

ATSEA

NEWSLETTER

A Mother's Dedication in the World of Education and Fisheries

A mother of three who is devoted to two things: Family and nature conservation.

ESSENTIAL



Arafura and Timor Seas Ecosystem Action



WELCOME

Hello and welcome to the second edition of the 2021 ATSEA newsletter.

In this publication we deliver some highlights spanning the last three months of programme activities; from assessment model for the Arafura and Timor Seas (ATS) Regional Governance Mechanism (RGM) and Stakeholder Partnership Forum (SPF) to designing a resilient MPA network, we are delighted to share our progress and project outcomes with you.

Our featured story in this edition of the newsletter is a special piece focusing on the work of Norce Mote from Papua in Indonesia, who has devoted her life to education and fisheries. We also encourage you to read our most recent news stories from Timor-Leste and Papua New Guinea.

We would like to personally thank everyone who attended our virtual discussions on marine and land-based pollution in the ATS Region, along with the participants who joined our recent webinar on gender equity and social inclusion.

We are confident that, with dedicated and strengthened collaboration, the ATSEA-2 Programme can continue to deliver meaningful impacts and lasting results at the regional level.

Take care and stay well,
ATSEA Team

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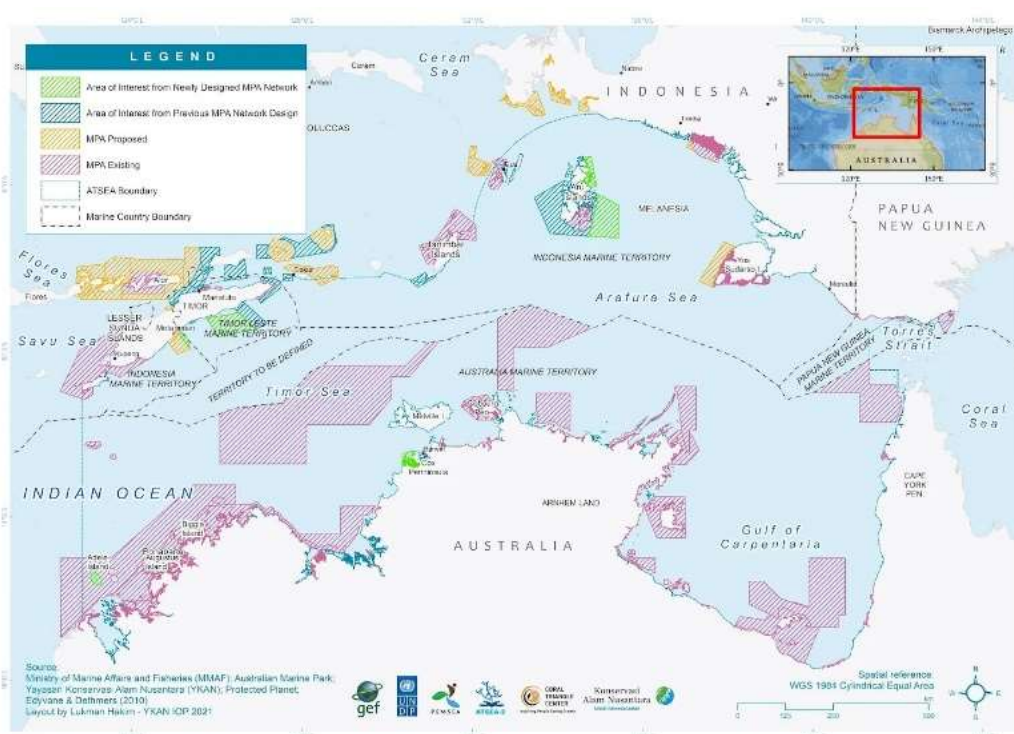
Photo by: UNDP Indonesia

Casting the Net Wider: Expanding Regional Protection for the ATS Region

Designing an MPA Network

To protect and manage a large marine ecosystem such as the Arafura and Timor Seas (ATS) region is no easy feat. One tried and tested method is to focus efforts on High Conservation Value Areas (HCVA). In recent years, Marine Protected Areas (MPAs), and especially ‘no-take zones’, have become popular tools employed by regional managers around the world, in their attempts to maximise conservation gains.

A well-designed and effectively managed MPA can protect biodiversity, increase ecosystem resilience (especially in response to fluctuations in climate and ocean chemistry), enhance fisheries productivity, and address local threats (Green et al. 2014, 2019). When individual MPAs are stitched together to form a network, the ecological benefits are greater; impacts can be seen more clearly after disturbances, while neighbouring



First MPA Network Design for the ATS Region. Image credit: ATSEA-2 Programme

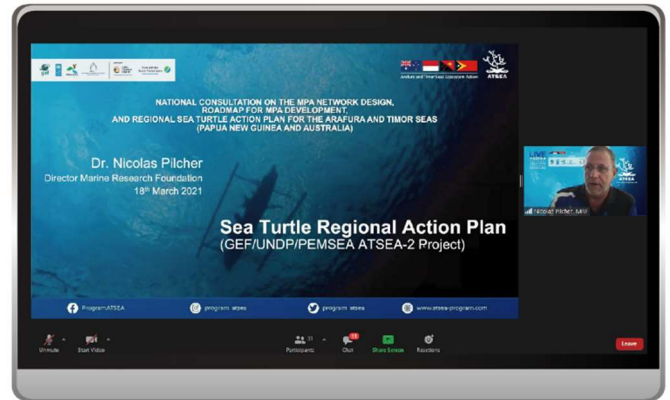
MPAs can mutually replenish one another to facilitate recovery (Green et al. 2019).

Australia, Indonesia, Papua New Guinea (PNG) and Timor-Leste, each of which have borders in the ATS region, already have existing MPAs (and spatial plans that identify potential areas for MPAs based on comprehensive planning exercises). These include:

- Australia’s Commonwealth Marine Park plan (Commonwealth Australia, 2018);
- Indonesia’s Lesser Sunda Ecoregion (Wilson, 2011),
- Fisheries Management Area 715 and six associated provinces MPA network designs (Fajariyanto et al. 2019);
- PNG’s national MPA plan (PNG Government, 2015); and
- Timor-Leste’s National Protected Area Design (Grantham et al. 2010).

However, these existing and proposed MPAs were never originally designed to form cohesive ecological networks on a regional scale. To address the gaps in national MPAs and their networks, the ATS Strategic Action Programme (SAP) set out to improve regional coordination in conserving coastal and marine ecosystems and critical habitats. In support of these priority actions, the GEF/UNDP/PEMSEA ATSEA-2 Programme set out to design an MPA network for the ATS region, by commissioning the Coral Triangle Centre; Yayasan Konservasi Alam Nusantara; and Dr. Alison Green, Research Scientist at the King Abdullah University of Science and Technology. The design had to consider regional biophysical, socioeconomic and cultural aspects that were not taken into account under previous national processes.

The scale and scope of this work presented a major challenge; problems that were exacerbated by the emergence of Covid-19. However, despite limited time, resources and capacity for mobilisation, the team successfully created a design that built on existing MPAs and marine spatial plans from each country, using the best available data and best practices to identify gaps in existing MPA networks. Crucially, they achieved their protection targets while also minimising the impacts of resource utilisation, such as capture fisheries, oil and gas mining, and shipping. The first design of the network spreads out over a total area of 300,873 km², consisting of 92 existing and proposed MPAs (covering 271,406 km²), and 18 Areas of Interest (AOI) (covering 29,467 km²),



Dr. Nicolas Pilcher from the Marine Research Foundation presenting the Sea Turtle Regional Action Plan

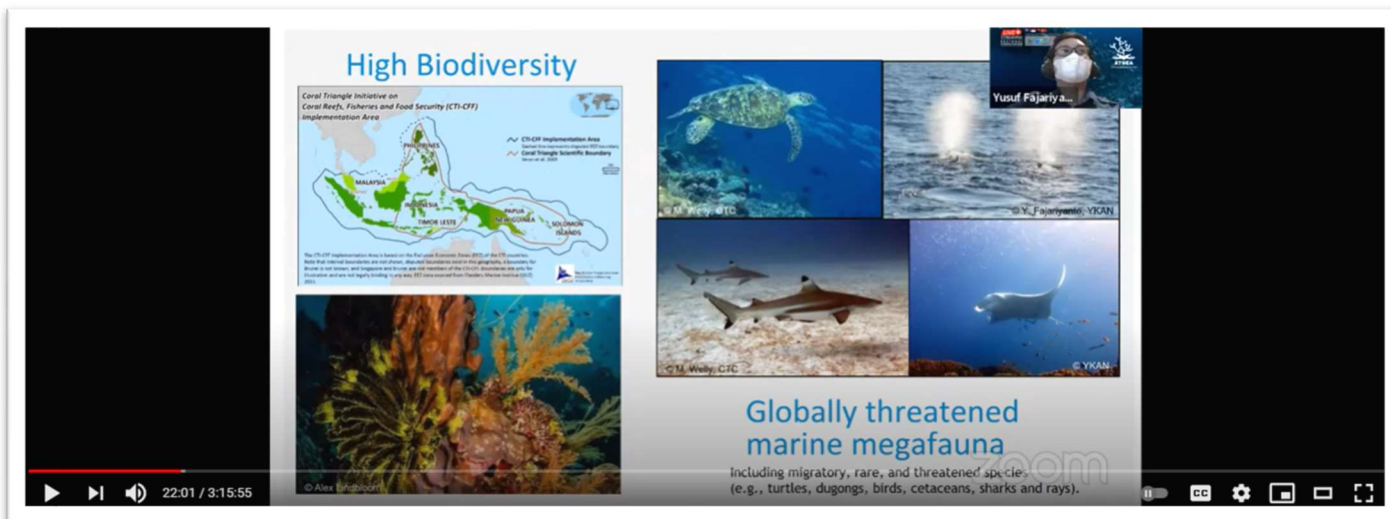
including 13 AOIs from existing plans and five proposed AOIs considered significant to the achievement of wider conservation goals in the ATS region.

Developing a Sea Turtle Regional Action Plan

As migratory animals with no concept of international borders or marine territories, six out of seven sea turtle species can be found in the ATS region. These are the green (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*), loggerhead (*Caretta caretta*), leatherback (*Dermochelys coriacea*), olive ridley (*Lepidochelys olivacea*) and flatback (*Natator depressus*) turtles. In this region, sea turtles play an important ecological role by cropping seagrasses, foraging for sponges on coral reefs and acting as top and middle predators in marine ecosystems. For many coastal communities, these animals also hold customary and traditional value for food, trade and ceremonial practices.

However, sea turtles in the ATS region are faced with multiple threats: fisheries bycatch, ghost nets, predation, traditional turtle take, illegal turtle take, egg collection, climate impacts (i.e. storms, temperature, erosion) and light pollution. Therefore, just as in HCVA, sea turtles in the ATS region would also benefit from regional conservation action being taken.

Dr. Nicolas Pilcher, senior sea turtle biologist and Executive Director of the Marine Research Foundation, prepared a sea turtle status report for the ATS region, which consolidates information on the distribution, migration, genetic structure and population trends for the six sea turtle species found in the region, the various threats that they face and the existing legal infrastructure that supports their protection and conservation. Based on the status report, Dr. Pilcher developed a draft sea turtle



Watch [the Regional Consultation on MPA Network Design and Regional Sea Turtle Action Plan for the Arafura and Timor Seas](#) on the ATSEA-2 Programme YouTube channel.

Regional Action Plan (RAP) which can guide ATS countries in developing or implementing their respective national sea turtle conservation programmes. The RAP complements existing national plans – such as the Australia Recovery Plan and Indonesia National Plan of Action – but is tailored specifically to meet regional needs. It builds on IUCN Regional Action Plans and the Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats in the Indian Ocean and Southeast Asia (IOSEA MoU) Conservation and Management Plan.

