



**PROCEEDINGS OF THE TECHNICAL WORKSHOP ON  
REGIONAL AND NATIONAL THEMATIC  
ASSESSMENTS**

**THE GEF/UNDP/PEMSEA ARAFURA AND TIMOR SEAS  
ECOSYSTEM ACTION PROGRAM PHASE 2 (ATSEA-2)  
PROJECT**

**Virtual Zoom Workshop  
October 6-7, 2020**



*ATSEA-2/WP/2020/02*

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## EXECUTIVE SUMMARY

The GEF/UNDP/PEMSEA Arafura and Timor Seas Ecosystem Action Phase II (ATSEA-2) Project convened a technical workshop on regional and national thematic assessments to facilitate updating on the preliminary results of the studies, as well as to enable information exchange. The Technical Workshop was conducted virtually through a zoom video conference call on October 6-7, 2020.

National and regional consultants of the project, representatives from the Government of Indonesia, United Nations Development Program (UNDP) Country Offices of Indonesia and Timor-Leste, and PEMSEA participated in the workshop. Two external reviewers were invited: Mr. Yinfeng Guo, Chief Technical Advisor and Manager of the GEF/UNDP/UNOPS Yellow Sea Large Marine Ecosystem (YSLME) Project and Prof. Karen Edyvane, University Professional Fellow of the School of Environment of the Charles Darwin University to give some inputs and references for consultant's work. In total, there were 41 participants on Day 1 and 30 participants on Day 2.

On the first day, regional and national consultants shared their consultancy progress focusing on marine and land-based pollution assessment in Rote Ndao, Indonesia and the southern coast of Timor-Leste; overview of the snapper fishery in the Arafura Sea, Indonesia; and strengthening regional and national actions in support of combatting Illegal, Unregulated, and Unreported Fishing. Meanwhile, on the second day, the focuses were on designing a regional network of marine protected areas and marine turtle action plan; climate change vulnerability assessment; and developing a regional governance mechanism to support sustainable management of the coastal and marine resources in the Arafura and Timor Seas (ATS) region.

The technical workshop provided some highlights and recommendations:

- Assessment results will not only be for the sake of renewing data and information, but also for updating the Arafura and Timor Seas Transboundary Diagnostic Analysis and updating the Strategic Action Programme. ATSEA-2 project can learn from the processes undertaken by UNDP/GEF/UNOPS YSLME Project and GEF/FAO Indonesian Sea Large Marine Ecosystem, especially for identifying key actions and leverage points.
- The importance of involving various stakeholders in the assessments is noted. Some examples are for marine and land-based pollution studies to include private sector and local initiatives in addressing pollution and for climate change vulnerability assessment to include local's perspectives specifically as part of the expert elicitation process.
- For regional and national consultants to start or continue sharing relevant data and information. For instance, climate change data can be useful not only for climate change vulnerability assessment, but also for designing MPA network and developing a climate-resilient integrated coastal management plan and the other way around.
- ATSEA-2 project team shall enable data sharing and bridge communication between consultants by setting up data sharing arrangements and platforms, including a list of experts in ATS region, to facilitate better exchange of information.

As the next plan, ATSEA-2 Project aims to facilitate a consultative webinar series on November 2-5, 2020 virtually via zoom of which ATSEA-2 regional consultants will be the main speakers and are expected to deliver progress of the studies. In addition, the next Regional Steering Committee meeting is planned on November 25, 2020 where the regional consultants will deliver brief presentations and submit progress reports 2 weeks prior.

