



Project news: The Indonesian Seas Large Marine Ecosystem

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Women play a vital role in small-scale fisheries in Indonesia and Timor-Leste

GCP/RAS/289/GF

Summary

The FAO-led GEF-LME project “Enabling Transboundary Cooperation for Sustainable Management of the Indonesian Seas” (ISLME) brings out this second Newsletter Vol. 2/December 2020. It highlights the main activities during the implementation of ISLME Project, such as the initiative to support Timor-Leste to strengthen fishermen and women’s group to improve their livelihoods and income through capacity building program and support to local stakeholders in Indonesia to carry out assessment and activity formulation within the FMA, habitat protection, integrated multitrophic aquaculture (IMTA) and marine and fisheries surveillance. This edition also covers stories from ISLME team in building partnership with MMAF and MAF, facilitation and socialization of Transboundary Diagnostic Analysis in both Indonesia and Timor-Leste, and participation of GEF/FAO ISLME project team in the World Food Day 2020. Also included is the project activity to map out priorities after EAFM assessments of project specific fisheries targets for 2021 workplan, organized by MMAF and attended by partners of GEF/FAO ISLME project in the selected areas.

FAO and MAF of Timor-Leste strengthen coastal community groups

FAO and the ISLME project along with MAF Timor-Leste identify the lack of capacity at user level as a gap in Timor-Leste particularly in the fisheries and aquaculture sectors. There are very few organizations or agencies available to support the specific needs of providing training such as on fish processing, diversification of fish products, seaweed production, aquaculture management etc. Therefore, capacity building of local government officials, local community members, women’s groups and local NGOs are crucial in addressing their needs on how they can improve skills and knowledge of diversifying seafood products for “value addition” in order to meet market demands.

Capacity building in gender mainstreaming for alternative livelihoods was undertaken in three pilot sites targeting thirty government officers and sixty representatives of women's groups, private sector and NGOs. The baseline data provided by the office of the Director General of Fisheries showed that there are very few activities with regards to fish processing, which are mainly for dry fish and salted fish.

There is very little activity on additional processing, which involves using some equipment. These value-added products will support to extend the life of seafood, which is now more for household consumption than selling due to the small size of production (below 100 kg). This training was organized to introduce seafood processing by using small appropriate equipment, which eventually will not only support better household consumption but also foreseen to be more acceptable to the local markets and restaurants in the future.

The objectives of the training on seafood processing were to enhance technical knowledge for interested women's group and fisher groups, provide good and healthy food for household as well as make it available to the market, diversification of existing seafood products and developing other products, and to understand the process of production of fish ball, fish abon (*abon ikan*) and seaweed products as alternative drinks and food. This training combined both theory and practice.



Participants at the post-harvest fisheries training in Timor-Leste.

The National Department of Post-Harvest Fisheries under the National Directorate of Fisheries Management had developed a methodology or curriculum of delivering post-harvest fisheries training including steps of processing until final product, basic sanitation and hygiene, selection of raw materials to be used and basic materials to be used for processing. Fish ball is the seafood product more popular at village level. People prefer to consume fish ball compared to other seafood diversified products such as fish nugget and others. In addition, any type of species of fish can be used to process into fish ball. This training also introduced production of fish floss (*abon ikan*).

Furthermore, seaweed is the product which can be found in the local market both in wet and dry form. People tend to consume wet seaweed for daily dietary needs. Nowadays, people tend to consume more healthy food especially from the sea such as diversified seaweed products, including drinks among others, which are nutritious. More importantly the market prospect is very good since this product can be available all the time and the price of raw material is very low.

Since ISLME project is implemented in Batugade, Beacou and Metinaro, the training also focused in these areas. The activities were conducted for two days in each area, namely from 18-19 June 2020 in Batugade village, 22 to 23 June 2020 in Beacou village, and 25 to 26 June 2020 in Metinaro. Total beneficiaries who attended each of the training were 20 including men and women who were truly interested in developing diversification in processing seafood of good quality with good protein value to be consumed locally and made available to the market. Fortunately for Timor-Leste, the COVID 19 pandemic was much under control at that point of time and hence physical trainings were possible.

There were 16 females out of 20 participants in Batugade 17 females out of 20 participants in Beacou and 19 females out of 20 participants in Metinaro. The facilitators were from the Directorate General of Fisheries in Dili supported by the Chief of Department of Fisheries, Bobonaro. "This is the very first time since independence we are receiving such kind of training. This is a great opportunity and we are excited to learn because the topics are very interesting. Most important aspect that we got the skill and knowledge through this training so that we can use when we open our new restaurant which was just built," said Fransisca Rosa da Gama, Chief of women's group in Metinaro.

The training went well with good participation from community members, fisher group members and women's groups. The training activities were also attended by the local leaders such as Administrator of Administrative Posts, Village leaders, Chief of department of Fisheries from Dili and Bobonaro. The participants were enthusiastic, and not only participated but also asked questions. The facilitators led participants through each step of processing. Through this training and with the support from the project, basic equipment were handed over to the women's groups to be utilized for the follow-up activities and training. They can use the material to practice what they have learned during the training for supporting income generation. Before handing over the equipment, there was an agreement signed by the head of group, Chief of Village and DGF representative to use the equipment efficiently for group activities.

In the future, they may need more training on other product diversification such as fish drying and fish salting, among others, and other ways of using seaweed since seaweed products are very marketable, besides being nutritious, and people like to consume seaweed in different products for drinks.