The RAP features eight thematic areas, each of which targets a certain country or countries. For Australia, Dr. Pilcher noted the importance of strengthening indigenous community management, while also assessing and mitigating bycatch in northern Australia fisheries. For Indonesia, he focused on assessing and mitigating bycatch in the Arafura Sea prawn fishery, and conducting baseline surveys of nesting and take, with particular focus on the Aru Islands. Baseline surveys of nesting and take For Timor-Leste were also recommended. Next, for Papua New Guinea (PNG), he highlighted the need for assessments of turtle take and an indication of population origin. Finally, for all countries, he underscored the importance of preventing fishing equipment from being discarded, and focused on developing a funding strategy for the implementation of the RAP.

National and Regional Consultations

In March 2021, the Programme held a national consultation series with ATS key stakeholders from

national and sub-national governments, civil society organizations, private sectors and representatives from academia. In line with the participatory approach applied from the onset, the series was geared towards collecting feedback and inputs for the MPA network design and the sea turtle RAP. The first consultation was held for Indonesia on 17 March, followed by another for Australia and PNG on 18 March 2021, and a final session for Timor-Leste that was held on 24 March. These national consultations were followed by a regional equivalent on 31 March. In total, approximately 200 people attended the series of consultations.

Despite tight scheduling and limited stakeholder engagement due to the worsening Covid-19 situation, ATSEA-2, together with its expert team, managed to secure valuable inputs to refine the two documents. The results are to be considered the first iteration, which will be further refined with each of the participating countries through broader stakeholder consultations at the local, national and regional levels (when travel and activity restrictions are eased, or circumstances permit). This first step is expected to provide a catalyst for discussion among stakeholders in the ATS region on priority regional actions for achieving SAP (or conservation) targets, especially in relation to protecting key marine species and habitats for the sustainable provision of ecosystem services. Although much work remains to be done, a momentous first step has been taken.

(Cassandra Tania)

This article was published on the [IW:Learn website](#)

RGM and SPF workshops: Bringing a Shared Vision for the ATS Region into Focus

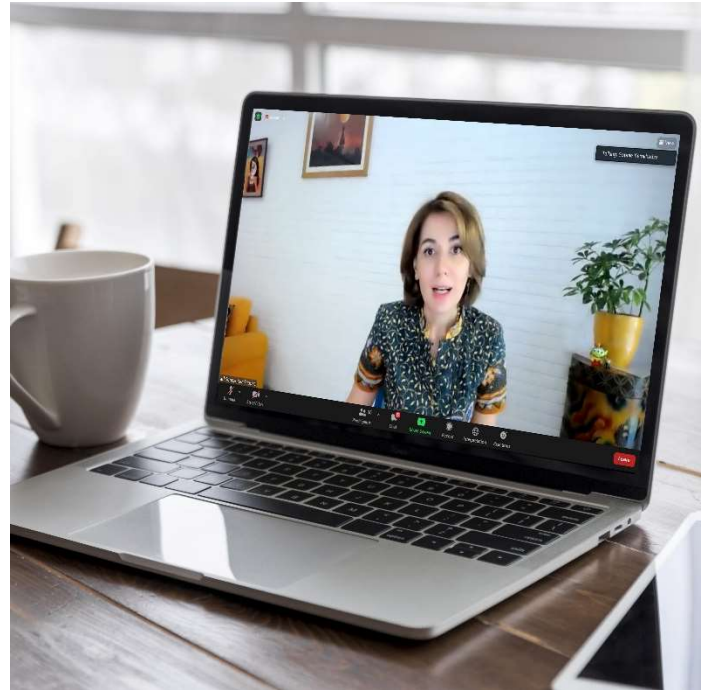
In 2014, the littoral countries of Australia, Indonesia and Timor-Leste jointly committed to strengthen governance of the Arafura and Timor Seas (ATS) region. Their aim was to achieve key environmental objectives and targets, in line with a shared vision for sustainable development in the region. In support of this, and with the participation of Papua New Guinea (PNG), the GEF/UNDP/PEMSEA ATSEA-2 Programme has engaged PT Hatfield Indonesia to undertake an assessment of viable options for Regional Governance Mechanism (RGM).

Solutions include a Strategic Action Programme (SAP) and National Action Programmes (NAPs) in the ATS region; the establishment of a Stakeholder Partnership Forum (SPF); and improved inclusion among the wider stakeholder base in the ATS region, including representatives of local people and women’s groups. Two regional consultations were convened in May 2021, to present the regional governance mechanism and seek inputs to refine and finalise the proposed arrangements.

Regional Consultation on the Mechanism for Collaborative Action in the ATS Region

Held virtually on 19 May 2021, the first regional consultation meeting was attended by members of the ATSEA-2 Regional Steering Committee and National Project Boards. Initial remarks were provided by Dr. Handoko Adi Susanto, ATSEA-2 Regional Project Manager, who outlined the meeting’s objectives and its expected outputs. The event was then officially opened by Dr. Sophie Kemkhadze, Deputy Resident Representative of UNDP-Indonesia and Principal Project Representative for the ATSEA-2 Programme.

Dr. Lida Pet-Soede (PT Hatfield Indonesia) shared key findings and recommendations for the regional mechanism, which was followed by structured feedback from five formal reviewers:



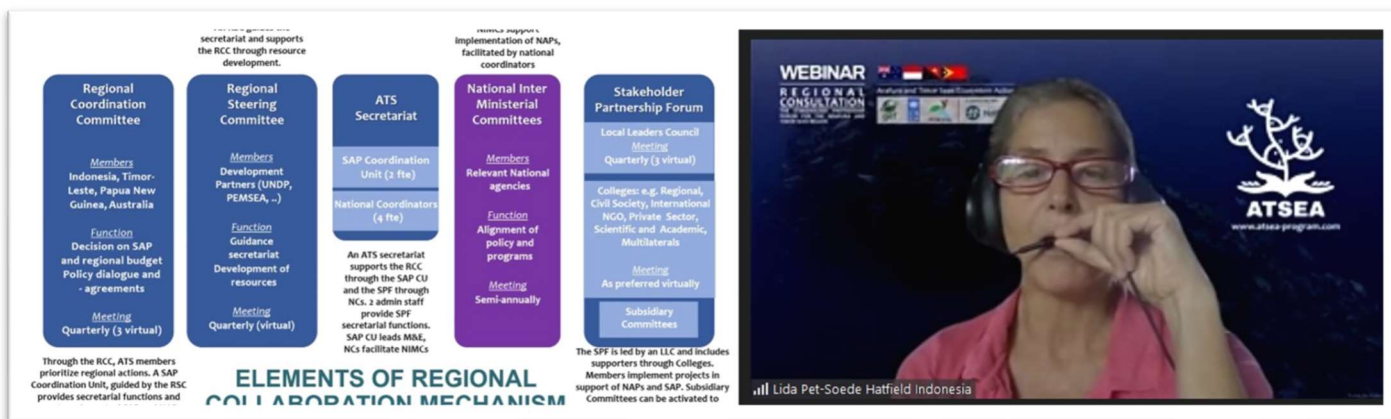
Opening remark by Dr. Sophie Kemkhadze, Deputy Resident Representative of UNDP-Indonesia and Principal Project Representative for the ATSEA-2 Programme

Prof. Sjarief Widjaja from the Ministry of Marine Affairs and Fisheries of Indonesia; Acacio Guterres, Director General of the Ministry of Agriculture and Fisheries of Timor-Leste; Dr. Andrew Chek from the Department of Agriculture, Water and Environment of Australia; Dr. Tony Wagey, Former Project Manager of the first phase of ATSEA; and also Ms. Aimee Gonzales of PEMSEA.

The proposed regional mechanism includes:

- A Regional Coordinating Committee (RCC) that will serve as overall policy and decision-making body for the ATSEA-2 Programme, through which ATS members can prioritise regional actions;
- An SAP Coordination Unit, guided by a Regional Steering Committee (RSC), which will provide secretariate functions to the RCC and lead M&E for the SAP and NAPs; and
- A Stakeholders Partnership Forum (SPF), led by a Local Leaders Council (LLC) and supported by a small secretariat, made up of national coordinators and staff.

Reviewers recognised the importance of collaboration at the regional level, the implementation of priority actions at the national and sub-national levels, and the engagement of local governments and communities. Recommendations included simplifying the proposed structure, to ensure clarity in the



Dr. Lida Pet-Soede (PT Hatfield Indonesia) shared key findings and recommendations for the regional mechanism

decision-making process. They also underscored the need to build on political support and improve synergy between countries that share the ATS region.

In the open discussion, representatives from PNG and Timor-Leste affirmed the need for strategic partnerships, collective dialogue and additional research to support SAP implementation. Dr. Jose Padilla of the UNDP Bangkok Regional Hub called for follow-up country consultations on the proposed design for the regional mechanism, while Prof. Karen Edyvane of Charles Darwin University recommended further engagement with thematic working groups, in relation to transboundary issues in the region.

Regional Consultation on the Stakeholder Partnership Forum

On 21 May 2021, a follow-up virtual regional consultation workshop was held, focusing on the design and operating mechanisms of the SPF. The meeting was attended by representatives from national and local governments; academic and research institutions; international/national/local NGOs; civil society organizations; and community groups, including women’s groups, private/business sector and multi-lateral/donor organizations working in the ATS region. Moderated by Dr. Tony Wagey, the meeting discussed the following:

- Implementing the SAP and NAPs at the national and sub-national levels
- The role of a Local Leaders’ Council in implementing the SAP and NAPs

- Capacity development, knowledge sharing and technical or financial assistance
- The role of the Secretariat in supporting the SPF and coordinating with the RCC

In this meeting, participants provided feedback through the online *Mentimeter* tool and through a moderated open discussion. They also shared their perspectives in breakout groups, focusing on the following:

- Stakeholder involvement and the role of the SPF in ensuring inclusive engagement
- Effective and efficient coordination among various members and the RCC
- Interventions related to the priority transboundary issues in the ATS region
- Limitations regarding resources, capacity, awareness and logistics at the local level

At the conclusion of the meeting, the ATSEA-2 Regional Project Management Unit (RPMU) shared the next steps for further refinement of the proposed design of the ATS regional governance mechanism, which will include conduct of country consultations prior to presentation to the 3rd Regional Steering Committee Meeting. The RPMU also encouraged participants to provide further recommendations, in order to foster shared objectives among the four countries in the ATS region.

(Cristine Ingrid S. Narcise)

This article was published on [GEF IW:LEARN World Oceans Day 2021 Special Issue](#)

New Study Pinpoints Marine Pollution Hotspots in ATS Region



Photo by: UNDP Indonesia

The Arafura and Timor Seas (ATS) region is not only extremely rich in living marine resources, but also oil and gas reserves. According to a recent study by Dr. Won-Tae Shin, CEO of Global Ocean, Inc. in collaboration with the ATSEA-2 Programme, the southern coast of Timor Island is especially vulnerable to oil spills occurring in the Timor Sea, specifically around the Rote Ndao District. The results of preliminary modelling also identified waters surrounding Aru Island and the south coast of Timor-Leste as hotspots for seafloor debris such as derelict fishing gear.

His assessment also showed that Rote Ndao District in Indonesia and the south coast of Timor-Leste have been pinpointed as areas most vulnerable to oil spills and hotspots for discarded fishing equipment. Recent analyses suggest that the Montara spill of 2009 remains fresh in the minds of local residents, with impacts still being felt in the region. Furthermore, as oil and gas exploration expands and shipping lanes in the area become more congested, the risk of similar incidents continues to grow.

The study to identify pollution hotspots at the regional and national levels in ATS had been concluded. Therefore, on 27 May 2021, the GEF/UNDP/PEMSEA ATSEA-2 Programme held a webinar entitled *Marine and Land-Based Pollution in the Arafura and Timor Seas Region*, in order to update key stakeholders in ATS

countries on the results of marine and land-based pollution assessments.

In response to the latest results, ATS countries have been presented with recommendations from a group of experts. These include Dr. Abilio da Fonseca, lecturer at the National University of Timor-Leste; Ir. Dida Migfar Ridha, M.Si, Executive Director of the Regional Capacity Centre for Clean Seas; and Edelina Melisa, ST, M.Sc, Senior Consultant at Oil Spill Response Limited (OSRL) Singapore. All agree with Dr. Shin's recommendations for the ATS nations to ratify the International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) 1990 agreement, develop a regional platform for oil spill responses, and establish a monitoring programme for marine debris.

