Therefore the initial implementation of the MPA management workplan at provincial level will take place in year 3 (as described in year 2 change requests), with delays resulting from government prioritisation of Covid-19 response and subsequently due to the Air Pinang legal case.

➤ Activity 0.1 Monitor fisheries catch data through surveys of fish landing sites and fish traders in LMMA communities (outcome level monitoring activity)

At the time of this year 2 report, monitoring of fish catches in LMMAs and stock assessment surveys for economically and ecologically important grouper species (*Plectopomus* sp. and *Variola* sp., family Serranidae) is still ongoing. Research on the biology of grouper fisheries (family Serranidae). During this period, fish sampling was conducted at eight fish landing sites in Simeulue Regency, including Sinabang (island capital), Kuala Makmur, Air Pinang, Tanjung Raya, Luan Balu, and Lewak. (Figure 11). Biological sampling was carried out on four species of grouper in total. A summary of observations of biological aspects of fish resources obtained during the survey is shown in Table 2.



Figure 11 Map of fish landing sites where fish catch monitoring has been conducted in year 2.

Table 2 Summary of observations of biological aspects of fish resources obtained during the period August 2020-March 2021

Species Name	Number of Samples (ind)	TL Min (cm)	TL Max (cm)	Average±SD (cm TL)
Plectropomus leopardus	919	18,4	73,0	40.76±8.76
Plectropomus areolatus*)	19	33,0	77,0	50.49±11.05
Variola albimarginata	801	16,3	47,9	30.49±4.63
Variola louti	459	17,9	66,0	43.12±7.75

TL = Total Length

Summary statistics for priority grouper species in Simeulue are as follows:

- P. leopardus: the average size of fish caught is 40.76±8.76 cm TL with a length range of 18.4-73.0 cm TL.
- *V. albimarginata*: the average size of *V. albimarginata* caught is 30.49±4.63 cm TL with a length range of 16.3-47.9 cm TL.
- *V. lout*i: the average size of *V. louti* caught is 43.12±7.75cm TL with a length range of 17.9-66 cm TL.

Based on gonad sampling, the peak spawning season of *P. leopardus* (the most commonly caught grouper in LMMA fisheries) is predicted to occur in December due to the highest maturity index (IKG) recorded in December 2020 (1.29±0.19). Based on the reproduction characteristics observed *for P. leopardus in the* data period August 2020-March 2021, this suggests that the status of the population of *P. leopardus* in Simeulue is not currently overexploited. Further analysis will continue for the other priority grouper species.

FFI also monitored broader composition of fish catches in 7 LMMAs, including the 5 LMMAs which are directly supported through the Darwin project. Monitoring has lasted 4 months from August to November 2020 and a further three months from February to May 2021 which are still ongoing. The results will be reported in full during year 3 after all stages of the survey are conducted. So far, we have collected data from 687 fishing trips across participating LMMAs with a total of 131 fish species observed. The catch with the highest Catch Per Unit Effort (CPUE) value is *Octopus* sp. with 1.88 kg/trip with a total catch weight recorded of 1,294.72 kg. Also prominent was mackerel tuna *Euthynnus affinis* with CPUE value of 1.61 kg/trip and a total recorded catch weight of 1103.88 kg, while CPUE for other recorded fish species ranged below one kilogram per trip.

3.2 Progress towards Project Outputs

Output 1. By 2022, five coastal communities are engaged in co-management of new LMMA areas within PiSiSi MPA Currently

The project has designed a new LMMA management plan in 4 LMMAs and will complete the management plan design in the remaining 1 LMMA within year 3. In addition customary rules have been agreed and will be supported by further socialization and consultation to ensure agreement and final ratification. LMMA management planning has been supported by the evidenced increase in spatial coverage of community-led patrols, growing government participation in enforcement and compliance actions, and the action taken against illegal fishing activities. In addition, FFI has provided support for capacity building of the Panglima Laot in the field of LMMA patrol practices, and provided opportunities for the Panglima Laot

^{*) =} Not included in advanced analysis because the number of samples is small

Network to appear in public through national television media. In the future, FFI continue to facilitate legal awareness training, conflict mitigation training and support to customary law so that the participating communities continue to grow their ability to co-manage LMMAs within PiSiSi MPA.

➤ Output 2. Fishers, market actors and supporting organisations have improved understanding of the fisheries market system and collaborate to create equitable relationships within it.

In an effort to align biodiversity conservation with economic benefits for the PiSiSi MPA community, FFI has facilitated and improved relations between market actors at the local level, and supported local organizations to strengthen the coral reef fishery market system in Simeulue. Based on the results of the identification of previous capacity gaps, and working within the restrictions of the pandemic, FFI has facilitated fish handling and preservation techniques, including through online techniques, which will be continued in year 3 on a regular basis. In addition, market actors, especially women, have engaged with financial and bookkeeping management training, thus growing skills which are critical to increased benefits from fish markets at the household level. Nonetheless, in the current situation market participants have not been able to overcome certain key market obstacles independently, so in year 3 FFI will connect market participants with support services intensively, including more in-person training once permitted, to overcome the remaining issues.

➤ Output 3. By 2022, coral reef fish biomass within the MPA has increased compared to the 2018 baseline, with ecological data made accessible through the PiSiSi Atlas of Coastal Resources

We will repeat surveys on coral reef health and ecosystem resilience in the 3rd year of the project. In addition, by the end of the 3rd year, we plan that PiSiSi MPA Atlas will be newly accessible to MPA management actors and researchers.

> Output 4. Marine resource governance actors in Simeulue and Aceh are empowered and motivated to co-manage LMMA and MPA networks in line with policy commitments

The MPA Management Body, organisational structure and key personnel have now been determined by the Regional Government, and activities under the management body will commence in year 3. This is a key element of improving collaboration for LMMA and MPA management at the provincial level. To ensure linkages between this provincial body and local actors, FFI will facilitate increased partnerships between the management body and the LMMA Networks Working Group at the PiSiSi MPA to encourage stronger and fairer comanagement, and supporting the implementation of government policy.

3.3 Progress towards the project Outcome

The outcome of the project is "By 2022, members of five coastal communities (1,200 people) and relevant stakeholders are empowered to sustainably co-manage PiSiSi MPAs with associated improvements in coral reef ecosystem health"

To assess progress achieved up until the end of year 2, we would like to review progress against the agreed indicators for measuring the outcome as described below:

➤ Indicator 0.1: The use of compressor fishing and other destructive fishing methods is reduced in PiSiSi MPA year on year throughout the project period, compared with 2017 baseline of 0.4 incidents detected per patrol.