GEF/FAO ISLME project supports EAFM assessment for mud crab fisheries in Indonesia FMA 713

One of the ISLME Project priority programs is to support ecosystem approach to fisheries management (EAFM) within the ISLME region through strengthening capacity and resource management tools at multiple levels within government, local authorities and communities. In Indonesia, EAFM has been adopted as a basic principle of Indonesian Fisheries Management Plans (*Rencana Pengelolaan Perikanan, RPP*) at the FMA level. An EAFM assessment methodology has been endorsed through the regulation of Director General for Capture Fisheries of MMAF No. 18/KEP-DJPT/2014 on Technical Guidelines for Assessment of Indicators for Ecosystem Approach to Fisheries Management.

MMAF supported by the GEF/FAO ISLME Project conducted an EAFM Assessment for Mud Crab Fisheries and Proposed Intervention Management Actions in Selected Area of FMA 713, in particular Kutai Kartanegara regency. The assessment was carried out by Learning Center-Ecosystem Approach to Fisheries Management (EAFM) Faculty of Fisheries and Marine University of Lambung Mangkurat, Indonesia. This assessment was generally intended to provide recent status of the mud crab fishery in Kutai Kartanegara regency based on EAFM indicators adopted by MMAF, and recommendation of priority actions to improve mud crab fisheries in the ISLME pilot sites.

The Kutai Kartanegara regency, East Kalimantan province is the center for the mud crab production and a home for a large estuarine region of the Delta Mahakam, Indonesia. Current conditions indicate the tendency for the crab fishery to decrease. In some areas the stock and habitat status require improvement. The exploitation of the mud crab resources by various users needs to be well-managed and that requires reliable and robust data for proper planning.

There are 25 EAFM indicators representing six domains of fisheries management, namely fishery resources, habitat, fishing technique, social, economic and institutional used in the assessment. The flag modelling technique was applied using multi-criteria analysis through the expansion of the composite index. Identification of the main problems in the mud crab fishery and management gaps to develop recommendations on management activity interventions were carried out using System Soft Methodology (SSM) analysis.

The results of the assessment were validated through a series of meetings and Focus Group Discussions (FGD) with various stakeholders. The results of the assessment show that in general, the status of mud crab fishery management in the Kutai Kartanegara regency is categorized as in moderate condition, where the habitat and ecosystem, fishing techniques, and institutional domain indicators are of concern and to be improved.

The domain of fish resources with an aggregate value of the moderate category indicates that the availability of mud crabs from natural stocks is still quite good and reliable (Table 1). The moderate condition applies as well to the social and economic domains related to the welfare of the fishing community. The institutional domain is in the 'less' category. Proper handling of this institutional domain has the potential to strengthen other domains, namely the domain of habitat and ecosystem as well as the domain of fishing technology. It can improve the general status of the condition in the future.

Table 1. Composite values of the assessment and the corresponding descriptive condition

Domain	Scale value	Composite value	Description
Mud crab resources	3	48	Moderate
Habitat and ecosystem	2	35	Less
Fishing technique	2	30	Less
Social	3	46	Moderate
The economy	3	60	Moderate
Institutional	2	25	Less
EAFM aggregate	3	41	Moderate

(Source: UNLAM EAFM LC, 2020)

This assessment proposed a number of management activity interventions. Among others are improving stock assessment, developing a modification of locally wide-used *rakkang* fishing gear, controlling the amount of catch and fishing effort, encouraging business diversification, providing allocations of conservation areas, and improving coordination among stakeholders.

FAO and UNHAS assess snapper and grouper fisheries in FMA 713, five recommendations proposed

The other EAFM assessment supported by the GEF/FAO ISLME project intervention was the assessment of demersal (grouper and snapper) fisheries in Bontang and Balikpapan, East Kalimantan Province representing the condition of demersal fisheries in FMA 713. This assessment also includes formulation of management recommendations for specific interventions which could be supported by the ISLME Project and/or other stakeholders.

The EAFM assessment took place from December 2019 to April 2020 following the EAFM assessment methodology set out in the MMAF

The EAFM evaluates six domains of fisheries management i.e. Fisheries Resources, Habitat and Ecosystems, Fishing Technology, Social, Economy, and Governance, which involves 32 indicators.

Snapper/Grouper Fisheries Management Status

In general, the status of the fisheries management of snapper fisheries based on Bontang and Kalimantan sites of the assessment for FMA 713 shows a good (green) level of condition as shown by the aggregate values of the assessment. It means that the measures of EAFM indicators are generally fulfilled reflecting the effective intervention given by the authorities (Table 2). Likewise, the status of groupers fisheries in both sites of the assessment also indicates a good level of condition. For both fisheries, habitat & ecosystem and social domains fall into average condition in Balikpapan site of assessment.

Albeit aggregately in good condition, there are few indicators that fall into red level in both assessment sites which should be considered for better fisheries improvement program. It includes declining size trends in target fishing (domain 1), water quality and status of habitats (domain 2), destructive and illegal fishing method which still show a frequency of infractions >10/year (domain 3), saving ratio of fisheries household which is still below the level of borrowing interest rate (domain 5) and level of compliance with regulation and responsible fisheries indicated by particular numbers of prevalence of infractions of fisheries laws/regulations per year (domain 6).