Reflecting on the study conducted in Timor-Leste, Dr. da Fonseca showed how illegal, unreported, and unregulated fishing and climate change could contribute to marine pollution and how other countries affect Timor-Leste's water quality. As marine pollution is not a standalone issue, he insisted on the importance of regional cooperation and collaboration to tackle the issue.

Mr. Ridha and Ms. Melisa also echoed Dr. da Fonseca. They underscored the need to collaborate, especially with already existing regional platforms such as Regional Capacity Centre for Clean Seas (RC3S) and Global Initiative Southeast Asia (GI SEA), and international initiatives like Sustainable Development Goals

(SDGs), in order to avoid duplication of efforts and attempts to reinvent the wheel.

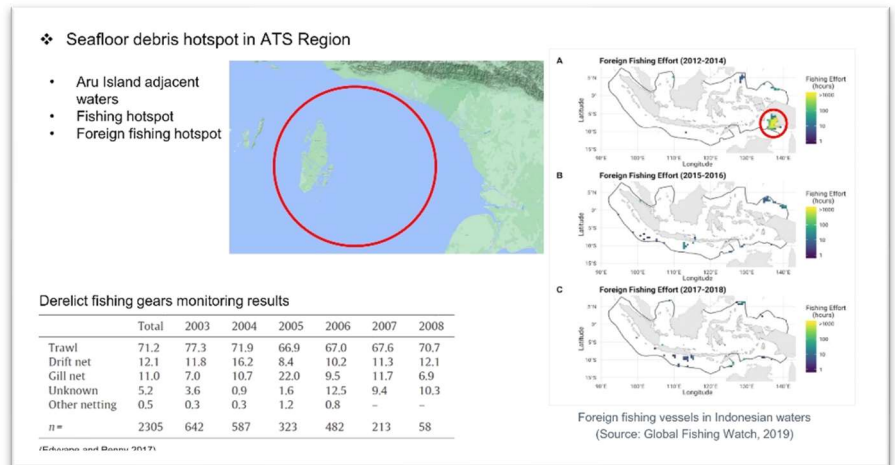
Lastly, Ms. Melisa highlighted that the success of regional initiatives will rely on national capacities. Thus, capacity building and information and/or best practices exchanges are crucial, especially for national stakeholders in the ATS region.

The Transboundary Diagnostic Analysis (TDA) for the ATS region highlighted the growing threat imposed by emerging issues related to marine debris and waste from fishing and shipping vessels, as well as marine-based pollution from oil and gas activities. The ATSEA-2 Programme covers the five priority transboundary environmental problems identified by the TDA: (i) unsustainable fisheries and decline and loss of living coastal and marine resources; (ii) modification, degradation and loss of coastal and marine habitats; (iii) marine and land-based pollution; (iv) decline and loss of threatened and migratory species; and (v) mitigating the impacts of climate change by removing key barriers to sustainable management of the ATS region.

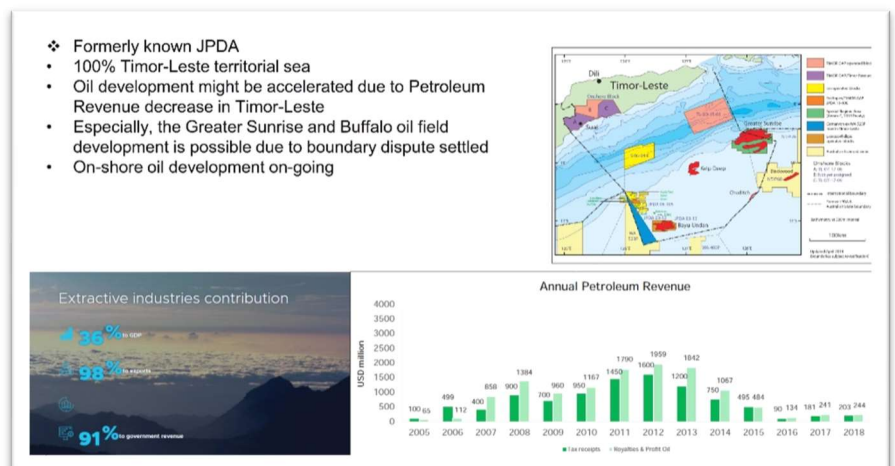
The ATS region's flourishing ocean ecosystem is currently under threat. In order to minimise the impacts of marine and land-based pollution, regional governments must collectively establish plans for guided intervention. The development of a cohesive strategy is urgently needed.

(Casandra Tania)

This article was published on [GEF IW:LEARN World Oceans Day 2021 Special Issue](#)



Seafloor debris hotspots in the ATS region.



Hotspots for oil spills in the ATS region.

LIVE WEBINAR

WEBINAR ON MARINE AND LAND BASED POLLUTION IN THE ARAFURA AND TIMOR SEAS REGION

SPEAKER
Dr. Won-Tae Shin
CEO of Global Ocean, Inc

RESPONDENT
Edelina Melisa, ST, M.Sc
Senior Consultant in Oil Spill Response Limited Singapore

RESPONDENT
Ir. Dida Migfar Ridha, M.Si
Executive Director of Regional Capacity Center for Clean Seas

RESPONDENT
Dr. Abilio da Fonseca
Lecturer at National University of Timor Leste

MODERATOR
Swietenia Puspa Lestari, ST
CEO of Divers Clean Action

DATE : Thursday 27.05.2021
TIME : 09.00–11.00 AM (GMT +8)

Live Streaming On : Program ATSEA | Register Now : bit.ly/WebinarMarPol

Program ATSEA | @program_atsea | infoatsea2@pemsea.org



Mainstreaming Gender Equity and Social Inclusion in the ATS Region

In celebration of the United Nations World Oceans Day, the GEF/UNDP/PEMSEA ATSEA-2 Programme and UNDP's Global Marine Commodities Project (GMC), jointly held a live webinar on 10 June 2021, entitled *Mainstreaming Gender and Social Inclusion in Fisheries and the Marine Sector in the Arafura and Timor Seas Region*. The webinar was attended by 125 participants from Indonesia, Timor-Leste, the Philippines, Papua New Guinea (PNG), Cambodia and Japan. This event was the second in a series of collaborations, set to culminate in the East Asian Seas Congress 2021, from 1-2 December 2021.

Declining fish catch, marine degradation and climate change are not gender-specific phenomena; they impact communities regardless of their cultural outlook. To combat these challenges, an equally gender-neutral response is required. This concept was central to the webinar and was outlined in the opening remarks by Ms. Yayan Hikmayani, S. Pi., M. Si., Head of the Centre for Fisheries Research in the Indonesian Ministry of Marine Affairs and Fisheries. She added that women of the ATS region have a central role to play in defining

interventions, implementing activities, assessing results and especially in managing initiatives that have a direct impact on the lives of their families, their communities and the environment.

An estimated 70% of the aquaculture workforce worldwide is female, with women playing key roles in fishing, processing and marketing (ADB 2019). Women are involved at various stages of the aquaculture process; from pond preparation, seed collection and hatcheries, to feeding and guarding, accounts and book-keeping, seafood processing, marketing and research and development; and their role is growing significantly in certain areas, such as the fish processing industry (FAO 2019).

However, despite their substantial contribution to the sector, women continue to be marginalised by gender stereotyping. Customary practices and traditional patriarchal relations in families and communities discriminate against women; inequalities that are the result of societal and cultural gender norms, ingrained in most rural sectors. Compared to men, women struggle to gain access to skills and training, as there are relatively few training programmes set up with

them in mind; in addition, they must bear the burden of unpaid care work and cannot readily access credit for investment or ownership of fishing equipment.

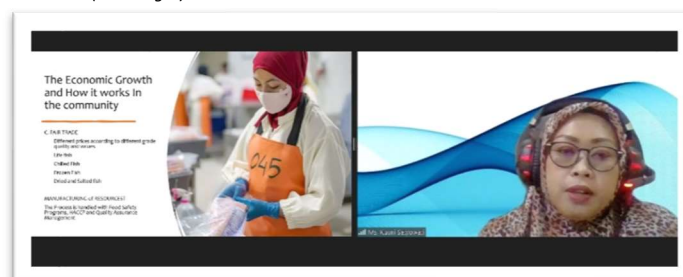
In a bid to raise awareness of gender issues and mainstream social inclusion in the ATS region, the webinar reached out to various institutions. Ms. Kusni Setyowati is the Director of Kelola Laut Nusantara; a seafood processing company with operations in Java and the Natuna Seas. She highlighted the growing importance of women in conservation and remarked on their potential for future development. Other contributors to the webinar included Ms. Alda Sousa Lemos da Rosa, a senior staff member at the National Directorate of Fisheries and Aquaculture in Timor-Leste; Ms. Yenny Widjaja, the gender focal point for UNDP-Indonesia; Ms. Karen Hildahl, the gender focal point for global marine commodities; and Dr. Dedi Adhuri, coordinator of the Maritime Study Group at the Indonesian Institute of Sciences.

The webinar examined gender relationships, while also collecting sex-disaggregated data and identifying opportunities to address existing inequalities; essential first steps in expanding our understanding of gender issues. The event also focused on valuing and promoting women’s contributions to fisheries and coastal management by recognising their knowledge; investing in labour-saving technologies for women in areas such as processing and marketing; and training women in the sustainable management of coastal areas.

The webinar’s closing remarks came from Mr. Celestino de Cunha Barreto, who has more than 20 years of service in the General Directorate of Fisheries and Aquaculture in Timor-Leste. He reiterated calls for more inclusive project management and planning processes. Any efforts to expand the role and participation of women should also address the issue of gender stereotyping; initiatives that set out to enhance women’s participation should therefore also address traditional unpaid care work at home, such as child rearing and other domestic duties (FAO 2019). Gender equality and inclusion should be key objectives of planning from the outset, not merely an afterthought.



Ms. Thea moderated the discussion with Ms Yenny Widjaja (lower left) and Ms Karen Hildahl (lower right)



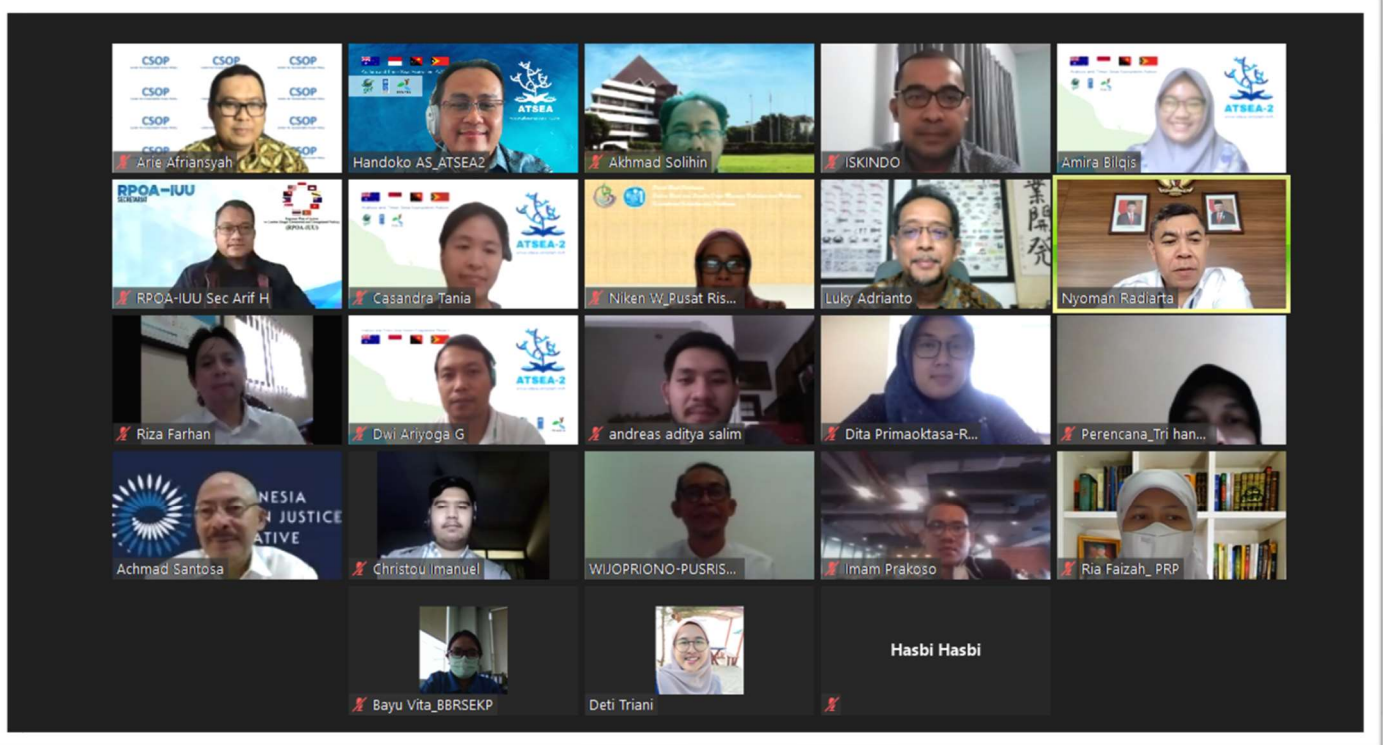
Ms. Kusni Setyowati highlighted the growing importance of women in conservation.