## ABBREVIATION

AIS	: Automatic Identification System
AOI	: Areas of Interest
ATS	: Arafura and Timor Seas
ATSEF	: Arafura and Timor Seas Expert Forum
ATSEA-2	: Arafura and Timor Seas Ecosystem Action Phase 2
BARATA	: Bali Radar Ground Receiving Station
C2O	: Coastal, Climate, and Ocean
CTC	: Coral Triangle Center
EAFM	: Ecosystem Approach to Fisheries Management
ESI	: Environmental Sensitivity Index
FGD	: Focus Group Discussion
GEF	: Global Environmental Facility
IUU Fishing	: Illegal, Unregulated, and Unreported Fishing
ISLME	: Indonesian Sea Large Marine Ecosystem
LME	: Large Marine Ecosystem
MCS	: Monitoring, Controlling, and Surveillance
MMAF	: Ministry of Marine Affairs and Fisheries
MPA	: Marine Protected Area
NCU	: National Coordination Unit
NGO	: Non-Government Organization
PEMSEA	: Partnerships in Environmental Management for the Seas of East Asia
RPM	: Regional Project Manager
RSC	: Regional Steering Committee
SAP	: Strategic Action Programme
SPF	: Stakeholder Partnership Forum
SPR	: Spawning Potential Ratio
TDA	: Transboundary Diagnostic Analysis
UNDP	: United Nations Development Programme
UNEP	: United Nations Environment Programme
USAID	: United States Agency for International Development
VMS	: Vessel Monitoring System
WCMC	: World Conservation Monitoring Centre
WebGIS	: Web-based Geographic Information System
WPP	: <i>Wilayah Pengelolaan Perikanan</i> (English: Fisheries Management Area)
YKAN	: Yayasan Konservasi Alam Nusantara
YSLME	: Yellow Sea Large Marine Ecosystem

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ASSESSMENT OF THE GEF/UNDP/PEMSEA ARAFURA AND TIMOR SEAS ECOSYSTEM ACTION  
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Virtual Workshop  
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## **Introduction**

- i. Since the closure of the Project's 1st Phase in 2014, the region has seen a number of developments, new challenges and opportunities. Thus, in order to better understand the current state of the ATS region and to effectively address its needs, it is integral to update the region's Transboundary Diagnostic Analysis (TDA) and the Strategic Action Programme (SAP). In line with this, the ATSEA-2 Project has initiated a collaboration with individual experts and organizations to conduct thematic studies/assessments covering the different issue areas (regional governance mechanism, climate change, EAFM, IUU fishing, marine and land-based pollution, MPA network and marine turtles) facing the ATS region.
- ii. As part of the assessment process, the ATSEA-2 Project convened a technical workshop on regional and national thematic assessments to facilitate updating on the preliminary results of the studies, as well as to enable information exchange. The Technical Workshop of the GEF/UNDP/PEMSEA ATSEA-2 Project was conducted virtually through a zoom video conference call on October 6-7, 2020.
- iii. The technical workshop had 3 main objectives, which were 1) to review the progress of the consultancies under ATSEA-2, 2) to strengthen synergies among thematic consultancies between regional and national studies, and 3) to agree on what to be presented and discussed at the 2020 SPF consultative webinar series and the RSC meeting.
- iv. National and Regional consultants of the project participated in the workshop and some of them became the presenters. In total, there were 41 participants in Day 1 consisting of 17 women and 24 men. Meanwhile, for Day 2 there were 30 participants consisting of 16 women and 14 men.
- v. Representatives from the Government of Indonesia, United Nations Development Program (UNDP) Country Offices of Indonesia and Timor-Leste and PEMSEA also joined the workshop.
- vi. Two (2) external reviewers were invited: Mr. Yinfeng Guo and Prof. Karen Edyvane to give some inputs and references for the consultant's work. Mr. Guo is the Chief Technical Adviser and Manager of the GEF/UNDP/UNOPS Yellow Sea Large Marine Ecosystem (YSLME) Project. He is a multi-disciplinary specialist and an international development practitioner. He has more than 30 years of experience contributing professionally to sustaining the wellbeing of people and ecosystem services in the East and Southeast Asia through his areas of expertise and interest. While Prof. Edyvane is a University Professional Fellow of the School of Environment of the Charles Darwin University. She is an applied marine ecologist, with expertise in marine conservation, resource sustainability, planning and integrated coastal management. As a senior government scientist, Prof. Edyvane has led major Marine Protected Area (MPA) marine biodiversity conservation and pollution (ocean debris, heavy metals) research and monitoring programs in South Australia, Tasmania and the Northern Territory.

- i. The results of the Technical Workshop will feed into the preparation for the ATS Stakeholder Partnership Forum (SPF) Consultative Webinar Series, and the upcoming 2<sup>nd</sup> Regional Steering Committee Meeting.