Table 2. Composite values (fitted with flag model of level of condition) of the EAFM assessment of the snapper/grouper fisheries management (University of Hasanuddin, 2020)

Domain	Snapper		Groupers	
	Bontang	Balikpapan	Bontang	Balikpapan
1. Fisheries Resources	58	57	65	62
2. Habitat & Ecosystem	62	52	62	52
3. Fishing Technology	65	63	65	66
4. Social	70	53	70	53
5. Economy	77	77	77	77
6. Institutional	61	61	61	61
Aggregate	65	60	67	62

Note: applied flag model of level of condition: Good Average Bad

Recommendations for Improving Management

The assessment recommends five broad categories of management improvement intervention, which is briefly summarized, as follows: The first category is the development of a collaborative management system. This should increase stakeholder synergy and participation in fisheries management, in particular with respect to the RPP for FMA 713 including the snapper and grouper harvest strategies, while mitigating challenges associated with limited human and other resources.

The second is providing measures to improve the availability of appropriate data on a continuous basis. Specific components include the continuation and replication/expansion of participatory catch monitoring; and training in snapper and grouper species identification for government and non-government stakeholders. The third is providing measures to improve socio-economic welfare with gender justice. Priority components include capacity building for fisher families (especially women) and fishing cooperatives/groups in financial planning and management, diversification of alternative livelihoods, and grouper and snapper aquaculture; and practical training in safety at sea for small-scale fishermen.



A woman in FMA 713 is helping her husband to fix the fishing nets

The fourth is the need of researches to underpin targeted interventions, including studies on potential size/gear restriction measures and gear modification; global climate change impacts, adaptation and mitigation; spawning aggregation sites (SPAGS); community knowledge, attitude and perception (KAP study, in/around the proposed MPA). The final category is to enable administrative support for responsible fishing, in particular: vessel licensing, with a pilot project for rapid online fishing permits for vessels under 30 GT, scaling down the national system; and optimising synergy between fisheries and transport services in vessel measurement, with a phased re-measurement program.

MMAF held workshop for evaluation and developing 2021 action plan for FAO/GEF ISLME project

The Ministry of Marine Affairs and Fisheries (KKP) through the Sub-directorate of Fish Resource Management, Directorate General of Capture Fisheries held a workshop and formulated an action plan for 2021 for the national activities of GEF/FAO ISLME Project in Bogor, 5-8 December 2020. This event was officially opened by the Director of Fish Resources Management, Mr Trian Yunanda, S.Pi, M.Sc.

Mr Trian emphasized that the aim of the GEF/FAO agreement with the Government of Indonesia and Timor-Leste was application of the EAFM/EBM approach in the ISLME region, which includes Indonesia and Timor-Leste, in order to ensure the sustainable use of resources and to conduct the Transboundary Diagnostic Analysis (TDA) and develop a Strategic Action Plan (SAP).

The targeted locations in Indonesia are Fishery Management Areas (WPPNRI) 712, 713, 714 and some 573. According to Mr Trian, this project is not solely based on area management but also how to improve, organize and develop important fishery commodities for Indonesia and Timor-Leste. "For Indonesia, the Government works through KKP, management of project resource management (budget) through the Sub-Directorate of Fish Resources (SDI) DJPT, Sub-Directorate of Seeds at the DG Cultivation, with Supervision by DG PSDKP. The lead is SDI-DJPT. Each of them prepares the TOR for joint review according to its urgency and relevance to WPP and national policies," explained Dr Besweni who was one of the facilitators at the meeting.

Ms Besweni clarifies that the involvement of different directorates in the project is based on the view that fishery commodity management is inseparable from the duties and functions of each Directorate General, starting from technical cultivation, habitat management, adapting to climate change, handling plastic waste to monitoring marine space. She also reminded to focus on selected fishery commodities that have been determined and decided by the National Project Steering Committee (NPSC), such as blue-swimming crab, snapper, grouper, lobster, seaweed including small pelagic for baiting purposes for large pelagic. This is a commodity that will be integrated in achieving ISLME goals. The determination of these activities had been agreed upon in the implementation of the National Project Steering Committee meeting on March 4, 2019, as well and agreed with Timor-Leste regarding the types of activities that had been obtained.

"NPSC has determined potential locations based on selected fishery commodities. Then it is determined the capacity developed for each location. "National capacity needs assessment" has been done to determine which locations could be pilot sites for specific commodities," she explained.

Ms Besweni explained that these locations were analysed based on the guidelines for the Ecosystem Approach for Fisheries Management (EAFM) and Ecosystem Approach to Aquaculture (EAA), including determining what activities could be carried out in these locations in an integrated manner. For example, FMA 713 will focus on the management of mangrove crabs in the Kutai Kartanegara area as well as snapper and grouper in Bontang and Balikpapan cities, she added.



Mud crabs trading process in East Kalimantan

In addition, in the FMA 714 small pelagic fish program in Alor, Flores and Lembata could be promoted. FMA 573 will promote lobster cultivation in Central Lombok, in Teluk Awang and Gerupuk, as well as seaweed in East Lombok (Teluk Ekas and Serewe). Meanwhile, FMA 712 will focus on blue swimming crabs in Pamekasan, Demak, Cirebon and Serang City, then snapper and grouper in Lamongan, Indramayu and Serang districts.