Closing remarks by Mr. Celestino de Cunha Barreto, National Director of Marine Spatial Planning, Capture and Aquatic Resources Management, Ministry of Agriculture and Fisheries Timor-Leste

Recognising women’s contribution to fisheries will be crucial to saving our oceans from further environmental degradation. ATSEA-2 is supporting initiatives that recognise women’s role in conservation, not merely as beneficiaries or recipients of end results and outcomes, but as active proponents of change. The goal of mainstreaming gender equality and social inclusion should therefore be to deliver equal life outcomes through a redistribution of power and resources. This webinar urged transformative and targeted changes in policy, to facilitate interventions and programmes that positively impact societal relations. This action can lead, ultimately, to more effective protection of marine and coastal resources.

(Thea Arcella Bohol)



Analysing the Potential Economic Impacts of IUU Fishing in Indonesia

Assessing the potential economic impacts of IUU Fishing requires an appropriate methodology to be chosen and effectively executed. With a number of distinctly different methodologies currently being applied, with varying levels of expertise, the GEF/UNDP/PEMSEA ATSEA-2 Programme held a Focus Group Discussion (FGD) on IUU Fishing Baseline Estimates for the Arafura and Timor Seas Region, with particular focus on Indonesia, on April 21, 2021.

The FGD was attended by eight reviewers from the RPOA-IUU Secretariat; the Centre for Fisheries Research; the Centre for Ocean Research of Indonesia; the Ministry of Marine Affairs and Fisheries; IPB University; Destructive Fishing Watch (DFW); and Indonesia Ocean Justice Initiative (IOJI) to substantiate the initial assessment by a team of experts from the Centre for Sustainable Ocean Policy (CSOP) – University of Indonesia, who were led by Dr. Arie Afriansyah.

Despite efforts in Indonesia over the past decade to implement standardised methodologies for assessing the economic impacts of IUU Fishing, no generally accepted approach yet exists. Therefore, the team refer to the recent study by Dendi Mahabror, researcher of the Agency for Research and Human Resources Development of MMAF, entitled *Calculation Model of Economic Losses due to Illegal Fishing Activities in Indonesian Territorial Waters*.

The participants discussed several methodological elements, including utilising data from overlaid satellite imagery and VMS, integrating vessels' operational criteria and underscoring the unreported and unregulated fishing aspects within Fisheries Management Area 718. Despite the difficulties and limitations of obtaining data from each country partner, Mr. Arip Hidayatullah from the RPOA-IUU Secretariat appreciated the initial assessment and will use the data for further activity and research.

ATSEA-2 has committed to providing incremental support to better understand the drivers, trends, characteristics and impacts of IUU fishing and reduce IUU fishing in the Arafura and Timor Seas (ATS) region. This assessment will serve as the baseline to support the implementation of RPOA-IUU and the activities of the sub-regional group.

(Deti Triani)



Two participants working together to develop EAFM plan presentation.

Essential-Ecosystem Approach to Fisheries Management Hybrid Training: A Collaborative Effort Amid Covid-19 Pandemic

It was just a few minutes before 8am in Denpasar, Bali, but all participants had already gathered at the Indonesian learning hub, ready to begin their Essential-Ecosystem Approach to Fisheries Management (E-EAFM) training. Bali was not the only learning hub to host such training; various other participants had gathered in two other destinations, in Dili, Timor-Leste and Port Moresby in Papua New Guinea (PNG).

In collaboration with Melbourne-based Fishwell Consulting and Bali-based Starling Resources, the GEF/UNDP/PEMSEA ATSEA-2 Programme held the E-EAFM training to introduce and popularise EAFM approaches to fisheries managers in the Arafura and Timor Seas (ATS) region. To tackle unsustainable fishing, which is one of five transboundary issues in the ATS region, EAFM is used to promote broader consideration of the links between components in an ecosystem and fisheries, facilitate trade-offs between different stakeholders' priorities, and enable stakeholder participation through better communication and trust.

Not a Standalone Activity

The training forms part of the wider EAFM planning process. Through the training and five focus group discussions, ATSEA-2 aims to develop a comprehensive regional EAFM plan for red snapper fisheries in the ATS region, making them as participatory as possible by involving relevant key stakeholders.

During the training, participants learned about the what and why of EAFM, the seven principles of EAFM, and went over the EAFM cycle. At the heart of EAFM is a holistic and practical approach to implement sustainable development and sustainably maximise the ecosystem benefits of a fishery system. Like sustainable development, EAFM can find a balance between human and ecological well-being through good governance.

Thanks to the participatory nature of the training, participants were able to investigate how to define and scope the fisheries management unit, identify and prioritise issues and goals, and explored practical ways to develop the EAFM plan. By the end of the training, there were four EAFM plans for the Timor Sea, Aru Islands, Viqueque and South Fly District which, following refinement, could be used as references for managing fisheries in those locations.



A group of participants having a discussion.

Fighting the Pandemic

The hybrid training was the first of its kind conducted under ATSEA-2. As a hybrid, the training was managed using online and offline mechanisms simultaneously in three countries, where all learning hubs were connected via the Zoom platform. As explained by Dr. Ian Knuckey from Fishwell Consulting, “we have had to modify our stakeholder engagement considerably due to the Covid-19 pandemic. The hybrid approach of online and small country hubs is trying to achieve this.”

Despite the lingering pandemic, ATSEA-2 endeavoured to ensure the training could be carried out as safely as possible. In all learning hubs, the training was conducted following strict health protocols. All participants were required to wear masks and maintain social distancing, while health kits like masks and hand sanitisers were also provided by the training committee. In Indonesia, an extra effort was taken by requiring all participants to take swab antigen tests before and after the training, to ensure that all participants remained safe and healthy throughout the training.

A Collaborative Effort

Dr. Mohammad Mukhlis Kamal, an accredited E-EAFM trainer who has run scores of international EAFM training workshops and been a member of EAFM development in Indonesia since 2014, led the training in Bali and

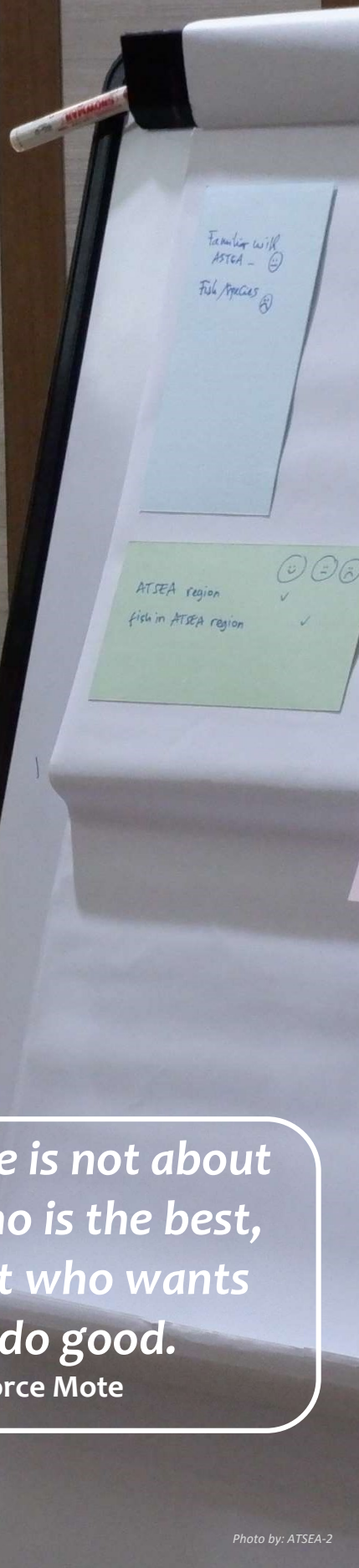
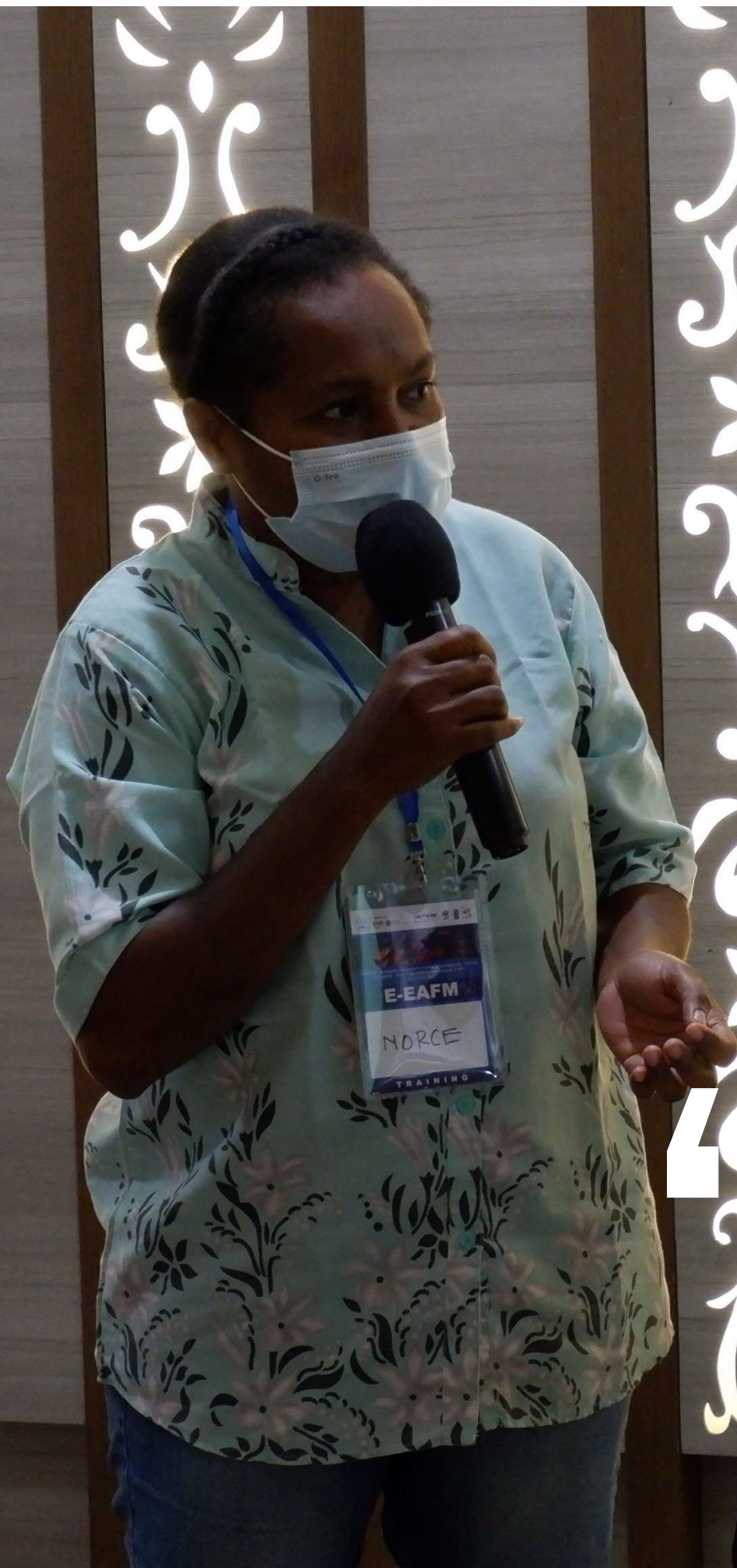
was assisted by Mr. Aris Budiarto. Meanwhile, Mr. Mario Cabral acted as co-facilitator for Timor-Leste and Mr. Kenneth Yhuanje did the same for Papua New Guinea.