In year 2, the patrol has been operating inside PISISI MPA and there were 0.01 incidents detected per patrol recorded, based on FFI data. This shows a reduction against both the 2017 baseline and the data collected in year 1.

➤ Indicator 0.2 By 2022, there is at least 10% increase in income for fisher households in 5 LMMA communities (total 1,200 people, of whom 50% female) (milestone of 5% by end of year 2)

In year-2, FFI has conducted the preliminary market literacy survey where the income of local fisher households from 5 LMMAs was assessed at IDR. / month, compared to the baseline of IDR based on last year report. The Covid-19 pandemic situation is likely to have been partially responsible for triggering a decrease in fishers income at the 5 LMMAs, though this must be assessed further in year 3. The evaluation of the local income and the drivers affecting income level will be implemented during year-3, and economic support to communities will continue through actions to improve fisheries markets.

➤ Indicator 0.3 By 2022, at least 85% of target groups report improvements in locally defined non-monetary dimensions of well-being

In year -3, FFI will facilitate annual meetings between market actors and fishers, and the assessment of non-monetary dimensions of welfare will be included on the agenda. Change will also be assessed in wider communities through comparison of KAP survey results from year 3 to year 1 baselines.

➤ Indicator 0.4 By 2022, c. 11,000ha of LMMAs is newly under organized co-management by communities and Government representatives

In year 2, FFI has facilitated the boundary demarcation of LMMAs where each of the villages involved have new ownership of their defined fishing ground boundaries and commenced active co-management through voluntary patrols. However FFI needs to socialize the results of boundary demarcation in the wider community Simeulue community to ensure wider understanding and compliance, and which will involve the neighbouring villages, head of village groups, and village government representatives.

Indicator 0.5 By 2022, fish biomass across the MPA increases relative to 2018 baseline including no decrease in abundance, variety or fish size. 2018 data under analysis; baseline to be finalised.

New surveys of the coral reef ecosystem in year 3 will assess fish biomass across the MPA and quantify change relative to 2018 baselines with no decrease in abundance expected.

At this time it is considered that indicators and supporting data remain available and adequate for measuring the outcome, with each indicator tracking a key component of PiSiSi MPA's sustainable management. Based on Year 1 experiences, it is expected that the overall outcome can still be achieved, notwithstanding further COVID impacts on project delivery which, whilst having little effect on year 1, have significantly impacted year 2 as described in the first submitted change request during this project period. Given the ongoing Covid-19 challenges in Aceh and Indonesia, it is possible that further activities such as domestic travel and large meetings may be further modified or delayed in year 3.

3.4 Monitoring of assumptions

Outcome assumption 1: The observed decrease in compressor fishing in previously designated LMMAs, following an increase in community and government patrolling, is repeated in the five LMMAs included in this project. Comments: the patrols made in 5 new LMMAs by the local community and the government are still anticipated to decrease compressor fishing, and this is now supported by new evidence collected in year 2. This continues to indicate that surveillance of Panglima Laot and local government is effective in decreasing the numbers of compressor fishing practices and other violations, and ongoing patrols in newly active LMMAs have already led to reporting and reprimanding of violators (see narrative).

Outcome assumption 2: The coral reef ecosystems of PiSiSi MPA are not affected by a mass mortality bleaching event, typhoon or other unforeseeable natural stressor.

Comments: the ecosystems of PISISI MPA currently remain in normal condition, and significant natural stressors have not been observed during year 2.

Outcome assumption 3: Catch per unit effort for fishers does not decline significantly over project period due to external factors

No significant declines in catch per unit effort have been observed for fishers during this period, although household incomes have been affected negatively by the market impacts of the pandemic.

Outcome assumption 4: Through this and other initiatives, 40-50% of communities dependent on MPA resources will be engaged in conservation activities through LMMAs. We assume that the remaining 50% do not change from their existing behaviour so as to compromise the overall health of the MPA.

Comments: PiSiSi MPA continues to be affected by illegal and destructive fishing violations, including by members of communities outside the MPA and from elsewhere in Sumatra. However, no significant increase in violations have been reported in this period, suggesting that existing behaviour has not changed so as to compromise MPA health, based on available evidence.

Output 2, assumption 1: Seafood traders/ companies appreciate that supporting responsible fishers to improve product quality will improve their own bottom line and are willing to increase unit purchase price accordingly.

Comments: Despite the limitations placed on Output 2 by restrictions on travel and meetings, seafood market actors (both from Simeulue and Sumatra) continue to show willingness to participate in market improvement actions, as shown for example by the online post-harvest training event. Nonetheless, more work is still needed to ensure willingness to support responsible fishing in year 3 and in the longer term.

Output 2, assumption 2: Fishers are willing and able to put new knowledge gained through training and mentoring into practice.

Comments: the assumption remains accurate. Based on the market literacy assessment the local fishers are willing to learn more about how to maintain the quality of fish and follow the trainings provided to increase the product quality, and have remained engaged during this period of modified working during the pandemic, although fisher ability to overcome key obstacles without full onsite FFI support has been limited in certain instances.

Note regarding monitoring of assumptions: The current COVID-19 outbreak continues to challenge the assumptions underpinning this project, although all assumptions appear still tenable at the end of year 2. For example, social restrictions and economic losses have reduced community ability to participate in some project activities, particularly related to fisheries markets, with market actors from elsewhere in Sumatra also unable to regularly travel to Simeulue. Similarly, fisher household income appears to be negatively affected by the pandemic, although there is not yet evidence to suggest that this has driven a significant increase in illegal fishing activity within the MPA to meet livelihood needs. The continued impacts of the pandemic in Simeulue and Aceh may further influence the project in year 3, and any changes to the above assumptions will be monitored.

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

The stated impact of the project is "The coral reef ecosystems of PiSiSi MPA are resilient and support productive fisheries as a result of locally managed marine areas which protect marine biodiversity and yield benefits for coastal communities."