### **DAY I – October 6, 2020**

#### **1. Agenda Overview for Day-1**

- 1.1 Session 1 talked about the topic related to Marine and Land Based Pollution. Dr. Won-Tae Shin presented the consultancy work for the regional level and Indonesia. His presentation focused on the Marine and Land-Based Pollution Assessment in Rote Ndao Regency, Indonesia. Dr. Abilio de Fonseca and Gary Spiller also presented the progress of their work in Timor Leste.
- 1.2 For Session 2, the theme was sustainable fisheries. The first presenter was Dr. Peter Mous, representing YKAN, and he explained the result of the Red Snapper Fisheries Assessment in Indonesia especially in the Arafura Sea. The second presenter was Dr. Arie Afriansyah from the Center for Sustainable Ocean Policy which leads the study about IUUF Fishing in the ATS region.

#### **2. Opening**

- 2.1 Dr. Handoko Adi Susanto as Regional Project Manager presented the objectives of the technical workshop, and introduced the consultants for each thematic work including the duration of their contracts.
- 2.2 Dr. Susanto also introduced the external reviewers for the technical workshop, Mr. Yinfeng Guo and Prof. Karen Edyvane.

#### **3. Session 1: Marine and Land-Based Pollution**

##### **Marine and Land-Based Pollution Assessment in Rote Ndao Regency, Indonesia by Dr. Won Tae Shin ([Link to PPT](#) and [Progress Report](#))**

- 3.1 Dr. Shin shared the progress of his 2-month work which include the literature review; Environmental Sensitivity Index (ESI) mapping, and development of survey guideline and questionnaire for Rote Ndao, Indonesia.
- 3.2 Based on the literature review, land-based sources of pollution are from households, agriculture, animal husbandry (cow, pig, and buffalo), and plantations. Meanwhile sea-based sources are from fishery activities such as seaweed culture and capture fisheries. Other sources of pollution are the oil spill of the Montara oil Rig and various projects in the Joint Petroleum Development Area (JPDA).
- 3.3 After analyzing data on various land-based pollution sources, Rote Barat Daya was identified as the key area for land-based pollution sources in Rote Ndao.
- 3.4 The challenge faced by Dr. Shin was the lack of data and information on marine activities (seaweeds farming area, fishing ground) and biological information for Rote Ndao.
- 3.5 For the next plan, Dr. Shin will conduct field survey and interview in collaboration with ATSEA-2 NCU Indonesia, continue to develop ESI map for the entire southern coastal areas

of Rote Ndao, and oil spill modelling using GNOME with Korea Environment Institute (KEI) experts. In the last 2 months of the consultancy, he will compile data from Timor-Leste and conduct a regional pollution assessment.

### **Marine Pollution Analysis on the Southern Coast of Timor-Leste by Dr. Abilio da Fonseca ([Link to PPT](#) and [Progress Report](#))**

- 3.6 Dr. Fonseca shared the progress of the data collection from three project sites in the southern coast of Timor-Leste. The data showed the existing progress, programs, challenges, opportunities, gaps and pressures on marine and coastal resources management implementation, and institutional framework from various sectors in relation to marine and land-based pollution. The assessment also identified potential entry points and areas for improvement and future investments with regard to pollution reduction and waste management.
- 3.7 Data were gathered from 60 coastal households and 16 key informants. Around 20 types of marine debris were collected from each project site. There are limited knowledge, skills and initiatives to deal with marine pollution in the coastal communities, but there is an opportunity to enhance pollution control aspects in existing village development plans.

### **Marine Pollution Study by Mr. Gary Spiller ([Link to PPT](#) and [Progress Report](#))**

- 3.8 Three project sites in Nova Viqueque, Nova Botano, and Nova Suai were the key study areas in the south coast of Timor-Leste. Those 3 areas have a scheduled oil and gas pipeline development.
- 3.9 In the Southern coast of Timor-Leste, marine debris accumulation was identified by remote sensing to occur between March to April and June to July. The initial analysis will be further confirmed by ground truthing.
- 3.10 A protected area has already been proposed for the land, but there has not been anything specific assigned for the marine area.
- 3.11 Beach cleanup in Dili collected 2.7 tons garbage in a day.
- 3.12 Observation of marine debris in Italy, Spain, Taiwan nowadays is conducted using drone. However, it is expensive as it can cost up to USD 2,000. Thus, Mr. Spiller suggested to use a smaller drone.
- 3.13 Mr. Spiller will conduct gaps analysis for existing legislations and regulations.