Participants gave positive feedback in terms of how the training was run. Most participants said they enjoyed the training, learned a lot, and would bring this new knowledge back home. Dr. Ralph Mana from the University of Papua New Guinea (UPNG) said: “Now I can introduce EAFM to my students and peers in UPNG.”

After five intense days, a total of 10 participants from Indonesia, eight from Timor-Leste and eight from Papua New Guinea completed the training. In Timor-Leste, Mr. Celestino da Cunha Baretto, National Director of Marine Spatial Planning, Capture and Aquatic Resources Management from Timor-Leste Ministry of Agriculture and Fisheries, symbolically concluded the training by handing over certificates to the participants.

Finally, Dr. Handoko Adi Susanto from ATSEA-2 RPMU applauded the training participants for their high enthusiasm and active engagement, and the training committee for facilitating the training seamlessly. “It was a well-orchestrated effort that could not have been done without sufficient IT infrastructure and, most importantly, excellent teamwork,” he said.

(Cassandra Tania)



“

Life is not about who is the best, but who wants to do good.

– Norce Mote

Norce Mote: A Mother's Dedication in the World of Education and Fisheries



Norce Mote S.Si., M.Si. was born in Yapen Waropen, on 7 November 1983. Norce, as she is generally known, is a mother of three who is devoted to two things: Family and nature conservation. Since childhood, she has aspired to become a teacher. However, this dream was put to one side when she followed her husband, who worked as a government employee, to Merauke in Papua. Fortunately, even though she had to move, her husband continued to encourage her that one day she would be able to pursue her dream.

In 2009, Norce made an attempt to revive her love for education. She enlisted as a young lecturer at the Water Resources Management Study Programme in the Faculty of Agriculture at Musamus University Merauke (UNMUS). Even at this early stage, Norce felt she had knowledge to share by becoming a lecturer. In the same year, she had the opportunity to do an internship at the Bogor Agricultural Institute, majoring in Marine Resource Management in the Faculty of Fisheries and Marine Sciences; she studied the management of the macro bio lab and developed her technical understanding of fisheries through various field activities. She then pursued a Master's degree at the Bogor Agricultural Institute, majoring in Water Resource Management in the Faculty of Fisheries and Marine Sciences.

Norce figures prominently in the world of academia. In just two years and four months, she has jumped from being an expert assistant to a lecturer and was named the best young researcher in Papua. As a lecturer at Musamus University in Merauke, Norce was also asked to be the Head of the Laboratory, with a focus on field practicum activities. Despite her busy schedule of education and ocean activities, this mother of three always finds time at the weekends to enjoy nature with her family.

Norce is currently preparing for her doctorate at Hasanuddin University Makassar, through a scholarship from the Education Fund Management Institute (LPDP).

Ensuring Sustainable Fisheries

In her capacity as lecturer at Musamus University, Norce is known for her track record in assembling members of the Working Group (*Pokja*) on the Zoning Plan for the Kolepom Island Conservation Area in Merauke Regency, Papua; and field biology studies related to fisheries in the Kolepom Island Conservation Area. Norce's life never takes her far from the world of education and fisheries, and she has a dream to create an EAFM Learning Centre in Papua. According to her, this initiation must be realised; the ecosystem of the southern region of Papua is very wide and diverse compared to neighbouring areas, so good and



sustainable fisheries management is sorely needed. In the future, the EAFM Learning Centre can become a place of learning and provide certification for students and the community.

As she puts it: “Life is not about who is the best, but who wants to do good.” This principle is something that Norce holds onto in her everyday life. It underlies every scientific publication and applies to all research she undertakes, whether helping other people or the environment. This principle also encouraged her to get involved in the implementation of an Ecosystem Approach to Fisheries Management (EAFM). From 14-18 June 2021, Norce was involved in the Essential Ecosystem Approach to Fisheries Management (E-EAFM) training session organised by the GEF/UNDP/PEMSEA ATSEA-2 Programme at the Swiss-Bel Resort in Watu Jimbar, Sanur, Bali. During the training, Norce, together with representatives from Papua New Guinea and Timor-Leste, shared her thoughts and ideas to develop an EAFM implementation plan for red snapper.

“In the past, fisheries management used a species approach, but we forgot that species also depend on the habitat/ecosystem and governance in terms of the socio-economic aspects of the community, because people take advantage of these species. For sustainability, fish resources are currently very important in the practice/concept of EAFM that is used,” said Norce Mote.

In her opinion, the E-EAFM training was invaluable in developing good and sustainable fisheries management based on three components: Ecology, human welfare and good governance. In addition, she hopes that in the future the EAFM concept can be expanded to include the management of Barramundi (*Lates calcalifer*)/white snapper (*Macolor niger*), Chinese snapper (*Jhonius australis*) and shrimp or other species, especially those in Arafura waters, so they remain sustainable and long-lasting for years to come.

(Johannis Valentino Fofied)

Photo by: ATSEA-2



Photo by: UNDP Indonesia

Women and the Sea: ATSEA-2 Programme Efforts on Gender Equality

More than 59 million people worldwide are engaged in capture fisheries and aquaculture. However, the role of women in this sector remains very minimal, at only 14% (FAO, 2020), even though women can play the same roles and have just the same level of impact as men. This lack of recognition can have implications for the wider economy.

To that end, the GEF/UNDP/PEMSEA ATSEA-2 Programme has guidelines and standards for gender equity and social inclusion. This standard affords women and men the same voice and equal rights, as is appropriate. These standards will subsequently be applied to the programmes operating under ATSEA-2. However, to ensure that implementation is successful, basic information is needed to map gender issues at the target village community level, local government, central government and society in general, especially Rote Ndao and Aru. From 25 May - 1 June 2021, ATSEA-2 and partners conducted an initial assessment to collect data on gender issues in the two districts.

Prior to collecting data, the ATSEA-2 team and partners held a meeting with stakeholders in the local village. This meeting set out to explain the activities of the ATSEA-2 team in the village.

Based on an initial assessment from the field team, there is evidence of gender segregation in



the community. Domestic roles such as cooking and taking care of the household are all left to the women, while the men are generally perceived as the main breadwinners. However, women are also able to earn supplementary income by fishing around the coast or selling their husbands' catch. Meanwhile, male fishermen tend to catch fish by sailing on the open sea.

Gender segregation is not an issue for the community, but it becomes problematic when women have limited access to natural resources. However, this hegemony has been ingrained since childhood. An understanding of fishing, swimming and marine navigation was only passed down to boys. Therefore, when girls grow up, they do not have the same capacity as their male counterparts, even though they both utilise the ocean. This becomes a problem on the occasions when husbands are lost at sea and the role of the fisherman's wife then changes into that of the main breadwinner. As a result of their limited abilities, these women then have to sell their catch around the coast or buy the catch of male

fishermen to resell. This condition results in a decrease in sales volume, which has implications for family income and places women in a vulnerable position. Climate change and the destruction of ecosystems also affects the condition of women, as these issues have led to a decline in fishery products in coastal areas. Conversely, when men lose their wives and are faced with their own limited capacity for handling domestic issues, they tend to remarry.

The absence of women's voices in the community makes it difficult for them to gain access to assistance and training from the government. This is in contrast to the men, whose gender makes access considerably more straightforward. However, equal access to tiered education has been seen between boys and girls. This can be a breath of fresh air in the struggle to achieve gender equality.

The results of this assessment will subsequently be used as a baseline to support the involvement of women in training and activities held by the ATSEA-2 Programme.

(Vivekananda Gitandjali)



Photo by: UNDP Indonesia



Photo by: Inayah for UNDP Indonesia

Riches of the Aru Sea: Fisheries Past and Present

Ranging from large company-owned ships to small fishing boats, rows of ships are commonly seen at anchor in ports throughout the Dobo region of Aru in Maluku. Operating in the Aru region, these have come from locations all over Indonesia; their ubiquity is a testament to the wealth of marine resources with which the Aru Islands Regency has been blessed.

Of these resources, one of the highest in value is the sea cucumber. One kilogramme of dried sandfish sea cucumbers (*Holothuria scabra*) can be sold for around IDR 800,000 to IDR 1,500,000; the highest quality is large in size, equivalent to around seven sea cucumbers per kilogramme. The best-quality sea cucumbers are gathered together by collectors and sold in Makassar, South Sulawesi.

The history of sea cucumber utilisation actually stretches back to around 400 years ago. In Indonesia itself, wholesale fishing and trade in sea cucumbers (known locally as *teripang*) only officially started in the 18th century, when the South Sulawesi port of Makassar was the largest centre of trade in Asia. However, records also show that people of the Aru Islands have actually been catching sea cucumbers as far back as 1636. At that time, people caught sea cucumbers using a simple tool made of wood with a nail at the end, whereas nowadays they are collected either through the use of basic diving equipment or by simply waiting for low tide (*meti*). In addition, it is well known that some individuals take potentially life-threatening dives using compressors in a bid to collect the highly prized sea cucumbers.

After being collected, the sea cucumbers are organised according to size. Those that are small are placed in a container or used vegetable sacks to be weighed according to the sale size classifications. Meanwhile, medium to large sea cucumbers are collected for drying.

Besides sea cucumbers, the Aru Islands are also rich in other natural marine resources, such as red snapper, shrimp and lobster. In fact, the pearl lobster can fetch prices up to IDR 1,200,000 / kg in the local markets of Dobo.

The richness of marine resources in Aru is in part due to the activities of local people, who continually strive for sustainability. Indigenous peoples in the Aru Islands generally implement a practice known as *Sasi*, which prohibits the taking of natural products that are part of conservation efforts. This is what makes the Aru Seas rich in marine resources and ensures their sustainability.

The GEF/UNDP/PEMSEA ATSEA-2 Programme focuses on facilitating the improvement of Southeast Aru MPA management effectiveness, especially for better engagement among local communities. The Programme, in collaboration with partners, has been monitoring the use of resources since last year. ATSEA-2 will continue to support the improvement of livelihoods through an Ecosystem Approach to Fisheries Management (EAFM) that combines local wisdom and modern knowledge, along with Fisheries Improvement Projects (FIP), value chain analysis, market fisheries and support for eliminating the illegal turtle trade.