At the workshop, representatives of MMAF, partners who have carried out studies on EAFM such as IPB Bogor, Unhas Makassar, Unlam South Kalimantan, Unram Mataram were present. In this four-days workshop, action plan for each of these locations and commodities were agreed for 2021. GEF/FAO ISLME National Project Officer Dr Muhammad Lukman appreciated MMAF's commitment in taking the initiative to review and plan the future steps. "Even though the 2020 achievement is still below 30 percent, we see the opportunity for realization in 2021 is getting bigger, several directorates such as DG Aquaculture have carried out an initial assessment for the Integrated Multi Trophic Aquaculture (IMTA) pilot in Lombok," said Lukman. "While DG PSDKP has also carried out two activities so far, the latest one was a coordination meeting on fisheries resources supervision and regional involvement in FMA 713 in Balikpapan City. At this moment, we are preparing TOR for DG PRL to tackle issues related to the ISLME area such as plastic waste and mitigation of climate change," he concluded.

Indonesian seas LME TDA regional technical workshop

The first Indonesian Sea TDA Regional Technical Workshop: 'Introduction and Progress on the Transboundary Diagnostic Analysis (TDA) for the Indonesian Sea LME was held on 18 August 2020. The workshop was attended by a total of 28 participants (11 women, 17 men), representing the Ministry of Marine Affairs and Fisheries (MAFF) (Indonesia), Ministry of Agriculture and Fisheries (Timor-Leste), the National Scientific Advisory Committees (NSAGs) of both countries, FAO, ISLME TDA consultants and ISLME project team members.

This event was attended by Mr Trian Yunanda, Director of Fisheries Resources Management MMAF of Indonesia, Mr Nyoman Rudiarta, Head of Marine Research of Indonesia, Dr Besweni (SDI), Dr Dessy Berlianty and Dr Rochmat M. Rofiq (MMAF). From Timor-Leste were Mr Celestino Guterres, Mr Amaral Dos Santos, Mr Evangelino Torres. FAO and ISLME Project team members including Ms Susana Siar and Ms Paula Lopes da Cruz, TDA consultants and service providers; Prof Karen Edyvane, TDA Lead and Writer, Dr Lida Pet-Soede, Ms Priska Widyastuti, Ms Rina Wulandari, Mr Wawan Ridwan and Prof Peter Mumby, Mr George Antony, and also Mr C.M.Murarliharan (RC), Dr Muhammad Lukman (NPO Indonesia), Mr Kamaruddin Azis (communication consultant) and Ms Suci Artanti.

The objectives of component 1 of ISLME is to identify and address threats to the marine environment including unsustainable fisheries through Transboundary Diagnostic Analysis (TDA) and develop and seek the endorsement of a Strategic Action Program (SAP) that will alleviate the pressures on the marine ecosystems. In his opening remarks, Mr Trian Yunanda, National Project Coordinator and Director of Fisheries Resources Management MMAF said, "Thanks to FAO for the facilitation, and welcome to the delegates. Active contribution is very meaningful. Indonesian Seas LME is one of 66 LMEs worldwide, located between the Pacific and Indian Ocean covering Indonesia and Timor-Leste. FMA 712, 713, 714, 573 in Indian Ocean."

It was agreed that the TDA should take into consideration all fisheries (artisanal, subsistence reef fisheries and small-scale fisheries) not just commercial, pelagic fisheries. With regard to Timor-Leste, the marine fisheries assessments need to give due importance to small-scale and subsistence fisheries. Timor-Leste had recently completed fisheries surveys for both the north and south coasts. The new Government has prioritized development of marine fisheries. From the transboundary perspective the border of Indonesia FMA 714 and 573 with respect to Timor-Leste waters, need to be clarified and well-defined.

Timor-Leste recognizes the importance of marine spatial planning. MAF plan to create a new department for managing existing Marine Protected areas and Marine Spatial Planning within the Ministry's Organic structure. MAF also emphasized the importance of looking into marine plastics pollution, including micro-plastics. Following the discussion, the RTTG members agreed on and endorsed the following: ecosystem boundaries of the TDA ISLME; draft format for the TDA ISLME report; Terms of Reference for NSAG's and the RTTG; that the national TDA technical stakeholder consultations will occur in the last week of August or first week of September, for both countries; Agreed that the second Regional TDA workshop to take place in second or third week of September 2020.

ISLME TDA national stakeholders consultation, Indonesia highlights areas of priority environment and socioeconomic concerns

Component 1 of the FAO ISLME project (Enabling Transboundary Cooperation for Sustainable Management of the Indonesian Seas) identifies and addresses threats to the marine environment, including unsustainable fisheries. The overall objective of this component is to develop and seek the endorsement of a Strategic Action Program (SAP) that will alleviate the pressures on the marine ecosystem. The development of the SAP will be underpinned through a detailed Transboundary Diagnostic Analysis (TDA) to be endorsed by stakeholders and that will identify both transboundary and shared threats to the marine ecosystem within the ISLME.



Industry of blue swimming crab in Indonesia.

PT Hatfield Indonesia (Hatfield) is engaged by the GEF/FAO ISLME Project to carry out national-scale,

Thematic Assessments for the Indonesian waters of the ISLME, to provide key inputs to support the development of the ISLME TDA. Specifically, the TDA summarizes assessments of the key transboundary threats, and their root causes.