Building on the first year of the project, in year 2 FFI has continued to partner with Aceh DKP to increase positive impact on biodiversity and poverty alleviation through developing a strategy to tackle the destructive fishing practices, which includes protection of priority marine ecosystems and small-scale fisheries from destructive compressor fishing. This provincial policy will provide top-down support to the community-led management efforts FFI is supporting within individual LMMAs. Moreover, the provincial government is also planning an economic empowerment program for communities living in areas with high participation in compressor fishing, with the target to improve the fisherman income in 13 sub districts including those in Simeulue. This effort is aimed to support compressor fishers to change their practice and adapt to alternative fishing methods, which will have knock-on benefits by reducing compressor fishing in PiSiSi and other MPAs. Unfortunately, this government program is not running yet due to refocusing resources for Covid-19.

As the result of the ongoing PMSD approach, fishers and collectors are newly engaged in approaches which can enhance their income and reduce ecosystem impacts, for example size restrictions in the octopus fishery to support stock recovery. Fishery measures are supported by the financial management training provided to fisher household members, a key component of poverty alleviation strategies under this project.



Figure 12 Image from financial book-keeping training activities.

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

 SDG 1: by promoting equitable access to economic and natural resources (1.4) and building resilience amongst poor coastal communities through strengthening sustainable livelihood strategies (1.5). PMSD approach scheme is to develop the accessible market map to the vulnerable fishers to access the market equally. This has developed in year 2 through ongoing support to market actors, and training in key topics such as post-harvest control to improve fish product quality.

- SDG 5: by ensuring the roles, skills, knowledge, needs and rights of women as well as men are respected and harnessed in efforts to conserve biodiversity and contribute to human wellbeing. FFI is developing inclusive community-based management in target villages, ensuring the role, skill, knowledge and rights of women and men are accommodated in planning processes. Based on the financial management training conducted in 7 villages during year 2, there were involvement of 141 women and 37 men, promoting and supporting the role of women as key financial actors in fishery supply chains.
- SDG 8: by supporting entrepreneurship and more productive, resource-efficient market systems. In implementing the PMSD approach with fisheries market actors, FFI also supports the entrepreneurship of local people through support meetings, mentoring and facilitating connections between market actors, although this work has been limited by Covid-19 restrictions in year 2 which prevented planned travel between Simeulue and key market locations elsewhere in Sumatra.
- SDG 14: by strengthening conservation and sustainable management of coastal-marine resources and habitats (14.2) and supporting responsible artisanal fisheries (14.4). The project continues to work to secure long-term protection of coastal and marine biodiversity and ecosystem services on which human wellbeing in PiSiSi communities depends. Through LMMA management plans and a growing voluntary patrol programme, coastal and marine biodiversity are increasingly managed by the local people at the project site, with increasing levels of government support.

5. Project support to the Conventions, Treaties or Agreements

The project is contributing to the Convention on Biological Diversity (CBD), specifically:

Article 8(a) by supporting the establishment of marine protected areas in order to preserve biodiversity: FFI is working with stakeholders to finalise and implement LMMA management plans and overarching zonation schemes which will ensure the effectiveness of PiSiSi MPA as a tool to protect coral reef biodiversity, with stakeholder support at both local and provincial level.

Article 8(c) in promoting management practices that conserve and enable sustainable use of biodiversity: FFI is promoting sustainable biodiversity management practices by connecting with diverse decision-makers, from village-level *Panglima Laot* to national ministerial bodies, this exemplified by the locally-led patrol programme now operating within the MPA, government involvement in management actions, and the engagement of fishers in new sustainability initiatives such as octopus fishery management planning.

Article 8(e) by promoting development, in particular by improving community knowledge of fisheries markets and supply chains whilst identifying opportunities to add product value. The project has brought together market actors in new collaborations (e.g. post-harvest training involving Simeulue fishers and Sumatra-based fish market actors) which will work to improve supply chain equitability and income from fisheries supply chains during the remainder of the project, although this element of the project has been particularly affected by Covid-19 restrictions on travel and meetings (as described in year 2 change requests).

Article 10(c), by supporting customary use of marine resources by five communities with traditional rights to fishing grounds within the LMMAs. FFI's key local partner is the Panglima

Laot, the historic traditional institution for local fisheries management in Aceh. The project LMMA and community support approach is specifically designed to support these traditional bodies, and in year 2 significant progress has been made towards re-invigorating traditional management activities, as shown by the growing participation and spatial coverage of LMMA patrols.

Article 13 (b) is also supported by this project, through the information, education and communication resources produced under Output 1, 'Cooperate, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity'.

Materials produced under Output 1 (currently in progress) will be applicable for use elsewhere in Simeulue and across Aceh's MPA network. The materials produced will be delivered to school and fisher's communities in PISISI MPA, once such activities are feasible within current restrictions, in order to support education and public awareness programs.

6. Project support to poverty alleviation

FFI has implemented the financial management training to seven villages in PISISI MPA, The training in household financial management and regular meetings of octopus and grouper fisheries market development actors are provided for supporting the poverty alleviation, and breakdown of training participants is provided below for household financial management training and financial bookkeeping training

Financial management and bookkeeping training participants, disaggregated by gender.

Villages	Male	Female	Total
Air Pinang	3	20	23
Kuala Baru	5	24	29
Kuala Makmur	8	30	38
Pulau Bengkalak		10	10
Pulau Siumat	9	28	37
Sambay	8	13	21
Ujung Tinggi	4	16	20

Regular Meeting of Octopus and Grouper Fisheries Market Development

Villages	Male	Female	Total
Air Pinang	11	7	18
Kuala Makmur	6	5	11
Pulau Bengkalak	6	2	8
Pulau Siumat	5		5

Sambay	5	7	12
Ujung Tinggi	15	3	18

7. Consideration of gender equality issues

The project has promoted the participation of women through consideration of the barriers to participation in this context, identification of key roles played, and active facilitation. So far, women continue to participate in village committees with representation of 20 % across committees, which is meaningful progress towards equitable gender representation in this context. At household scale, women play an important role in financial management and fish processing before sale to collectors, and these roles are explicitly considered in project PMSD activities, as demonstrated through the extensive participation of women in the financial management and bookkeeping training in year 2, as detailed in the previous section. A total of 165 women joined the 2 trainings provided. The trainings were implemented during 3 months from January – March 2021 while following Covid-19 health protocols.