(Hasbi)



Sea cucumbers laid out to dry in the sun



Photo by: UNDP Indonesia

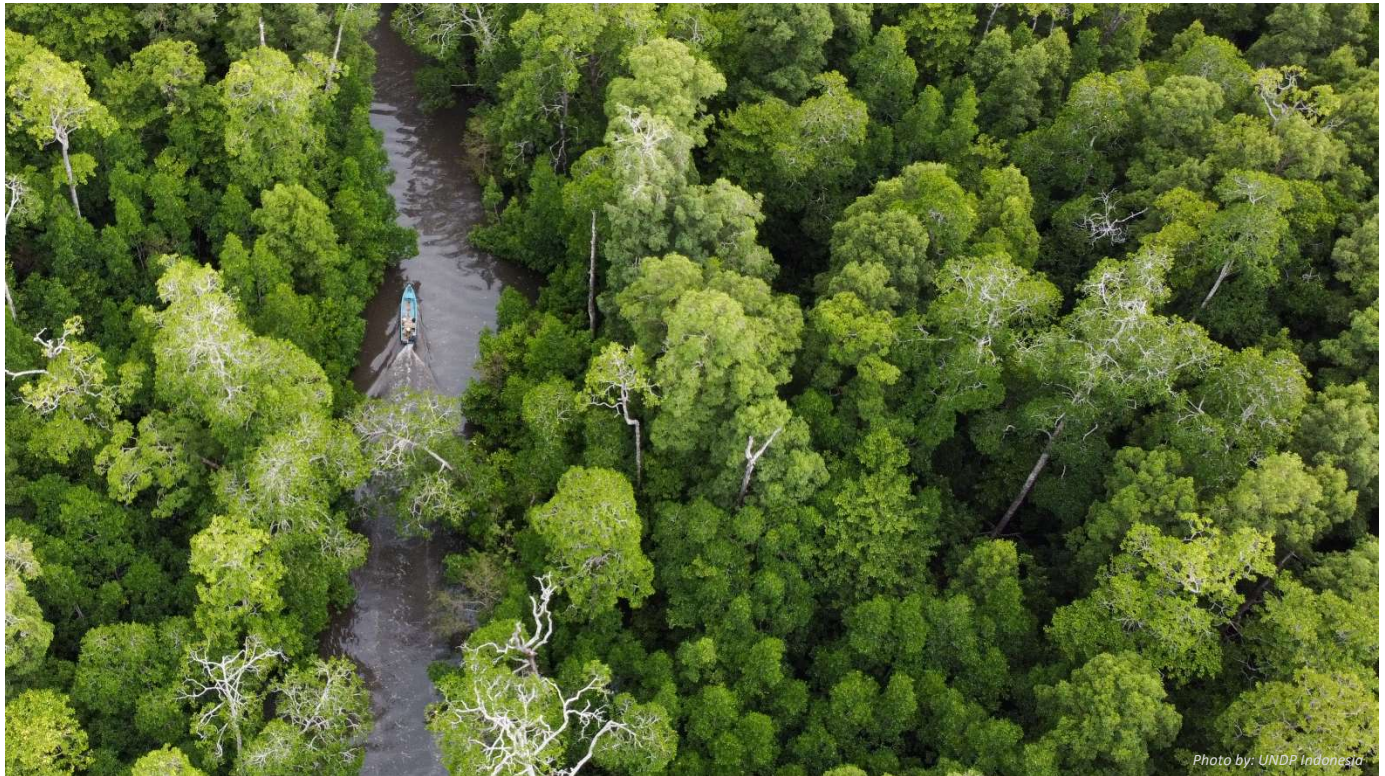


Photo by: UNDP Indonesia

Initiating Kolepom Island Conservation: The Hidden Benefits of Mangroves

Mangrove forests play an essential role in the surrounding ecosystem. Their importance to the sustainability of life (and livelihoods) has been confirmed in the testimonies of community members in seven villages along the west coast of Kolepom Island, during a field survey from 24 March – 1 April 2021. This survey comprises a series of initial data collection for mapping marine conservation area zones, which have been ratified through the Governor of Papua’s Decree no. 188.4/295/2019. Covering an area of 353,287 hectares, this conservation zone includes the villages of Konorau, Waan, Tor, Sabon, Kladar, Kawe and Yeraha.

In the survey conducted by the GEF/UNDP/PEMSEA ATSEA-2 Programme and partners, at least four mangrove species were identified, including *Avicenia sp.*, *Bruguiera sp.*, *Ceriops sp.* and *Rhizophora sp.* These four species

are dispersed over 190.3 km, in an area spanning 74,577 ha of the conservation initiation region.

Kolepom Island (also known as Dolok Island) features several unique characteristics. The island is surrounded by a thick layer of sediment and fringed by mangrove forests. As a result of these geographical features, the area is not suitable for the growth of seagrass or coral reefs. However, for demersal fish and shrimp, it makes the region an ideal location for spawning, rearing young and finding food.

Following economic analysis, the future ecosystem value of Kolepom Island is estimated to reach Rp. 535,682,058,793/year, or approximately Rp. 7,186,023/hectare per year. This analysis is calculated based on the direct and indirect benefits provided by mangrove forests. The surrounding communities directly benefit from mangroves as a source of firewood and construction materials for housing, along with their provision of fishery commodities. In addition, indirect benefits include the prevention of coastal erosion, sea intrusion and carbon sinks. When viewed in greater detail, the highest valuation lies in the indirect use of mangroves, through carbon sequestration. This condition is suspected because most people only use mangroves to fulfil their daily needs, not for commercial purposes.

This survey was conducted by interviewing residents in three villages to ascertain what social and economic benefits were found in the Kolepom Island area. The results of these interviews indicated that around 70% of the community meet their daily needs through the fishery of shrimp, demersal fish and mud crabs, which are then either sold in local markets or used for their own consumption. Uniquely, people in the Kolepom conservation initiation area do not buy and sell using money, but instead conduct most of their business through a barter system. During this survey, the enthusiasm of residents for the initiation of the conservation area was also noted.

For this reason, any efforts to establish conservation areas must also reiterate the inherent value and ecosystem benefits provided by such areas for the surrounding community. In addition, it is necessary to coordinate with the Ministry of Environment and Forestry (KLHK) through the Papua BKSDA as the manager of Dolok Island or Kolepom Island Wildlife Reserve, covering an area of 664,627.97 ha. This coordination is necessary to improve protection of the mangrove ecosystem, as a primary area supporting fishery commodities. It is hoped that the management of the mangrove area and the initiation of the Kolepom Island conservation area can be synergised, so as to provide benefits to the people who depend on this area.

(Dwi Ariyoga Gautama)



Photo by: UNDP Indonesia

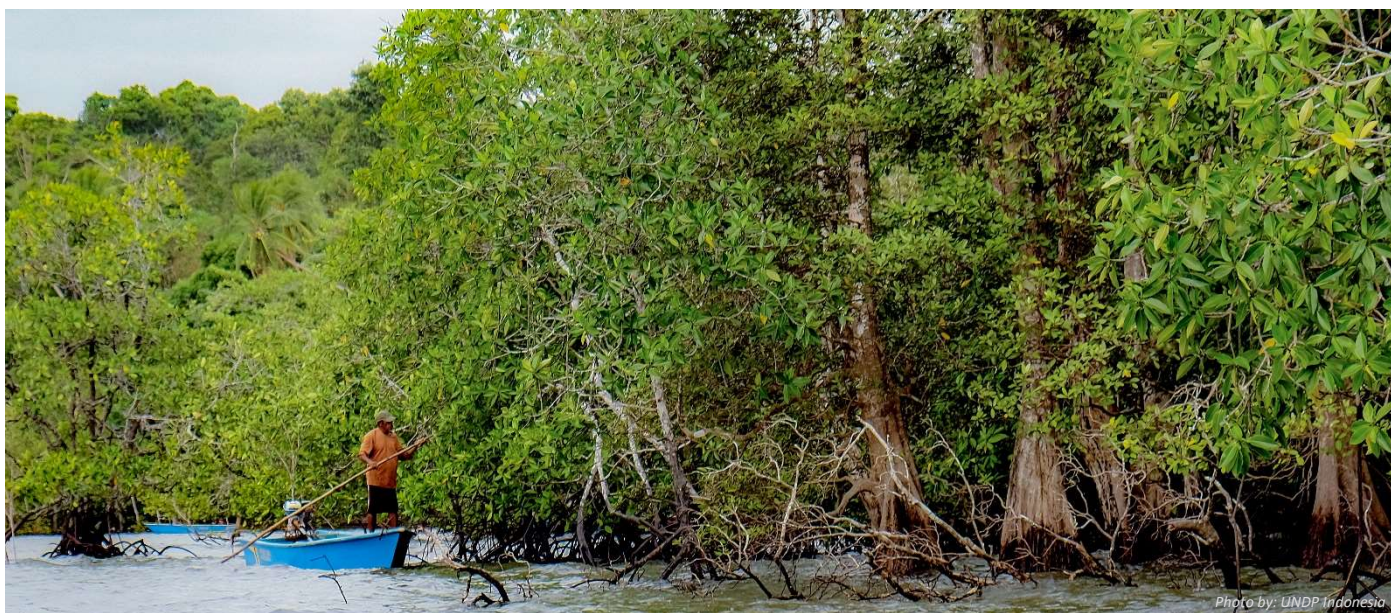


Photo by: UNDP Indonesia



Photo by: UNDP Timor-Leste

Preliminary Study Shows Livelihoods Vulnerable to Marine Pollution

A survey of south-coast communities and coastal ecosystems in Timor-Leste has found onshore and offshore marine pollution presents a significant threat to economic and environmental sustainability.

Global marine pollution, combined with climate change, threatens the collapse of all marine ecosystems within our lifetimes. An estimated 80% of all pollution in the sea comes from land, including agricultural run-off, chemical waste, and 8 million tonnes of plastic waste each year. The cost is estimated at US\$8 billion in damage to marine ecosystems annually.

Though home to only a small population and with little industrial development, Timor-Leste produced nearly 70 tonnes of plastic waste per day in 2018, according to the Asian

Development Bank. The majority of this rubbish was either burned or flushed into the sea.

To begin addressing the threat of marine pollution to livelihoods and ecosystems, the Ministry of Agriculture and Fisheries and the United Nations Development Programme have committed their support to an extensive survey of coastal and marine pollution on the southern coastlines of Viqueque, Manatuto, Manufahi and Covalima. The first of its kind, this study provides valuable baselines in developing a plan for pollution control and management in the area.

The survey used a combination of field analysis, household interviews and key informant discussions, along with satellite imagery to measure biological and artificial pollution levels in key areas. This included studies of sedimentation,

fishing industry debris, oil spills and plastics along Timor-Leste’s 304-kilometre southern coastline. The survey was conducted as part of GEF/UNDP/PEMSEA ATSEA-2 Programme. ATSEA-2 is a multinational project working to improve the protection of the Arafura and Timor Seas (ATS) region – one of the last remaining centres of tropical marine biodiversity in the world.

Preliminary findings show that around 80% of ocean debris came from land and is made up of plastic, rubber and glass, transported to sea via river discharge. An average of 17.5% was offshore fishing debris – a large part of which came from illegal international fishing vessels operating in the Timor Sea. In some municipalities, however, sea-based pollution was as high as 66% (Manatuto) and 22% (Viqueque). On average, the study reported finding 11 grammes of plastic per square metre surveyed, with hotspots concentrated around river mouths.

Sedimentation from soil erosion was another major source of south-coast marine pollution impacting fisheries, ecosystems and livelihoods. Sedimentation in upper watersheds from deforestation and land clearing for agriculture can smother coral reef habitats and reduce fish biodiversity. The survey estimated between four and nine tonnes of sediment per hectare per year was entering the sea.

The preliminary report findings were presented and discussed by stakeholders from municipal authorities from the four municipalities on the south coast and key government agencies during a national validation workshop on 5 February 2021.

“Before independence, our city and towns [were] relatively clean, but now all are full of many types of rubbish, both solid and liquid,” explained Mr. Rui Pires, who is National Director for Biodiversity Conservation and Recuperation, during the workshop. “If we can’t manage it in a collaborative way, it will kill and/or harm many of our marine and coastal biodiversity and impact our economy and human life,” he added.

Key takeaways from the workshop included that Tara Bandu (customary protections) can and have been used to different degrees at each site and were one way for communities to fish more sustainably, through the establishment of ‘no-take zones’. It also emerged that conducting the survey and interviewing community members and leaders helped raise community awareness of marine pollution and its impact on livelihoods. This included understanding the interconnectivity between deforestation and erosion and the subsequent impact on coastal ecosystems.

This article was published on [IW:Learn website](#)



Mr. Rui Dos Reis Pires, National Director for Biodiversity Conservation and Recuperation, presenting the coastal and marine pollution overview during the national validation workshop.



Representatives from the four municipalities on the south coast and key government agencies in Timor-Leste.