A national stakeholders consultation for Indonesia was held on 3 and 4 September 2020 on the ISLME TDA mainly to get wider inputs for the Indonesia thematic study which will finally be basis of the ISLME TDA. A wide range of stakeholders ranging from key representatives from the Ministry of Marine Affairs and Fisheries, ISLME/FAO project, international and national NGOs, donor agencies and academicians participated actively and contributed. The results of the group discussions on assessing and ranking the major environmental and socio-economic concerns are summarized here:

Unsustainable fisheries and decline/loss of living marine resources

The environmental impact from unsustainable fisheries in the ISLME has damaged corals due to reef cleaning practices. Other unsustainable fisheries practices that impacted the environment are also coming from the aquaculture such as the effects of feeds and antibiotic use from the fish aquaculture farms, mangrove degradation and disease issues of cultured shrimp that can be transferred to the wild caught shrimp. Some unsustainable fisheries practices such as illegal, unreported and unregulated (IUU) fishing is mostly impacting on the socio-economics more than on the environment.

Degradation and loss of coastal and marine habitats

The environmental impacts from degradation and loss of coastal and marine habitats in the ISLME include decline on coral reef and other potential area for the nesting ground of the marine species. Some species may be threatened due to the loss of their habitat, erosion of the coastline and sediment run into the benthic habitat are also serious issues. One of the socio-economic impacts from degradation and loss of coastal and marine habitats will be decrease in the potential marine tourism attractive species such as the dugongs, sea turtle and sharks which are important for the marine tourism.

Marine and land-based pollution (e.g. marine debris, sediments, oil spills)

The environmental impacts from the marine and land pollution are mortality of the marine species and environmental destruction from oil exploitation like what happened in Montara NTT. Pollution will affect the quality of the environment and habitats which can lead to also decreasing health of the local community in the location.

Decline and loss of biodiversity and key marine species

The environmental impacts from decline and loss of biodiversity and key marine species are impacting on the different trophic levels, coral reef health, decline on the turtle population, rabbit fish (related with decline on seagrass) and coral reef fisheries also may change. The socio-economic impacts from the decline and loss of biodiversity and key marine species leads to decline on the economic opportunities, income, and livelihoods mostly for coastal community.

Impacts of climate change including ocean warming and ocean acidification

One of the environmental impacts from climate change in the ISLME is more frequent flooding along coasts of all FMAs e.g. North Java, NTT, NTB. Coastline changes had occurred and there is an increase in wave height that impacts the ship route. Climate change also impacts the biogeochemical parameters. It affects ecosystem health, coral reefs (bleaching) and the organisms, such as larval and adult fish migration. It also changes the upwelling intensity and period, which in turn, affects primary production. Furthermore, rainy and dry season are shifting and longer.

The socio-economic impacts from climate change are infrastructure and facility destruction caused by storms and coastline changes. Furthermore, it affects the logistic distribution and transportation. The weather is unpredictable, which is dangerous for safety of marine transport and is impacting fishers.

ISLME Project team meets Public Relation and Foreign Affairs of MMAF to strengthen communication strategy

Communication Strategy (CS) of the GEF/FAO ISLME project is pivotal as it functions as the basic reference for the project to disseminate all project outputs and outcomes as agreed by both Indonesia and Timor-Leste. The communication strategy is under review by both countries after the ISLME Regional Communication Workshop 12-14 August 2019 in Bogor city, Indonesia. To accelerate the finalization of the CS document, Dr Muhammad Lukman, National Project Officer, and Mr Kamaruddin Azis, Communication Consultant paid a visit to MMAF to meet Head of Public Relation and Foreign Affairs of Ministry of Marine Affairs and Fisheries of Indonesia, Mr Agung Tri Prasetyo.

The meeting was fruitful and effective to discuss communication strategy document, introducing some project outputs. Mr Agung appreciated the work of the ISLME to assist MMAF, and he suggested that the outputs can also be communicated to broader stakeholders using MMAF media platforms.

As for this, endorsement of the communication strategy by the country is of primary importance.

Moreover, Mr Agung sees that LME approach for sustainable management is very interesting for the country, as this LME could provide a broader sharing of lessons and knowledge to communities in the future. Mr Agung suggested that through ISLME project, news related to updates of the ISLME as one of the important LMEs in the world can be made periodically, to address any emerging demand from countries.

He looks forward to having the CS document being endorsed. As for this, he remarks that Indonesia and Timor-Leste should have a "single narrative" about ISLME. So how this project supports the two countries to communicate is then important.

For information, the ISLME project has issued the 1st newsletter, and later the ISLME website and other planned communication products would be soon developed after the endorsement of the CS document.



Meeting with Head of Public Relation and Foreign Affairs of MMAF

Timor-Leste holds First National TDA stakeholders' consultation

The national TDA stakeholders' consultation in Timor-Leste was held on 17 September 2020. The aim of this workshop was to share progress and seek technical input/feedback on the Timor-Leste Thematic Assessments, as part of the Transboundary Diagnostic Analysis–Strategic Action Plan (TDA-SAP).

The primary objectives of the Timor-Leste national technical consultation workshop were: 1. To introduce participants to the TDA-SAP process, activities and the role of the Timor-Leste Thematic Assessments; 2. To validate and provide technical feedback on the priority environmental and trans-boundary concerns (PECs) identified for the Timor-Leste waters of the ISLME; 3. Identify, assess and rank the environmental

and direct or indirect socio-economic impacts of each identified PECs including identifying geographical locations of impacts or consequences; and 4. To provide technical/stakeholder input and feedback on the draft TDA Thematic Assessments for Timor-Leste, including identifying data gaps/priorities, and sharing of additional data and/or information sources.