### **Discussion Highlights**

- 3.14 Oil spill is one of the key transboundary issues that needs to be addressed in the ATS region, citing the 2009 Montara oil spill as one important case. The workshop recognized that the ongoing issue on compensation damages from the Montara oil spill case is a matter best left for the national governments of Indonesia and Australia to discuss. On the perspective of the Arafura and Timor Seas (ATS) region and the ongoing assessment in Rote Ndao, Mr. Dwi Ariyoga Gautama suggested that there may be a need to change the communication



strategy by focusing on the social aspect and on how the island managed to restore the ecological and social conditions following the impacts of the oil spill.

- 3.15 Dr. Shin indicated that in setting up an oil spill response system, it would be beneficial for the ATS region to set up a regional or joint oil spill preparedness and contingency plan. Such a plan would enable the ATS littoral countries to mobilize joint actions and share resources in preparation for or in addressing oil spill incidents in the region. The Gulf of Thailand Oil Spill Preparedness and Contingency Plan is one example that the ATSEA-2 project may look into for reference.
- 3.16 Prof. Edyvane suggested that in order to have a better understanding and good data set on the assessment of marine pollution, particularly in the ongoing assessment in Timor-Leste, it would be good to conduct a more detailed literature review and to source information from various ministries and agencies. In the chat box Prof. Edyvane provided information on some of the previous studies undertaken in Timor-Leste and northern Australia which would be useful (i.e. study on the south coast as part of the Tasi Mane oil/gas development; work by Worley Parsons and Norway (oil for development program) including a coastal sensitivity atlas for the entire south coast). It was also mentioned that coastal inundation and riverine flooding have been extensively studied in Timor-Leste as part of disaster risk management.
- 3.17 Habitat mapping available for the entire country of Timor-Leste includes mangroves, seagrass, and coral reefs. All the data is with the Environment Agency.
- 3.18 Ghost nets pose threats to a lot of megafauna from Australia which are migrating to Indonesia and Timor-Leste within the ATS. Ghost nets also have impacts on marine turtle populations in Aru and Timor-Leste. Dr. Pet-Soede requested that information related to studies on ghost net issues and linkage to MPAs be shared.

#### **4. Session 2: Sustainable Fisheries**

##### **Overview Snapper Fishery in Arafura Sea (WPP 718) by Dr. Peter Mous ([Link to PPT and Progress Report](#))**

- 4.1 For the study, YKAN worked together with PT Hatfield Indonesia (PTHI) and Poseidon. PTHI assisted with the translation of the insights into EAFM framework. Meanwhile, Poseidon assisted YKAN to translate the results into MSC pre-assessment.
- 4.2 YKAN worked together with several captains of fishing vessels. The captain helped by taking the fishes they captured, while the technicians collected all the photos for species identification. The fishing vessels have tracking devices. From the timestamp of the images, identification process to know where the fish was caught could be done much easier. Monitoring results showed the distribution and the composition of the catch. Three main gears were also identified as follows: dropline, longline, and gillnet.
- 4.3 In Arafura Sea, there are many large boats, especially from the north coast of Java, Probolinggo.
- 4.4 Catch per Unit Effort (CpUE) from 2017-2020 had decreased slowly, but it was relatively steady. Total catch of 20,532 tons was recorded from the Fisheries Management Area (FMA) 718 with *Lutjanus malabaricus* as the most caught species. *Atrubucca brevis*, the second most

caught species, was targeted due to its swimming bladder which has high value in Chinese market.

- 4.5 The result from length-based assessment for *Lutjanus malabaricus* showed that the number of caught juveniles was steadily increasing which was a sign of deterioration. Other than that, Spawning Potential Ratio (SPR) is 11% which means only 11% of pristine population is left.
- 4.6 Overall, the level of shark bycatch is not so high.

### Discussion Highlights

- 4.7 In the Indonesian draft management plan, it was described that the target reference point for the SPR was 40% and the limit reference point for each species was 20%. Reduction in effort can be achieved through close season or reduction of the number of fishing days. The other option that is still being discussed is setting of a minimum size for the catch.
- 4.8 YKAN has been in contact with scientists on the northern territory of Australia. Indonesian fishers are mostly concentrating inside the shelf which is still in Indonesian waters. Nevertheless, Indonesian fishers have also capitalized on the spillover effect from Australian waters.
- 4.9 Dr. Duto Nugroho, senior researcher from Research Center for Fisheries, MMAF suggested that there should be a small group meeting regionally to discuss the snapper issues.