Photo by: UNDP Timor-Leste

Building Resilience to Mitigate Climate Change

Coastal environments and their biodiversity have, for centuries, played significant roles in the livelihoods of the communities dwelling along the coast. However, they are now under mounting pressure from rapid population growth and climate change, with potentially dire consequences for the global community. With Timor-Leste being one of the Small Island Developing States (SIDS), such an impact is keenly felt and cannot be taken lightly. The Ministry of Agriculture and Fisheries (MAF) and the United Nations Development Programme (UNDP) are responding to these man-made problems with nature-based solutions, such as replanting and watersheds conservation.

As with many of SIDS states, Timor-Leste is influenced by the long droughts of El Niño and La Niña’s intensified rainfalls, which frequently cause stormwater runoff from upland to coastal areas, posing a significant threat to economic and environmental sustainability. Sedimentation from soil erosion has become a major source of marine pollution, particularly on the south coast, impacting fisheries, ecosystems and livelihoods. An MAF and UNDP survey estimates that between four and nine tonnes of sediment

per hectare are entering the sea every year. Sedimentation in upper watersheds from deforestation and land clearing for agriculture can smother coral reef habitats and dramatically reduce fish biodiversity.

To prevent upland soil degradation from jeopardising coastal habitats, trees are needed within the catchment area to provide soil cover and retain water. From 23-24 April 2021, UNDP Timor-Leste, along with over 100 volunteers, conducted tree planting and ecosystem restoration in Manufahi Municipality. The tree planting was conducted in collaboration with fishermen representatives, local communities from Aldeia (sub-village) Beé Metan, Aldeia Selihasan and Aldeia Loti, in order to conserve 30 natural spring water sources and protect lake habitats inland to ensure sustainable fish production. Students from a local senior high school and Instituto Politécnico Betano University also joined the tree planting exercise.

“Everyone in the country must care about the environment and protect their land to avoid erosion and reduce [the risk of] disaster,” said Municipality Administrator Mr. Arantes Izaac Sarmento, during the launch of the tree planting



Photo by: UNDP Timor-Leste

Tree planting preparation with local senior high school students

and ecosystem restoration programme in the coastal areas and uplands of Manufahi Municipality.

As documented in the ATS transboundary diagnostic analysis (TDA) completed in 2012, coastal and marine ecosystems and communities in the Arafura and Timor Seas (ATS) are especially vulnerable to climate change. Therefore, to conserve these ecosystems and support communities amid the increasing impacts of climate change, the GEF/UNDP/PEMSEA ATSEA-2 Programme integrates nature-based mitigation activities and community-level knowledge sharing into coastal management.

(Almerindo Oliveira Da Silva)



Photo by: UNDP Timor-Leste

Municipality Administrator of Manufahi planting the first tree



Stepping Up Efforts to Improve Sustainable Red Snapper Fishery Production in Timor-Leste

Covering a total area of 1,877 km², Municipio Viqueque is one of five sites of the GEF/UNDP/PEMSEA ATSEA-2 Programme for the Timor-Leste component. The municipality is home to around 76,033 people (according to the 2015 census), comprised predominantly of coastal communities who use double outrigger canoes and fibreglass mono-hull vessels to catch fish. Despite numerous fisheries management challenges and current capacity limitations at various levels, Timor-Leste aims to ramp up the production of red snapper fisheries to boost the incomes of coastal communities in Viqueque Municipality and beyond.

Building capacity at the appropriate planning levels in fisheries management is a critical first step towards addressing fishery management in an ecosystem context. To address the key limiting factors that have constrained sustainable red snapper fishery management in

Timor-Leste, ATSEA-2 organised a training session about an Essential Ecosystem Approach to Fisheries Management (E-EAFM). Facilitated by Melbourne-based Fishwell Consulting and Bali-based Starling Resources, the training was attended by a team of 11 representatives from the Ministry of Agriculture and Fishery (MAF), Department of Fisheries, Aquaculture and Marine Resources.

"The ever-increasing challenges of illegal fishing, poor stakeholder participation, conflicts among fishermen and the low fish catch rate in artisanal fisheries are addressed in the E-EAFM implementation planning," highlighted Jose Monteiro, a seasoned fisheries practitioner from Nino Konis Santana National Park, during his insightful presentation on EAFM for red snapper in the ATS region.

Concluding five days of extensive training, the team presented management actions to be implemented in a sustainable red snapper fishery in Viqueque Municipality, placing this in the practical context of developing the pilot fishery management plan. The EAFM plan targeted establishing an inter-ministerial task force for transplantation and reforestation of coral reefs and mangrove ecosystems, creating a market system, promoting an efficient transport system and empowering fishing communities with environmentally friendly fishing techniques.

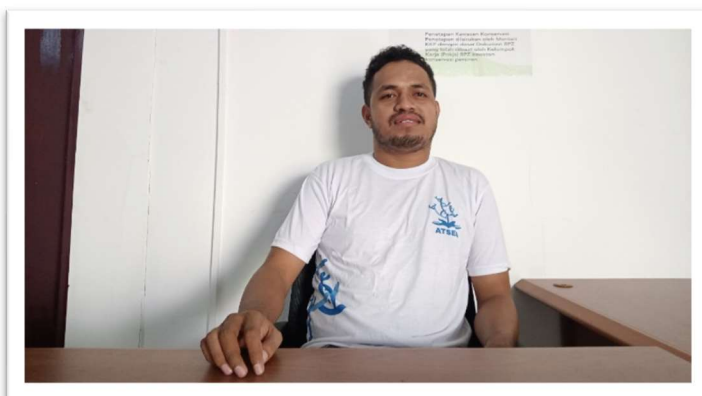
Fidel de Castro Guterres is a representative from the Department of Fisheries, Aquaculture and Marine Resources at MAF. Having participated in the five days of intensive E-EAFM training, he found it to be especially useful in bridging knowledge gaps caused by a lack of experience in managing the fisheries of Timor-Leste. “The importance of applying an EAFM tool in managing fisheries sectors, especially in [the context of] Timor-Leste, is [a] very good approach,” explained Guterres at the training session. Based on his observation from many years of working in this sector, he also highlighted the various challenges faced by fisheries in this area, such as relatively smaller coastal areas, knowledge gaps and shortages of human resources. In spite of these challenges, he believes the training has provided a valuable tool in bridging these gaps and resolving the issues involved with fisheries management in the region. “Through this training I got a broader idea of how to [better] manage the fisheries sector in Timor-Leste,” said Guterres. “I gained a lot of ideas and knowledge through the E-EAFM training and I am ready [better prepared] to take the next step forward in managing fisheries in Timor-Leste, especially in the Timor Sea,” he added.

Participants at the training session were asked to prepare their final projects through a series of engaging discussions. Among the attendees were representatives from Timor-Leste who have been working in the nation’s fisheries sector for more than 20 years, which meant they had lots of useful experience and expertise to share with the group. By sharing their knowledge with the other participants, all were able to identify weaknesses in current management approaches, and devise solutions based on the various principles covered in E-EAFM training materials.

Surveys of the Timor Sea¹ have identified snapper as being the most commonly fished species, comprising 49.32% of the total catch. Within the snapper group, there are three distinct individual species of high economic importance: *Pristipoma moidestypus*, *P. mutidens* and *Lutjanus vitta*. These are especially important, both for subsistence and for the generation of income, not only at the coastal villages but also at the national level.

The ATSEA-2 Programme’s training followed FAO-certified training modules on EAFM. These cover both theory and practical aspects of EAFM, which have been adapted to meet the specific needs of the Arafura-Timor Sea red snapper fishery. Following the completion of the training, 15 high-performing participants will be selected to undertake a three-day Training of Trainer (ToT) course in relation to EAFM.

(Almerindo Oliveira Da Silva)



Fidel de Castro Guterres, a representative from the Department of Fisheries and Aquatic Resources Management at MAF



Jose Monteiro, fisheries practitioner from Nino Konis Santana National Park



The Timor-Leste team prepares for their final presentation at the training in Bali (Photo by: UN House Caicoli Dili)

¹ TIDCA, 2004, *Final Report of Thailand and Timor-Leste Joint Survey on Fishery Research and Oceanographic Observations in the Exclusive Economic Zone of Timor-Leste*

Supporting Artisanal Fishery Development in Papua New Guinea



Photo by: ATSEA-2

On a grassy field, surrounded by wooden houses and overlooking the Torres Strait at the mouth of the Fly River, we were warmly welcomed by the Head of the of Kadawa village. Located just a short boat ride away from Daru Island, the village is one of the largest in the South Fly District of Western Province, where so many people depend on the sea for survival.

Papua New Guinea (PNG) is home to a vast maritime territory – about 10% of the world's tuna is caught here. The waters surrounding Daru are not the country's most productive, but the villagers here have still been impacted by outsiders encroaching on their traditional fishing grounds. Implementing progressive and inclusive fisheries management for small-scale fishers remains a challenge here, due to limited capacity building at the local level.

Clouds shaded us from the high noon sun, while an ocean breeze helped sweep the heat away. Not long after we had set foot in the village, fishermen and women had begun to gather. On that day, 19 May 2021, we were accompanied by Rickson Lis, who is a representative from the National Fisheries Authority (NFA) of PNG. He is currently working to engage with stakeholders in the region and collect key information on fisheries and stakeholder capacity.

“This is the first time the fisheries authority has visited the village to work with the community on the management of artisanal fisheries,” he explained, responding to the GEF/UNDP/PEMSEA ATSEA-2 Programme’s plan to improve fishery management measures by supporting artisanal fishery development and

traditional practices. “We will support the Programme to improve the livelihoods of the community,” he added.

Kadawa is one of 14 villages that have traditional rights, including fishing, enshrined in the Torres Strait treaty with Australia. Despite official protection, the Head of the village maintains that commercial operations are normally prioritised ahead of traditional fisheries.

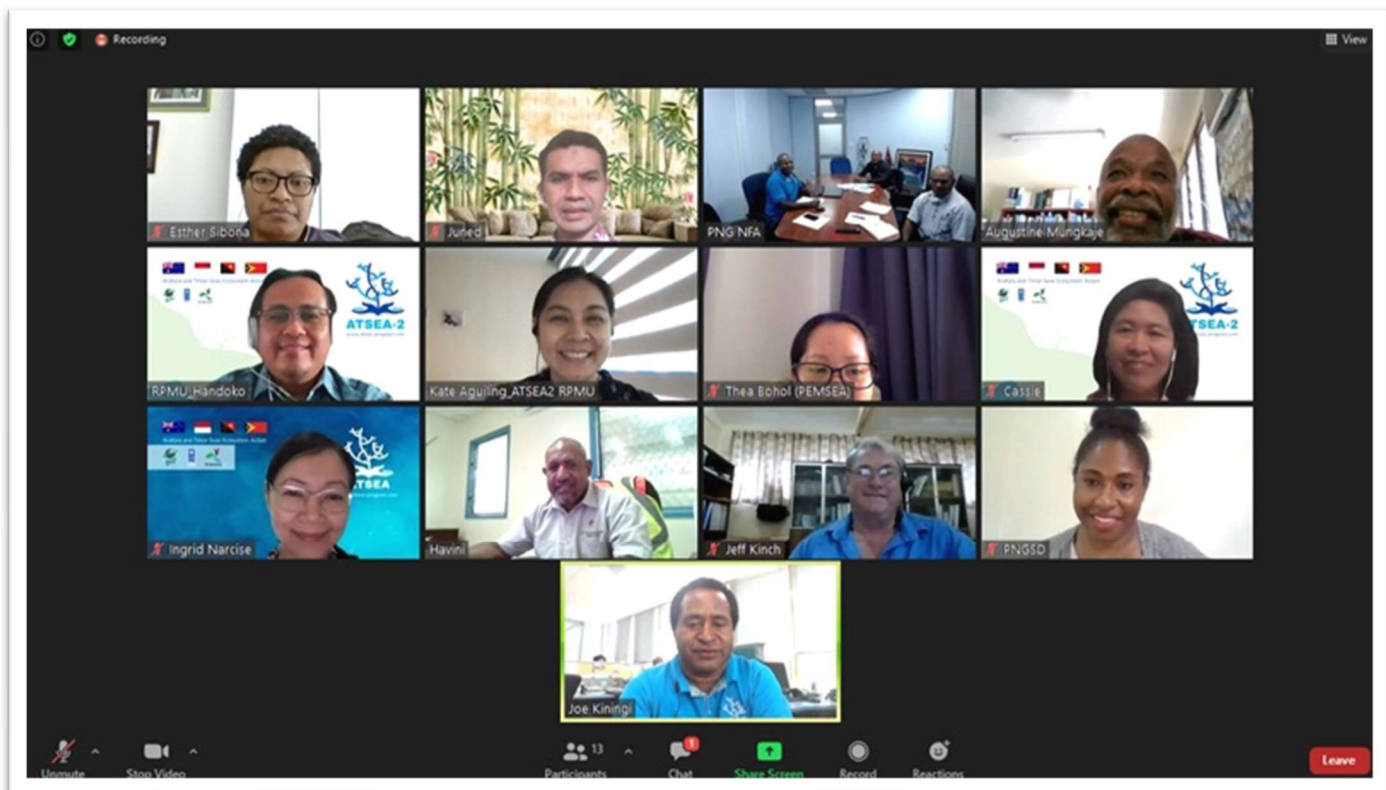
South Fly is covered by a Barramundi Fishery Management Plan. Through the ATSEA-2 Programme, an additional artisanal fisheries management plan for South Fly will be developed, supported by EAFM-awareness and capacity building initiatives. Community-based monitoring, control and surveillance will also be strengthened in the Western Province.