8. Monitoring and evaluation

No	Indicator	How to Measure
01	The use of compressor fishing and other destructive fishing methods is reduced in PiSiSi MPA year on year throughout the project period, compared with 2017 baseline of 0.4 incidents detected per patrol.	The reduction of the use of compressor fishing and other destructive fishing is being measured by collecting the patrols data during year 1 and 2. So far, we have voluntary, routine and collaborative patrols. All of the data is compiled by FFI and is used for measuring this indicator through yearly comparisons of detection rates for illegal and destructive fishing.
02	By 2022, there is at least 10% increase in income for fisher households in 5 LMMA communities (total 1,200 people, of whom 50% female) (milestone target of 5% by end of year 2)	The income of local populations was assessed in year-1 through initial PMSD data collection/workshops and fish price data from traders. These metrics are being tracked during the remaining project duration, and complemented with end of project Participatory Impact Assessment. In addition FFI will consult on this issue during annual meetings, to gather supplementary feedback and testimony.
03	By 2022, at least 85% of target groups report improvements in locally defined non-monetary dimensions of well-being	KAP survey data collected in year 3, repeating the surveys conducted in year 1 will be triangulated with end of project Participatory Impact Assessment, in addition to supplementary feedback and testimony gathered through annual meetings between market actors, local fishers and FFI.
04	By 2022, c. 11,000ha of LMMAs is newly under organized comanagement by communities and Government representatives	The boundary demarcation of LMMAs have continued in year 2. By involving the communities, as well as

	(tentative target based on area of 5 existing LMMAs in PiSiSi; exact target will result from community consultations)	prominent figures in the villages, the target of LMMAs will be achieved and the total area of agreed LMMA boundaries will be assessed in year 3.
05	By 2022, fish biomass across the MPA increases relative to 2018 baseline including no decrease in abundance, variety or fish size (2018 data is currently under analysis; baseline to be finalised.	FFI will conduct a further coral reef survey in year-3, to assess how the fish biomass across MPA increases compared with 2018 data collected as the baseline in year 1.

9. Lessons learnt

The FFI team have learned about the possibilities for maintaining project progress despite severe disruption through COVID-19 restrictions (see section 14 and change requests). It was interesting to observe the strengths and weaknesses of virtual events/webinars, for example that whilst training could be delivered through online events (e.g post-harvest training, octopus market webinar), participants tended to request further in-person training as an essential next step to maximising training impact.

On a similar point, it is encouraging to see community patrol effort growing during year 2, despite the wider circumstances. This suggests that locally-led marine management approaches in Simeulue, backed up by traditional institutions, have helped to maintain the integrity of Locally Managed Marine Areas in Simeulue during this difficult period. Although the impact of the pandemic has reduced some cooperative activities between community and government, the long-term commitment of these actors is essential, as without the support of both community and government the management of PiSiSi MPA will not achieve its main goal.

The value of FFI's long-term efforts to facilitate provincial political processes has also been demonstrated in year 2, as evidenced by the creation of the destructive fishing roadmap and the dedicated MPA management body. These are new dedicated resources for top-down MPA management and conservation, which can complement and strengthen the bottom-up approaches led by the Panglima Laot at community level.

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

The year 1 review stated that the year 2 annual report should: "Provide further clarification on the recognition of Darwin Identity in project materials". Details are provided in section 13 and in the appendices.

11. Other comments on progress not covered elsewhere

No further comments

12. Sustainability and legacy

In one example during year 2, on September 22-24, 2020 FFI staff "Muhammad Zuhal" followed the 3 days training "SMART PATROL that held by WCS with total 13 participants (Figure 13).

The training is an important example for the sustainability and legacy from FFI project in 7 LMMAs since the community-led patrol program is expected to be synchronized with

government departments who will manage and use the SMART Patrol program database, analysis, planning and reporting beyond the duration of this project. With following this training the knowledge can be transferred to local government (DKP Aceh) for better management of LMMAs and reduced reliance on direct interventions by FFI as an NGO.

The sustainability of the project is continuing to be strengthened in year 2 by the extensive participation of government and community institutions throughout project activities, as evidenced by collaborative patrols for example, and the collaboration between FFI and the provincial government in developing a new roadmap to address illegal fishing across Simeulue and Aceh. Thus, lessons and achievements from this project are being applied to longer-term marine conservation and fisheries management policy.



Figure 13 Participants in SMART patrol training workshop

13. Darwin identity

FFI's Aceh programme has run the marine programme since 2011, funded by Arcadia for Air Pinang and Pulau Siumat villages, and Kuala Baru, Kuala Makmur, Ujung Tinggi, Sambay and Pulau Bengkalak villages directly supported by the Darwin project. So far, Darwin project has been running in PISISI MPA and influence the FFI approach for further program implementation that will continue in the future. As one example the LMMA management plan from Darwin Project as an approach is adopted by the Aceh provincial fisheries authority for developing a government guideline which will be used in other MPAs and coastal communities in Aceh.

The Darwin project's support to marine conservation in Simeulue was highlighted in a presentation given by the University of Syiah Kuala (project partner) at the Reef Conservation UK 2020 online conference.

Further highlighting of Darwin project support was planned as part of an accepted oral presentation about the PiSiSi MPA project at the International Coral Reef Symposium 2020, however the in-person conference has been delayed until 2022.

14. Impact of COVID-19 on project delivery

The impact of Covid-19 on project delivery can be seen on several activities;

Due to Covid-19 the activities related with PMSD and fish markets is impacted because some activities should be following the health protocol, the activities were: implementation of training and outreach in five target communities to socialise LMMA concept; training in quality control, cold chain maintenance & financial management; annual progress evaluation workshop; hold an annual progress evaluation workshop.

In addition, the activities of: upload (annually) data to the 'PiSiSi Atlas of Coastal Resources' online database, and: Present, train, and support use of the database with key resource governors and data users were also disturbed by Covid-19.

To address these problems, and minimise adverse effects on project outcomes and impact, FFI has requested the activities to be shifted to year 3, as per the submitted change requests. However, FFI staff were learning from the situation and have modified the approach of meetings, workshops, or training where possible to maintain progress, for example through holding online training or the reduction of meeting group sizes.

15. Safeguarding

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

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

FFI's Safeguarding Children and Adults at Risk Policy & Procedure was developed in December 2014 and last updated in March 2018. The policy applies to Members of Council and its sub-committees, FFI employees, temporary staff provided through agencies, volunteers and interns, contractors, consultants, service providers and any third parties who carry out work on behalf of FFI, in partnership with FFI or in conjunction with FFI. The policy demonstrates the organisation's commitment to safeguarding children and adults at risk and to complying with the UN Convention on the Rights of the Child; confirms the arrangements and procedures in place to safeguard children and adults at risk, including FFI's code of conduct; and provides clear guidance on how to raise, and how FFI responds to, concerns and allegations regarding the maltreatment of children and adults at risk. The policy expressly states that FFI does not tolerate sexual exploitation and abuse of any kind.