### Strengthening Regional and National Actions in Support of Combatting IUU Fishing by Dr. Arie Afriansyah ([Link to PPT](#) and [Progress Report](#))

- 4.10 The research outputs for the consultancy are recommendations to strengthen the RPOA-IUU monitoring, control, and surveillance (MCS) system, regional capacity building program and other established RPOA-IUU sub-regional and regional programs at the ATS region.
- 4.11 Dr. Afriansyah's scope of work consists of:
- Conducting a study to refine IUU fishing baseline estimates
  - Reviewing national policies and regulations regarding IUU Fishing
  - Supporting efforts in developing tools to complete the Global Record Initiative
  - Compiling and reviewing community-based surveillance best practices and lessons learned
- 4.12 Two focus group discussions were conducted with key stakeholders from Indonesian ministries and some researchers, academia, and NGOs. There will be two more FGDs planned.
- 4.13 The formula to calculate the initial economic loss due to IUU Fishing was adopted from Mahabrur and Hidayat (2018). The team used the assumption that average GT was at 53, boats over 30GT would have 12 trips a year and fish price is USD 2/kg.
- 4.14 There are still some data missing from Australia, Brunei Darussalam, Malaysia, Singapore, Thailand, Timor Leste, and Vietnam.

- 4.15 Number of fishing vessels will be obtained from an overlay of satellite imagery, the vessel monitoring system (VMS), and Automatic Identification System (AIS) from Bali Radar Ground Receiving Station (BARATA) of Marine Research and Observation Agency, MMAF. Dr. Afriansyah also took into account the ALKI (Indonesia Archipelagic Sea Lanes) which crosses the ATS region.

### Discussion Highlights

- 4.16 On the suggested formula for estimating initial economic loss due to IUUF, Mr. Duto Nugroho suggested to work with PSDKP to secure more information on the number of fleets that operated in the area so as to avoid an overestimation on economic loss. The current formula using 12 trips per year is quite high and based on the 1st FDG conducted in Indonesia it would be more realistic to assume 3-4 trips per year. The regional consultant also indicated that they have already requested for access to fishing logbooks for better data gathering.
- 4.17 Dr. Lida Pet-Soede indicated that Unregulated and Unreported Fishing does not automatically mean or equate to economic losses as a number of people still profit from such activities. There may be tax losses but it cannot all be included as economic losses.

## 5. Overall Review for Day-1

### Insights and suggestions from YSLME by Mr. Guo ([Link to PPT](#))

- 5.1 Mr. Yinfeng Guo, Project Manager and Chief Technical Officer of the UNDP/GEF YSLME Project, drew some comparisons and provided some examples of initiatives between YSLME and ATSEA, which may be useful for the ongoing ATSEA assessments. In particular, he suggested the following:
- Analysis of point and non-point sources of pollution is important in understanding causes of pollution.
  - Establishment of good baseline information related to pollution would enable the project to provide good guidance to local governments in taking actions and in addressing land-based pollution.
  - An inventory of sources and types of marine litter at the regional level would be useful.
  - Involvement of various stakeholders, including private sector at local level initiatives to address pollution would be integral (i.e., recycling of wastes, etc.).
  - In regard to overfishing, in the case of YSLME, some initiatives included reduction of fishing vessel, tonnage and horsepower; subsidies from national government; social safeguards for displaced fishermen (i.e., trainings for alternative sources of livelihood/employment).
  - Implementation of sustainable mariculture practices.
  - Important to ensure use and transformation of science to policy decisions and actions.
  - Establishment of regional task force mechanisms and partnerships.

### Review by Prof. Edyvane

- 5.2 As these various regional and national assessments will be crucial in the updating of the ATS TDA, it is important to have good collaboration and deliver good data sets (physical and socio-economic). This will also enable the region to see emerging spatial patterns and trends that would provide guidance in identifying focus areas and needed interventions in the future.

- 5.3 Australia has undertaken and completed a number of good studies and datasets that may be useful for the region.
- 5.4 Community-based monitoring system on small-scale fisheries in Timor-Leste is a good example on application of technology.
- 5.5 The key pollution issues in the ATS are fishing related and ocean plastics. In addition to sediment issue, the catchment should be taken into account.
- 5.6 Recognizing the increasing impacts of climate change on coastal and marine ecosystems, studies related to this would be crucial.
- 5.7 Set up data sharing arrangements and platforms, including a list of experts in ATS region, to facilitate better exchange of information.