Representative of Directorate General of Fisheries, Ministry of Agriculture and Fisheries, Ministry of Environment and Forests, international and national NGOs, donor agencies and key marine environment project representatives participated and provided valuable inputs. A shared understanding of the TDA- SAP process, activities, work plan and overall coverage of Timor-Leste thematic assessment were discussed. Identification and validation of priority environment and transboundary concerns (PECs) for the Timor-Leste waters of the ISLME including environment and socio-economic impacts with geographical focus were discussed. Valuable inputs were received in identifying data gaps, priorities and identifying additional potential data sources.

The participants identified habitat degradation, overfishing, climate change, IUU fishing and marine debris as priority issues. The decline/loss of fisheries and marine resources ranked as a greater priority environmental concern. Other suggestions that came up were for the TDA to take a positive outlook of capacity building rather than highlighting on where Timor-Leste could be weak. Valid data sources and maps especially for maritime boundaries to be referred to.

Focus group discussion dives-into the review of policy, regulatory, coordination, management, and monitoring framework for ISLME Region

The review of policy, regulatory, coordination, management, and monitoring framework for coastal and marine habitat protection, restoration and enhancement in the ISLME Region, was supported by the GEF/FAO Indonesia Sea Large Marine Ecosystem (ISLME) project. The foundation of this study is based on the fact that in 2014, Indonesia's Ministry of Marine Affairs and Fisheries (MMAF) established a policy for three pillars of fisheries development, namely sovereignty, sustainability, and prosperity and Marine Conservations Areas (MCAs) were established as one of the fisheries management tools.

A virtual Focus Group Discussion was held on 19 August 2020. The results of the FGD for NTB and NTT included the following key issues: 1. District level MCA management is challenged by a lack of budget support, both from the State Revenue and Expenditure Budget (APBN) and Provincial Revenue and Expenditure Budget (APBD); 2. A conflict of authority, as the issuance of UU no. 23/2014 led to the

transfer of the management responsibility for Teluk Bumbang provincial MCA from Central Lombok District to the NTB Province; 3. The effectiveness and efficiency of provincial MCA management is challenged by the absence of a provincial MCA planning document; 4. Partnership plays an important role in overcoming financial and human resource limitations; 5. The lack of understanding of the community both inside and outside the conservation area demands more socialization of the objectives and benefits of MCAs; and 6. Community compliance both inside and outside MCAs is a reflection of the success of provincial MCA managers in carrying out conservation activities in the area. Therefore, compliance monitoring will help produce a mitigation strategy for the management of national or district level MCAs.

Recommendations

Review recommendations on best practices for habitat rehabilitation and enhancement

- Support the availability of open and detailed information related to habitat improvement and enhancement programs and projects that can be used as a reference by stakeholders;
- It is necessary to have an open access platform containing current communication, detailed guidelines to the implementation methodology and management implementation, information status and final results of programs and projects initiated by the executor of the programs/projects (government, private sector, NGOs, and community groups);
- Consider important aspects in implementing habitat improvement and enhancement programs and projects such as the effectiveness and efficiency of the implementation method to be carried out, the selection of the location of the program/project, the qualifications and capabilities of the implementation team, the availability of resources, implementing community-based management, and using applicable regulations and policies as a reference in preparing the framework for the program or project.

Review recommendations on unsustainable fisheries practices in the MCAs

- Continue the socialization programs through cooperation between the central and provincial governments, NGOs, the private sector, and community groups related to the management and utilization of fish resources in MCAs and nearby communities. The implementation of socialization programs should maximize the role of local communities in the socialization team to minimize the potential for challenges related to language, especially for indigenous and traditional communities. The outreach

program can be expanded by using on-air (radio broadcast) or online (social media) facilities.

- Increase socialization related to guaranteeing data and information from various reporters regarding occurrence of illegal and destructive fishing activities. If necessary, a reward mechanism can be implemented for these reporters.
- Implement a monitoring system on fishing vessels operating around the MCAs which have a high potential for violations on the use of fish resources. Especially for small-scale fisheries, it is necessary to synergize central and regional monitoring.

Review recommendations on the final draft RPZ Teluk Bumbang, NTB

There is need to make a revision of the RPZ document issued by the Central Lombok Regency office to account for the zoning system (core zone, sustainable fisheries zone, and utilization zone) and adjust it to the characteristics of fish resources in the Teluk Bumbang TWP, especially the types of lobster and small pelagic fish.

Negotiations on budget support from the provincial people's representative assembly (DPRD) must be accompanied by supporting data showing the value of benefits for carrying out marine conservation on the economy of an activity both inside and outside the MCA. This is to ensure that the budget provided by the local government has a major impact on environmental health and public welfare. Limited budget and human resources require the cooperation of stakeholders as outlined in a Memorandum of Understanding between the organizational units managing MCAs and the community. Therefore, in providing guidance in accordance with the characteristics of each provincial region, it is necessary to formulate a governor's regulation on partnerships as a follow up to the Ministerial Regulation No. KP. 21/Permen-KP/2015.

In order to realize the effectiveness and efficiency of provincial MCA management, it is necessary to study the ideal organizational form of the provincial MCA management unit in accordance with the characteristics of each provincial MCA in the province. In addition, the institutional form of the provincial MCA must be in accordance with the applicable laws and regulations so as not to cause conflicts between institutions.