FFI's Anti-bullying and Anti-harassment Policy was developed in March 2018. The policy applies to Members of Council and it sub committees, FFI employees, temporary staff provided through agencies, volunteers and interns, contractors, consultants and any other third parties who carry out work on FFI's behalf. The stated purpose of the policy is to ensure a safe, welcoming and inclusive working environment, which is free from intimidation, threats, discrimination, bullying or harassment; to communicate clearly FFI's zero-tolerance of any form of bullying or harassment; to define the terms 'bullying' and 'harassment' and provide examples, so that there is a clear understanding of the types of conduct that are prohibited; to communicate the importance of reporting incidents of bullying and harassment; and to communicate the procedures in place to manage incidents of bullying and harassment. The policy expressly states that bullying or harassment of any kind against a person or group of people, whether persistent or an isolated incident, will not be tolerated under any circumstances.

FFI's Whistleblowing Policy was developed in June 2013 and last updated in December 2019. The policy applies to FFI employees. The stated purpose of the policy is to encourage employees to report suspected wrongdoing in the organisation as soon as possible, in the knowledge that their concerns will be taken seriously and investigated as appropriate, and that their confidentiality will be respected. It provides guidance on how to raise those concerns and aims to reassure employees that they can raise genuine concerns in good faith without fear of reprisals, even if they turn out to be mistaken.

FFI's partner due diligence procedures include checking whether any safeguarding concerns have arisen with the partner concerned and the Safeguarding Children and Adults at Risk Policy & Procedure forms part of contracts and agreements with third party contractors and sub-grantees. We are also currently researching LMS platforms (Learning Management Systems) which would enable online training in policies & procedures.

We monitor updates in Government and Charity Commission guidance and review our policies and procedures accordingly.

In terms of social safeguards, FFI has publicly available position papers on our approach to Livelihoods and Governance, Free, Prior and Informed Consent, Gender in Conservation, Displacement and Restrictions on Access to Resources and Conservation, and Rangers and Human Rights (links below). Our specialist Conservation, Livelihoods and Governance team supports regional FFI staff and partners to take a holistic, people-centred approach to biodiversity conservation, and ensure project activities are strongly aligned with these principles.

https://cms.fauna-flora.org/wp-content/uploads/2019/06/FFI 2019 Position-on-free-prior-and-informed-consent.pdf

https://www.fauna-flora.org/approaches/livelihoods-governance/gender

https://cms.fauna-flora.org/wp-content/uploads/2017/11/FFI 2013 FFIs-position-and-approach-to-conservation-livelihoods-and-governance.pdf

https://api.fauna-flora.org/wp-content/uploads/2017/11/FFI 2016 Displacement-and-restrictions-on-access-to-resources.pdf

https://cms.fauna-flora.org/wp-content/uploads/2021/03/FFI 2020 Position-on-rangers-and-human-rights.pdf

No safeguarding issues have been reported during the reporting year for this project.

16. Project expenditure

Please expand and complete Table 1. If all receipts have not yet been received, please provide indicative figures and clearly mark them as Draft. The Actual claim form will be taken as the final accounting for funds.

Table 1: Project expenditure <u>during the reporting period</u> (1 April 2020 – 31 March 2021)

Project spend (indicative) since last annual report	2020/21 Grant (£)	2020/21 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				

Others (see below)		
TOTAL		

*The total Darwin costs in year 2 are as per the change request approved by Darwin in March 2021.

Highlight any agreed changes to the budget and **fully** explain any variation in expenditure where this is +/- 10% of the budget. Have these changes been discussed with and approved by Darwin?

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2020-2021

Project summary	Measurable Indicators	Progress and Achievements April	Actions required/planned for next period
Project summary	Measurable indicators	2020 - March 2021	Actions required/planned for next period
	are resilient and support productive fisheries as a result of ect marine biodiversity and yield benefits for coastal	(Report on any contribution towards positive impact on biodiversity or positive changes in the conditions of human communities associated with biodiversity e.g. steps towards sustainable use or equitable sharing of costs or benefits)	Continue the patrol programs
By 2022, members of five coastal community (1,200 people) and relevant stakeholders are empowered to sustainably co-manage PiSiSi MPAs with associated improvements in coral reef ecosystem health	 The use of compressor fishing and other destructive fishing methods is reduced in PiSiSi MPA year on year throughout the project period, compared with 2017 baseline of 0.4 incidents detected per patrol. By 2022, there is at least 10% increase in income for fisher households in 5 LMMA communities (total 1,200 people, of whom 50% female) (milestone target of 5% by end of year 2) By 2022, at least 85% of target groups report improvements in locally defined non-monetary dimensions of well-being By 2022, c. 11,000ha of LMMAs is newly under organised co-management by communities and government Representatives By 2022, fish biomass across the MPA increases relative to 2018 baseline including no decrease in abundance, variety or fish size (2018 data is currently under analysis; baseline to be finalised before project starts. 	 inside PISISI MPA but the rate has reduced to 0.01 incidents detected per patrol (a total of 2020 – March 2021). In Year-2, the market literacy survey has assessed the baseline of the fisher's income in average at IDR. 1.700.000 at household level. The figure is decrease compared with Year-1, likely due to Covid impact. KAP survey baseline established and to be assessed in Year 3 In year -1. FFI has facilitated the LMMAs formation in 5 villages. 	 Continue the patrol programs Continue the market literacy assessment The KAP survey will be implemented Continue to facilitate 1 LMMA management plan in Pulau Bengkalak. The resilience will be implemented in Year 3