To ensure continued economic benefits, along with the biological and ecological sustainability of PNG’s marine resources, the NFA has put in place the Roadmap for Coastal Fisheries and Marine Aquaculture 2017-2026.

PNG is central to the overall management of the Arafura and Timor Seas (ATS) region, particularly in terms of fisheries management; the Arafura Sea fisheries depend on the same fish stocks from the adjacent Torres Strait that borders Australia and PNG. Therefore, as one of the four countries sharing the Arafura-Timor Seas, PNG’s integration into the Programme is crucial if the regional Strategic Action Plan (SAP) is to achieve its aims.

(Kenneth Yhuanje)

This article was published on [GEF IW:LEARN World Oceans Day 2021 Special Issue](#)



Participants at the ATSEA-2 PNG inception meeting, held via Zoom

National Fisheries Authority Launches ATSEA-2 Programme in Papua New Guinea

The first phase of the Arafura and Timor Seas Ecosystem Action project (known as ATSEA-1) was started in Papua New Guinea (PNG) but did not continue through to completion. One of the reasons for this was a perceived lack of engagement by key stakeholders in PNG. To address this issue and prepare for the launch of the GEF/UNDP/PEMSEA ATSEA-2 Programme, the National Fisheries Authority (NFA) set out to engage key regional stakeholders during an inception meeting.

Held via Zoom on 31 May 2021, the virtual inception meeting was attended by a range of stakeholders, including representatives from NFA, National Fisheries College, PNG Sustainable Program Ltd, OK Tedi Development Program Ltd, and the University of PNG. Gender

representation was approximately equal, with both male and female participants. The overall objective of the meeting was to facilitate a common understanding and ensure joint ownership of the Programme by partners and stakeholders, in terms of its vision, aims, objectives and outputs. In addition, the meeting reviewed key elements of the Strategic Results Framework, in a bid to facilitate discussion between stakeholders and to identify areas for potential collaboration.

In welcoming the stakeholders to the meeting, Mr. John Kasu, who is the Manager Director of the National Fisheries Authority (NFA), said: “We are pleased to have you on this national committee (National Inter-Ministerial Committee) and forum (Stakeholder Partnership Forum) to share ideas and work together to implement the ATSEA-2 Programme”. The Regional Project Management Unit (RPMU) introduced ATSEA-2 to the PNG stakeholders and the National Coordination Unit (NCU) provided an update on the Programme in PNG. Stakeholders who are implementing fisheries projects discussed their work and ways they can cooperate with ATSEA-2 in South Fly. In response, the stakeholders

expressed their support for the Programme and were happy to get involved.

The stakeholders from Western Province and South Fly district did not join the Zoom meeting, due to poor internet connectivity. However, a face-to-face meeting was held in Daru with the government officials and an NGO, while in Kadawa village some of the villagers along the South Fly coast were also included in initial meetings, where the ATSEA-2 Programme was introduced to them and their involvement was discussed. These sessions were held a week prior to the main inception meeting, held in Port Moresby, PNG.

PNG is central to the management of ATS; fisheries in the Arafura Sea are supported by the same fish stocks from the adjacent Torres Strait that borders Australia. Now that the Government of PNG has decided to participate in the ATSEA-2 Programme, the regional response has been strengthened and will ultimately lead to better governance of marine resources in the ATS region.

In the South Fly District of Western Province, the ATSEA 2 Programme will support the development of an artisanal fisheries management plan, which is approved by the NFA and endorsed by the Treaty Villages Council and Western Province Administration.

The challenge now is to keep stakeholders engaged and motivated; especially the key state agencies, whose continued engagement will be key to the implementation of the Programme. The primary beneficiaries are the NFA, the Conservation and Environment Protection Authority (CEPA), Climate Change and Development Authority (CCDA) and Western Province and South Fly District Administrations.

Bringing all these groups together for a single meeting was more challenging than engaging with each of them separately. However, the meeting was an important and symbolic first step for ATSEA-2; by bringing all stakeholders to the table, the Programme was able to address previous shortcomings, synergise all parties around a set of common objectives and set a precedent for future cooperation.

(Kenneth Yhuanje)



ATSEA-2 Programme introduction to Western Province, South Fly and Daru Town administrations



EAFM training participants from PNG with their certificates.

Developing an Ecosystem Approach to Fisheries Management in Papua New Guinea

Papua New Guinea (PNG) is a maritime nation, home to beautiful coastal environments and rich in marine resources. From lush mangrove estuaries to sprawling reefs, the marine habitats of PNG are ideally suited to fisheries. To safeguard the economic viability of these fisheries and the ecosystems that support them, these resources have to be managed properly.

An Ecosystem Approach to Fisheries Management (EAFM) offers a more holistic approach, focusing not only on the sustainable harvest of target species, but moving towards systems and decision-making processes that balance ecological well-being with human and societal welfare. This is achieved through the implementation of improved governance frameworks (i.e., a practical way to achieve sustainable development).

EAFM addresses the multiple needs and desires of societies, without jeopardising future generations' capacity to benefit from the full range of goods and services provided by marine ecosystems (Garcia et al., 2003; Food and Agriculture Organization 2003, 2011). To date, EAFM remains under-developed in PNG. One of the reasons for this is a lack of proper training

for personnel in the relevant implementing agencies.

Under the auspices of the GEF/UNDP/PEMSEA ATSEA-2 Programme, Fishwell Consulting and Starling Resources were commissioned to deliver training to fisheries managers from Australia, Indonesia, Papua New Guinea, and Timor-Leste. The five-day training was conducted on 14 - 18 June 2021. The participants were trained to consider field-based conditions, limitations and opportunities, and ensure that key stakeholders are aware of and support the activities and the objectives related to the ATS Snapper management.

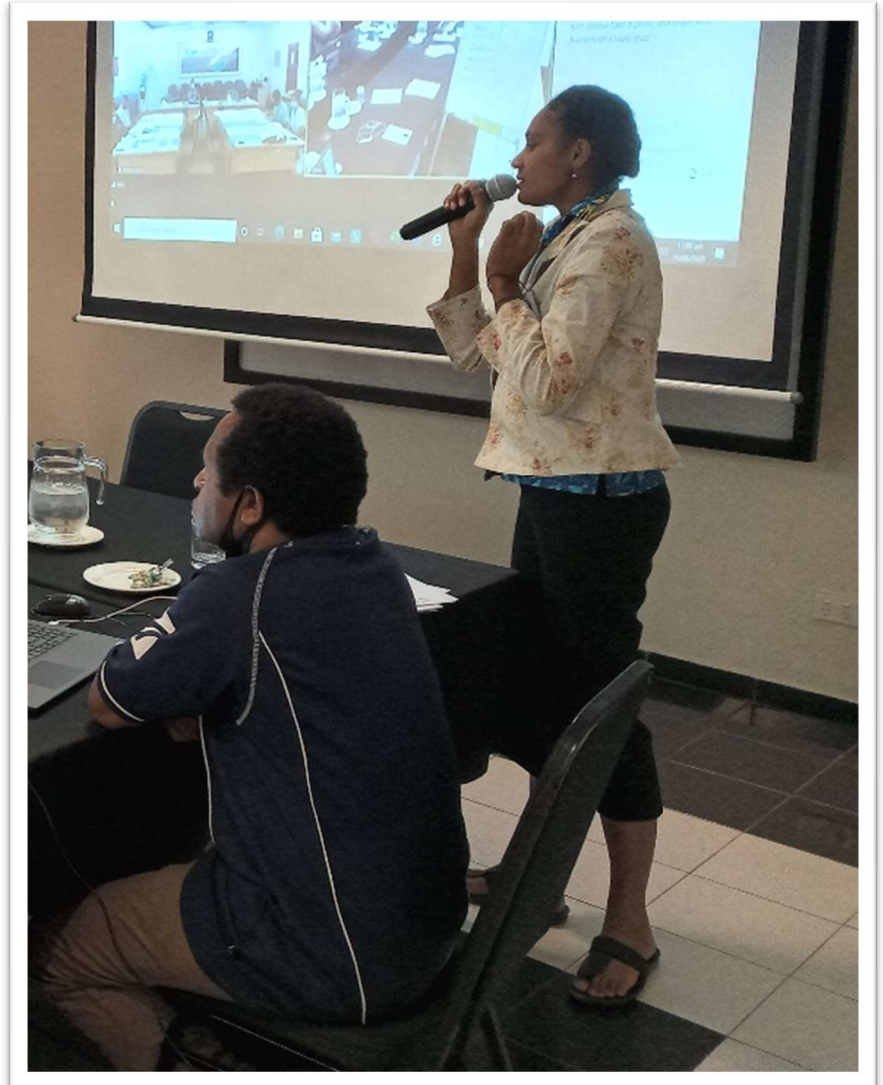
Prior to the EAFM training, fisheries and marine ecosystem managers in PNG did not know a great deal about how to apply the approach to fisheries management issues. However, by the time it had been completed, they clearly recognised factors impacting fisheries that are not being targeted under current management strategies. Dr Ralph Mana, a marine science professor at the University of Papua New Guinea, found the training very useful for fisheries management and suggested that the discipline should be taught as a fisheries management course at the university, in order to train future fisheries managers of PNG.

The participatory nature of the regional training was very useful. It encouraged participants from fisheries and environment fields to contribute their industry experience to compare and contrast between the current approach to fisheries management and EAFM. Both within the PNG group and with other participating countries, much was learned through this approach. This also made the context and purpose of the training clearer, while helping to make its content more easily understood.

Working together, the National Fisheries Authority (NFA) of PNG and Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) will implement the Arafuru and Timor Seas Ecosystem Action Phase 2 (ATSEA-2) Programme in the South Fly district of Western province based on the principles of EAFM. The ATSEA-2 Programme's artisanal fisheries management plan, which includes Marine Protected Areas (MPAs) in the protection of critical habitats and endangered species, will also implement EAFM.

First to implement this approach will be the South Fly Artisanal Fisheries Management Plan. In addition, a similar plan is currently being written for the wider ATS region. Some EAFM-trained personnel will participate in training of trainers (ToT) and will also become more strategically involved in training fisheries managers of the South Fly district, to facilitate the wider implementation of EAFM. Following successful implementation in South Fly, the ATSEA-2 Programme can be used as a model for trialling similar approaches in other fisheries around PNG.

(Kenneth Yhuanje)



A PNG trainee participating in the EAFM training



PNG participants attending the regional EAFM training via Zoom from Port Moresby.



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