Review recommendations on RPZ TNP Savu Sea, NTT

Similar to Teluk Bumbang, limited budget and human resources require the cooperation of stakeholders as outlined in a Memorandum of Understanding between the organizational units managing MCAs and the community.

Therefore, in providing guidance in accordance with the characteristics of each provincial region, it is necessary to formulate a governor's regulation on partnerships as a follow up to the Ministerial Regulation No. KP. 21/Permen-KP/2015. There is a need to monitor and supervise the activities of actors that obtain a business permit in an MCA based on the zoning system according to its designation and purpose.

It is necessary to make a roadmap regarding the need for research that supports the conservation of marine biodiversity to synergize with fisheries management and protection of fish resources and fish habitats in the MCA. There is need for synergy between the National Marine Conservation Center or *Balai Kawasan Konservasi Perairan Nasional-BKKPN* and the fisheries authority in issuing evidence of fishing vessels as a form of registration regime and in fulfilling fisher's obligations related to reporting or recording the results of fishing.

FAO and MMAF seek to strengthen regional collaboration for fisheries surveillance in the FMA 713 of Indonesia

The GEF/FAO ISLME Project supported the Ministry of Marine Affairs and Fisheries of the Republic of Indonesia through the Directorate General of Marine Resources and Fisheries Surveillance (PSDKP) to hold a National Coordination Meeting for Developing Alignment Surveillance Mechanism for Combating IUU Fishing and Improving Fisheries Regulation Compliances of the Indonesia Sea Part 1: Fisheries Management Areas (FMA) of 713 for Snapper/Groupers and Mud Crab Fisheries, in Balikpapan, a seaport city of East Kalimantan province, on 30 November to 1 December 2020. Fisheries Management Area (WPP) 713 covers the waters of the Makassar Strait, Gulf of Bone, Flores Sea, and Bali Sea. The 2-day meeting discussed the dynamics and challenges facing the surveillance aspects including challenges of COVID-19 pandemic, to improve alignment in coordination among various relevant institutions that bear the function in surveillance. This meeting was inspired by the results of ISLME EAFM Assessment, which indicated the need to strengthen

collaboration among relevant institutions in order to increase capacity in surveillance and law enforcement to control irresponsible fisheries activities and improve compliance.

The participants included staff from Directorate of Fisheries Surveillance of MMAF, representatives from Ministry of Home Affairs (MHA), Marine and Fisheries Office of East Kalimantan, South Kalimantan, North Kalimantan, Central Sulawesi provinces, the City of Balikpapan and Bontang, members of Community Group Surveillance (POKMASWAS), representative from Indonesian Navy based in Balikpapan, Directorate of Water Police, Regional Police of East Kalimantan, Lambung Mangkurat University, and Hasanuddin University. While those participants who attended

directly followed the strict procedures for COVID-19 protocols, others from Marine and Fisheries Units from the Province of South Sulawesi, West Sulawesi, South-east Sulawesi, and other DGs in MMAF participated via Zoom.

The meeting was opened by remarks from the Director General of Surveillance of the MMAF Mr T.B. Haeru Rahayu via Zoom, He highlighted the need to strengthen coordination and cooperation in surveillance with respect to the role and function of each institution involved as well as the challenges that every institution might encounter. It is then particularly important to have better synergy between Central and Provincial Governments. Then, it was followed by presentation from various resource persons including Dr Drama Panca Putra as Director of Fisheries Surveillance, MMAF, Director of Water Police East Kalimantan Regional Police Office, Director of Synchronization of Affairs for Regional Government, MHA, Director of Fisheries Resource MMAF, and Head of Marine and Fisheries Office of East Kalimantan province.

In Indonesia, the function of surveillance for marine and fisheries resources is regulated by the Law 23/2014 on Regional Government. There is a clear sharing of authority for surveillance between central and provincial governments.

Albeit the meeting touched on specific fisheries commodities in the discussion, the meeting has come up with more general and strategic views and proposal on how to overcome challenges and limitations including budgetary issues faced by institutions. With regards to provincial government matters, the representative from Ministry of Home Affairs (MoHA) elucidates the mechanism where the provincial government can improve their capacity on the marine and fisheries surveillance through increased budgetary provision. As for this, the provincial government needs to build their commitment at early stage of planning process, where Directorate General of Regional Development (Bina Pembangunan Daerah) of MoHA can facilitate.



National Coordination Meeting was held by MMAF in Balikpapan

The meeting came out with identified issues to be addressed by MMAF and other relevant institution at central government, and by regional government.

Some of the issues highlighted are the need to increase surveillance capacity (human resource, budget, and reliable infrastructure) of regional governments, encouraging more participation of fisheries community for surveillance, improving coordination among regional governments and central government in the framework of fisheries management area (FMA) e.g. joint operation, and strengthening provision and sharing data and information. Participants formulated several action plans such as the need for mapping the ideal needs of national fisheries surveillance, and finding the way to improving fisheries supervisors. Full report of the meeting is available for the project documentation.

Workshop discusses institutional capacity needs assessment in Timor-Leste

GEF/FAO ISLME Project in Timor-Leste in coordination with National Directorate of Fisheries (DG), MAF organized a half-day validation workshop on Institutional Capacity Needs Assessment at MAF Conference hall on 17 November 2020. The context of this workshop was the recently completed capacity needs assessment of relevant institutions needed for fisheries and coastal natural resources management in ISLME Project Areas. A total of 24 participants from national and international NGOs, donors, and other stakeholders participated. The objective of the workshop was to validate the findings from the study conducted by the national consultant Sr. Matias Tavares.