		3. We expect no decrease in abundance at the Year -3.
Output 1. By 2022, five coastal communities are engaged in co-management of new LMMA areas within PiSiSi MPA	 1.1 (Knowledge, Attitudes and Practices (KAP) related to LMMAs show positive change at 5 new LMMA sites by Year 3, with at least 85% of respondents showing an improvement from Year 1 baseline. Target for surveys is 10% of population in target villages (total population 4178), therefore 418 people, 50% men and 50% women) 1.2 By the end of year one, five community-based management committees are formed including 15% representation from women/ poorest households, from a baseline of 0. 1.3 LMMA designation and zonation action plans, including patrolling, are created in five target communities by mid-point of Year 2 based on Participatory Rural Appraisal (PRA). 1.4 Five LMMAs are approved by target communities and designated in collaboration with district fisheries authorities by end of Year 2 1.5 Patrol and monitoring activities in five new LMMAs reach the following targets by project end from baseline of zero: a) 100% of community reports shared with government officials b) Routine patrols take place in each LMMA with 10 patrols per year by Year 3. Collaborative patrols involving government & enforcement personnel take place in PiSiSi MPA 3 times/year by Year 3 	 1.1 No KAP survey implemented, to be implemented again in year 3 1.2 The villages committee already formed in 5 villages including the 15 % representation of women/ poorest. Achieved in year-1 1.3 The LMMA designation and zonation action-plan already finished for 4 villages and going to finish for remaining of 1 villages at year-3. 1.4 4 LMMAs already approved by target communities and designation of the 5 management planning will be conducted with socialization process which will involve district representatives in Year-3. 1.5 a) 7 villages submitted quarterly report of community led patrol has been submitted to Simeulue Marine and Fisheries Agency. Appendix x b) In Year 2, 12 routine patrols have been implemented in PISISI MPA. See section 3.2 of the report and Appendix x. c) In year 2, 2 collaborative patrols have been implemented in PISISI MPA. See section 3.2 of the report and Appendix x.

Activity.

- 1.1 Conduct Knowledge, Attitudes and Practices (KAP) surveys in target communities at project start and end
- 1.2 Deliver training and outreach in five target communities to socialise LMMA concept
- 1.3 Support the formation of LMMA management committees headed by Panglima Laot representatives
- 1.4 Conduct Participatory Rural Appraisal (PRA) of traditional fishing areas, priority habitats and other factors influencing LMMA zonation and designation
- 1.5 Support formal designation of LMMAs in collaboration with authorities
- 1.6 Support, with technical advice and data, the creation of LMMA action plans based on results of 1.4
- 1.7 Train and support community members to undertake SMART patrol activities, including both independently-led and collaborative patrols
- 1.8 Facilitate the participation of government and enforcement agency personnel in LMMA comanagement patrols which also involve communities
- 1.9 Support, with facilitation and knowledge of good practice, committees to conduct and oversee LMMA management actions as defined in action plans

- 1.1 no planning in year 2
- 1.2 the training cannot be implemented in year 2
- 1.3 Committees formed, report completed in year 1
- 1.4 PRA conducted and report completed
- 1.5 Report (Map) completed
- 1.6 Process completed for 4 villages
- 1.7 7 times the voluntary patrol implement and 0 collaborative training.
- 1.8 1 time facilitation collaborative patrol.
- 1.9 Implement in Year-3

- 1.1 the KAP will be in Year 3
- 1.2 the training will be implemented in year 3\
- 1.3 N/a
- 1.4 N/a
- 1.5 Finished
- 1.6 Facilitation in 1 village in year 3
- 1.7 The voluntary patrol implement monthly
- 1.8 2 times collaborative patrol
- 1.9 Implementation in year 3

- **Output 2.** Fishers, market actors and supporting organisations have improved understanding of the fisheries market system and collaborate to create equitable relationships within it.
- 2.1 Members of 5 LMMA fisher households trained in market literacy (at least 25% women) by end Year 1 (gender representation is determined due to the assessed need for different aspects of market literacy training according to male and female roles within market systems)
- 2.2 Fishers, seafood traders, SMEs, processor/export companies and supporting agencies participate in fisheries market mapping and action planning (at least 10% women) by end Year 1 (gender representation is determined due to the assessed male and female roles within market systems)
- 2.3 At least 50% of LMMA fishers and traders receive training and on-going mentoring in quality control, cold

- 2.1 The market literacy report finished. Appendix x (quarterly meeting)
- 2.2 The market map report finished for 5 villages and the action planning report finished for 5 villages. Appendix 9 (quarterly meeting)
- 2.3 60,37 % LMMA fishers and traders receive training and on-going mentoring in quality control, cold chain maintenance and financial management
- 2.4 So far, the female and male participants have participate in trainings, however the percentage of improvement is still on going and to be reported on Y3

	chain maintenance and financial management, by project end, from a baseline of 0. 2.4 % of female and male participants who demonstrate improved market literacy and relationships (50% end of Year 2; 75% end of Year 3).			
Activity. 1. Conduct market literacy training with selected participants from five communities 2. Conduct participatory market mapping & action planning workshops 3. Organise and support exposure visits for fishers and traders to mainland seafood markets 4. Provide training in quality control, cold chain maintenance & financial management, and provide onoing mentoring to trainees 5. Hold quarterly monitoring meetings with market actors 6. Hold an annual progress evaluation workshop 7. Conduct an end of project participatory impact assessment		1.1 Training conducted and report completed. 1.2 Market map finished in 5 villages 1.3 Year 3 1.4 1 QC virtual; 1 financial training; 1 book keeping training 1.5 1 time in 5 villages finished 1.6 Year 3 1.7 Year 3		
Output 3. By 2022, coral reef fish biomass within the MPA has increased compared to 2018 baseline, with ecological data made accessible through the PiSiSi Atlas of Coastal Resources	3.1 By end of project, herbivorous and fisheries target species biomass (reef fish species) increases by at least 10% within the MPA compared to 2018 FFI baseline (2018 data is currently under analysis; baseline to be finalised before project starts) 3.2 Observed numbers of IUCN Red listed species in the MPA, including at least leopard and Malabar grouper, are maintained throughout the project period 3.3. Ecological monitoring data collected under this output are available to stakeholders through the 'PiSiSi Atlas of Coastal Resources' online database, updated annually	3.1 Year 1 surveys completed and baselin implemented in Year - 3 3.2 Year 1 surveys completed and baselin implemented in Year – 3. Will be implemented in Year – 3. The Fish Stock Assessment and catch	nes established, repeat survey to be nented in Year - 3	
Activity.				

3.1 Undertake coral reef fish assemblage surveys in new LMMA areas. 3.2 Undertake Spawning Aggregation (SPAG) surveys in new LMMA areas 3.3 Disseminate the results of the reef fish and SPAG surveys with target communities and key stakeholders. 3.4 Upload (annually) data to the 'PiSiSi Atlas of Coastal Resources' online database 3.5 Present, train, and support use of the database with key resource governors and data users	 3.1 Surveys and report completed for Year 1 3.2 Surveys and report completed for Year 1, discontinued as per change request. 3.3 Already implemented in Year 1 (see section 3.1) 3.4 Will be implemented in Y3 3.5 Will be implemented in Y3 	In the next intervention, FFI will initiate the data integration system by using SMART database and introduce the system to the local stakeholder as PISISI Database which will accommodate the ecological data and disseminate it to decision-makers. Data analysis will also continue in year 3 alongside preparation for the repeat ecological surveys in year 3.
Output 4. Marine resource governance actors in Simeulue and Aceh are empowered and motivated to co-manage LMMA and MPA networks in line with policy commitments	4.1 Marine resource management stakeholders at provincial and district levels are analysed and mapped by end of Year 1 4.2 District Fisheries Authority (DKP) approves formation of LMMA Networks Working Group by Q1 of Year 2 4.3 An LMMA Networks Working Group has been established on Simeulue Island under a Governor's Decree by middle of year 2, and is active by end of year 2 4.4 Province-level MPA management body founded through initial meeting by end of Year 2 4.5 MPA management body instigates at least one further LMMA network within Aceh province by project end	 4.1 Stakeholder analysis conducted and report completed. Already reported Y1 4.2 Already reported Y1 4.3 LMMA network finished with Regent Decree 4.4 MPA management body formed at the end of Year 2 4.5 This will be executed in Year-3.

Activity.

- 4.1 Undertake a preliminary analysis of resource governance stakeholders at district and provincial level
- 4.2 Secure district authority decree formalising the creation of the LMMA Networks Working Group on Simeulue
- 4.3 Facilitate initial meetings and arising activities for LMMA Networks Working Group
- 4.4 Found the MPA management body and facilitate initial meeting and workplan creation with support from a provincial-level Governor's decree
- 4.5 Secure commitment for at least one further LMMA programme to be rolled out in Aceh through activities of the MPA management body

- 4.1 Stakeholder analysis completed and reported. Y1
- 4.2 LMMA Networks group established.
- 4.3 Meeting held and report completed
- 4.4 Will be implemented in Y3
- 4.5 Will be implemented in Y3

In the next intervention, FFI will continue to facilitate the MPA management body to create the program through Aceh LMMAs, at the current status the partnership had already managed with development of guideline book for LMMA management plan that led by head of MPA management body, this works will continue in Year 3 with other activities.

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

*below is the revised logframe as agreed with Darwin through the change request submitted by FFI in December 2020 (year 2)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Outcome: By 2022, members of five coastal communities (1,200 people) and	0.1. The use of compressor fishing and other destructive fishing methods is reduced in PiSiSi MPA year on year throughout the project period, compared with 2017 baseline of 0.4 incidents detected per patrol.	0.1. Annual SMART patrol reports produced for 2019, 2020, and 2021	The observed decrease in compressor fishing in previously designated LMMAs, following an increase in community and government patrolling, is repeated in the five LMMAs included in this project.
relevant stakeholders are empowered to sustainably co- manage PiSiSi MPAs with	0.2. By 2022, there is at least 10% increase in income for fisher households in 5 LMMA communities (total 1,200 people, of whom 50% female) (milestone target of 5% by end of year 2)	0.2. 6-monthly fisheries catch surveys and fish trader financial record collection from 2019-2022. End of project participatory impact assessment in 2022	The coral reef ecosystems of PiSiSi MPA are not affected by a mass mortality bleaching event, typhoon or other unforeseeable natural stressor.
associated improvements in coral reef	0.3 By 2022, at least 85% of target groups report improvements in locally defined non-monetary dimensions of well-being	0.3 End of project participatory impact assessment and KAP surveys	Catch per unit effort for fishers does not decline significantly over project period due to external factors
ecosystem health	0.4 By 2022, c. 11,000ha of LMMAs is newly under organised co-management by communities and government representatives (tentative target based on area of 5 existing LMMAs in PiSiSi; exact target will result from community consultations)	0.4. MPA & LMMA Networks annual plan for 2019, 2020, and 2021	Through this and other initiatives, 40-50% of communities dependent on MPA resources will be engaged in conservation activities through LMMAs. We assume that the remaining 50% do not change from their existing behaviour so as to compromise the overall health of the MPA.
	0.5. By 2022, fish biomass across the MPA increases relative to 2018 baseline including no decrease in abundance, variety or fish size (2018 data is currently under analysis; baseline to be finalise before project starts)	0.5. Ecological survey results	
Output 1: By 2022, five coastal communities are engaged in co- management of	1.1. Knowledge, Attitudes and Practices (KAP) related to LMMAs show positive change at 5 new LMMA sites by Year 3, with at least 85% of respondents showing an improvement from Year 1 baseline. Target for surveys is 10% of population in target villages (total population 4178), therefore 418 people, 50% men and 50% women)	1.1. KAP surveys delivered and reports produced in 2019 and 2022.	

new LMMA areas within PiSiSi MPA	1.2. By the end of year one, five community-based management committees are formed including 15% representation from women/ poorest households, from a baseline of 0. 1.3. LMMA designation and zonation action plans, including patrolling, are created in five target communities by mid-point of Year 2 based on Participatory Rural Appraisal (PRA).	1.2. Community committee structure, determined based-on gender-representative selection criteria, confirmed by end of Year 1. 1.3. Community action plans documented by mid-point of Year 2, including the following components: • LMMA management plan documents, demarcation maps. • Panglima Laot and community member training schedule • Patrol reporting schedule • Socio-economic and biological monitoring schedule	
	1.4. Five LMMAs are approved by target communities and designated in collaboration with district fisheries authorities by end of Year 2	1.4. Five LMMA designations finalised and documented.	
	1.5 Patrol and monitoring activities in five new LMMAs reach the following targets by project end from baseline of zero: a. 100% of community reports shared with government officials b. Routine patrols take place in each LMMA with 10 patrols per year by Year 3. c. Collaborative patrols involving government & enforcement personnel take place in PiSiSi MPA 3 times/ year by Year 3.	1.5. Patrol activity records and periodic reports	
Output 2: Fishers, market actors and supporting organisations have improved understanding of the fisheries market system and collaborate to create equitable relationships within it.	2.1. Members of 5 LMMA fisher households trained in market literacy (at least 25% women) by end Year 1 (gender representation is determined due to the assessed need for different aspects of market literacy training according to male and female roles within market systems)	2.1 Sex-disaggregated participants lists; training workshop and exposure visit reports	Seafood traders/ companies appreciate that supporting responsible fishers to improve product quality will improve their own bottom line and are willing to increase unit purchase price accordingly.
	2.2. Fishers, seafood traders, SMEs, processor/export companies and supporting agencies participate in fisheries market mapping and action planning (at least 10% women) by end Year 1 (gender representation is determined due to the assessed male and female roles within market systems)	2.2 Sex-disaggregated participant lists, market maps and action plans	Fishers are willing and able to put new knowledge gained through training and mentoring into practice.
	2.3. At least 50% of LMMA fishers and traders receive training and on-going mentoring in quality control, cold chain maintenance and financial management, by project end, from a baseline of 0.	2.3 Records of training, quarterly monitoring meetings and discussions with companies, fishers and traders;	