The workshop was opened by Mr Acacio Guterres, DG MAF, followed by brief Project (ISLME) overview by Assistant FAO Representative (Programme) Ms Paula da Cruz Lopes. Then, the presentation of findings by Mr Matias Tavares continued with discussion sessions, question-and-answer, input comments and closed at 12:15 noon by Director of Fisheries Inspection Sr Lourenco Amaral.

During the meeting there were quite a few comments shared by the participants including the following, the need for more details on the methodology; the report needs to cover more practical recommendations; it should indicate the possible action or support to be taken by stakeholders; correction of policy cited; and policies and stakeholder analysis should expand to cover other related institutions and policies that have a close link to fisheries and coastal resource management.

The final report of the assessment will be released soon.



Validation workshop on Capacity Needs Assessment

GEF/FAO ISLME project supports World Food Day 2020 events

In the framework of World Food Day which falls every October 16, MMAF cooperated and supported FAO Indonesia in holding a series of digital events. First, Social Media Giving: You can be a food hero too! on 3 to 24 October 2020.

MMAF Secretary General Mr Antam Novambar stated that acts of heroism in food, especially from the sea, coastal and inland waters, are simple actions that can be taken by all. "For example, by appreciating food from various types of marine fish, shellfish, seaweed, or buying local products, eating fish and other economical marine biota. This includes conducting sustainable fish farming, preserving the sea to be healthy and sustainable and avoiding waste of food," he said.



GEF/FAO ISLME supports the promotion of WFD 2020

"This activity is relevant to the MMAF's vision and mission to make marine and fishery products a food solution for the Indonesian people, to make fishery products an asset and hope for the future of national food," said Mr Antam. Favorite netizens published their photos and stories with the hashtag: #WorldFoodDay #HariPanganSedunia #FoodHeroes. A Virtual Exhibition featuring food heroes in FAO projects in Indonesia was held on 16 October 2020. Moreover, the Global Poster Contest: A traditional poster contest is held annually to mark World Food Day. Finally, Food Hero Day: A Virtual workshop and talkshow about food heroes in Indonesia was held on 30 October 2020. In supporting the World Food Day 2020, The Hasanuddin University (UNHAS) in Makassar, South Sulawesi, jointly with the MMAF and GEF/FAO ISLME Project took the initiative to conduct a webinar on "Utilization of Fisheries Management Areas (WPP) for National Food Security and Job Creation for College Graduates". "The issue of food security is a serious issue during a pandemic. All policies and efforts are made by the government and related stakeholders to meet food needs, especially by looking at the potential in the fisheries and marine sector," said Vice of Rector of Hasanuddin University, Prof Arsunan Arsin.

Preparing community-based integrated multi-tropic aquaculture system (CB-IMTAS) to promote blue growth

GEF/FAO ISLME project has initiated activities to promote Blue Growth in aquaculture through introduction of pilot project called Community-Based Integrated Multi-Tropic Aquaculture System (CB-IMTAS). The initiative is envisaged to reduce negative environmental and social impacts of aquaculture intensification, promote innovative fish farming technologies and management practices, and to improve the access of poor rural aquaculture farmers to quality production inputs, sustainable production technology and market for improved productivity and economic efficiency. An MMAF technical meeting was held in July 2020 for consolidating the idea of IMTA within MMAF.

The meeting was attended by all relevant staff from various MMAF directorates including Dr Besweni, head of sub-director of inland fish resource management of SDI, Directorate General of Capture Fisheries, MMAF. A technical presentation of IMTA initiative was made by Mr Rofiq from DG Aquaculture of MMAF as the focal point for the IMTA.

The meeting was organized to review the preparation stage of the IMTA which would identify location, commodity prioritization, availability of ready-to-use seed and feed, infrastructure for fisheries, existing research, which will then be used for recommendations towards CB-IMTAS implementation. The pilot site for IMTA was proposed in pre-assessed and selected sites of West Nusa Tenggara province, Indonesia. The selection of specific sites and commodities would be determined from a rapid field assessment proposed to be undertaken together by MMAF aquaculture staff and the FAO project staff. The rapid assessment was one of the three consecutive sub-activities proposed by MMAF aquaculture for IMTA pilot project.

The field assessment by MMAF aquaculture team and FAO ISLME NPO were carried out on 3 to 7 November 2020. The rapid assessment then concluded that potential site for IMTA are Telong Elong, Gili Butak and Gili Kuri in East Lombok district, and Gerupuk bay, Central Lombok district. Species selection, production technology, availability of seed/feed, and supporting infrastructure of the Mariculture Research Center (BPBL) in Lombok as primary stakeholder for the technical assistance are potential factors for success of pilot project. Existing ready-to-use mariculture technologies and availability of market supply-chain of mariculture production support for commodities such as seaweeds, fin fishes i.e. star pomfret fish, barramundi fish, groupers, and mussels i.e. pearl mussel and abalone are other supporting factors. The next plan for the IMTA is to undertake a feasibility study of proposed sites and commodities, and then follow-up by implementation of an IMTA pilot project, suggested to be running in 2021.



Ministry of Marine Affairs and Fisheries (MMAF)
Indonesia



Ministry of Agriculture and Fisheries (MAF)
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