		field observation notes of changes in practice	
	2.4 % of female and male participants who demonstrate improved market literacy and relationships (50% end of Year 2; 75% end of Year 3).	2.4 Annual progress evaluation meetings. End of project gendered Participatory Impact Assessment	
Output 3: By 2022, coral reef fish biomass within the MPA has increased	3.1. By end of project, herbivorous and fisheries target species biomass (reef fish species) increases by at least 10% within the MPA compared to 2018 FFI baseline (2018 data is currently under analysis; baseline to be finalised before project starts)	3.1. Coral reef fish assemblage surveys (underwater visual census) conducted in Year 1 and Year 3	
compared to 2018 baseline, with ecological data made accessible through the PiSiSi	3.2 Observed numbers of IUCN Red listed species in the MPA, including at least leopard and Malabar grouper, are maintained throughout the project period	3.2. Encounter rates with priority grouper species recorded during annual coral reef fish surveys (see 3.1)	
Atlas of Coastal Resources	3.3. Ecological monitoring data collected under this output are available to stakeholders through the 'PiSiSi Atlas of Coastal Resources' online database, updated annually and shared with government	3.3 The 'PiSiSi Atlas of Coastal Resources' inventory is online by mid Year 3 , and updated by end of Year 3	
Output 4: Marine resource governance actors	4.1 Marine resource management stakeholders at provincial and district levels are analysed and mapped by end of Year 1	4.1. Stakeholder analysis report	
in Simeulue and Aceh are empowered and motivated to co- manage LMMA and	4.2 District Fisheries Authority (DKP) approves formation of LMMA Networks Working Group by Q1 of Year 2	4.2 District fisheries authority decree, formalising the requirement for comanagement of LMMAs in Simeulue through the LMMA Networks Working Group	
MPA networks in line with policy commitments	4.3 An LMMA Networks Working Group has been established on Simeulue Island under a Governor's Decree by middle of year 2, and is active by end of year 2	4.3 Working Group establishment documentation, meeting minutes, attendance records and records of actions arising from meetings	
	4.4 Province-level MPA management body founded through initial meeting by mid-Year 3	4.4 Governor decree authorising MPA management body. Minutes and action points from initial meeting	

_	Aceh province by project end bo	.5 Documentation of management ody actions, meeting records with artner communities for new LMMA etwork	
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New assumptions for overall project:

- Project activities are not further disrupted or delayed by the COVID pandemic in Year 3, and the current limited activities are able to continue for the remainder of Year 2 in line with government restrictions in Aceh.
- Relevant government authorities are able to remain engaged with the project, despite reallocation of resources towards addressing the COVID pandemic.

Annex 3: Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant	Nationality of people (if relevant)	Year 1 Tota I	Year 2 Tota I	Year 3 Tota I	Total to date	Total planned during the project
		TRA	INING MEASU	JRES				
6A	Number of people to receive other forms of education/training		Indonesia	20	328		348	1,130
6B	Number of training weeks to be provided		Indonesia	0.14	16		16.14	26.14
7	Number of (i.e., different types - not volume - of material produced) training materials to be produced for use by host country		Indonesia	0	0		0	3
		RESE	ARCH MEAS	URES	•			
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country		Indonesia	3	1		4	5
11B	Number of papers to be submitted to peer reviewed journals		Indonesia	1	1		2	4
12A	Number of computer based databases to be established and handed over to the host country		Indonesia	0	0		0	1
		DISSEM	INATION ME	ASURE	S			
14A	Number of conferences/seminars/ workshops to be organised to present/disseminate findings		Indonesia	1	0	0	1	4
14B	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.		Indonesia	1	2	0	3	5
		PHY	SICAL MEASI			ı		1 000 00
			Indonesia	0	0		0	833,33

	·						,
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)						
			Indonesia	0	0	0	0
21	Number of permanent educational/training/rese arch facilities, structures, or organisations to be established and then continued after Darwin funding has peased.						
22	funding has ceased Number of permanent field plots and sites to be established during the project and continued after Darwin funding has ceased		Indonesia	0	0	0	0
		FINΔ	NCIAL MEAS	URFS			
23	Value of resources raised from other sources (i.e., in addition to Darwin funding) for project work	1 11/0	Indonesia (village authority support to Panglima Laot)				
23	Value of resources raised from other sources (i.e., in addition to Darwin funding) for project work		UK (Arcadia Foundation co-finance)				

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationa lity of Lead Author	Publisher s (name, city)	Available from (e.g. weblink or publisher if not available online)
CUSTOMARY MANAGEMENT OF CORAL REEFS & FISHERIES BY THE PANGLIMA LAOT IN SIMEULUE ISLAND, ACEH, INDONESIA	Conference abstract to International Coral Reef Symposium 2020 (delayed until 2022)	Indra, Rakhmat Dirgantara, Henry Duffy Submitted in 2020.	Male	Indonesi an	N/A	To be published in conference proceedings. Included in report appendices

Status of coral	Oral	Maria Ulfah, R.K Isfani,	Female	Indonesi	N/A	Powerpoint	
reef ecosystems	presentation to	Indra, Iqbal Nindo		an		included in	
in Simeulue	Reef	Turnip, Rakhmat				report	
Island MPAs,	Conservation	Dirgantara and Henry				appendices.	
Aceh, Indonesia	UK 2020	Duffy					
	online	-					
	conference.						
						i l	

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

Appendices to be submitted.

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Y
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.	N
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	N
Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	N
Have you involved your partners in preparation of the report and named the main contributors	Υ
Have you completed the Project Expenditure table fully?	Υ
Do not include claim forms or other communications with this report.	