## DAY 2 – October, 7<sup>th</sup> 2020

### 6. Agenda Overview for Day-2

- 6.1 Day 2 started with a review of Day 1 and continued with session 3 which talked about the development of MPA network and marine turtle action plan being conducted by CTC and YKAN together with Dr. Alison Green.
- 6.2 Session 4 was the presentation from Dr. Johanna Johnson who is undertaking the climate change and vulnerability assessment.
- 6.3 In Session 5, Dr. Pet-Soede presented about the Regional Governance Mechanism
- 6.4 The overall technical workshop also gathered the take-home message from all participants before closing

### 7. Session 3: MPA Network

**Designing a Regional Network of Marine Protected Areas and Marine Turtle Action Plan in the Arafura and Timor Seas Region by Mr. Marthen Welly, Mr. Yusuf Fajariyanto, and Dr. Alison Green ([Link to PPT](#) and [Progress Report](#))**

- 7.1 The expected outputs of the consultancy are stock-taking of key marine habitat biodiversity and priorities for conservation including data set collection, ecosystem valuation, regional profile on coastal and marine resources and connectivity development, and capacity building on biodiversity information management system. The ultimate outputs will be the design of an MPA Network that is resilient to climate change and a regional action plan to enhance protection of marine turtles.
- 7.2 On the progress of the consultancy, all team members are now onboard and recruited, 90% of the required dataset has been collected and validated, and several discussions with experts and cross discussions with other consultants to support each other have been conducted.
- 7.3 Mr. Fajariyanto categorized the MPAs into 3 for prior study: Proposed MPA, Existing MPA, and areas of interest (AOI) for MPA establishment.
- 7.4 Maps have been developed from the preliminary studies on Sea Surface Temperature, Chlorophyll-a, current, shallow water habitat, important features, use and threats, and fishing effort. The sources of data were mostly from open-access websites and from the YKAN database.
- 7.5 Dr. Green will take into account all the planning that are already being done. The team had experience in designing the network for WPP 715 together with their associate provinces, and the network for the Lesser Sunda too. Meanwhile, for the ATS region, they will add deep water snapper too as consideration in the planning or design.
- 7.6 The challenge for the consultancy work is some data are still unavailable or of low resolution, several experts that were expected to share their knowledge also have not yet responded.

### Discussion Highlights

- 7.7 Terrestrial protected areas are included on the map to consider the connection between the coastal and marine area for the MPA network design.
- 7.8 For the Indonesian part, data of nesting and spawning aggregation sites were collected directly from specific sites and from expert participatory mapping, but for other parts of the ATS region, the data were collected from UNEP WCMC.
- 7.9 More discussion also happened in the chatbox which can be found in ANNEX III.

## 8. Session 4: Climate Change

### Climate Change Vulnerability assessment by Dr. Johanna Johnson ([Link to PPT](#) and [Progress Report](#))

- 8.1 Dr. Johnson divided the ATS region into 4 sub-regions for the assessment which will use a structured framework guided by IPCC. Exposure and sensitivity are driving factors that can cause potential impacts. Together with adaptive capacity then it drives vulnerability. The results of the vulnerability assessment will generate recommendations on adaptation options and their implementation.
- 8.2 The assessment will use a 10-step method which has been applied to a range of Large Marine Ecosystems (LMEs). The vulnerability analysis will use a semi-quantitative approach that will build on previous assessments, use published data, and apply a participatory process. It will integrate social and ecological indicators and data, and with inputs of the latest climate change projections, automated analyses will be used to deliver ranked results. A sensitivity analysis will be conducted to understand if any particular indicator is influencing the results. Prioritisation of results, considering the importance of economic, social and cultural values, will focus management efforts. Targeted management actions will be determined based on sources of vulnerability and amenability to management and resource requirements.
- 8.3 Climate change projections for a number of indicators under high moderate and high emission scenarios in the next 50 years will be used as inputs for the exposure assessment. Many of the projections are being downscaled into 2 km resolution for the ATS region. Indicators of known or observed ecological responses will be used for the sensitivity analysis while indicators of social and ecological factors will be used as inputs for analysing adaptive capacity.
- 8.4 Prioritisation of species to be included in the vulnerability assessment focused on the management effort, not only on the most vulnerable part of the systems but also on those which have value economically, socially, or culturally. Final species lists for Indonesia and Timor-Leste included species of conservation interest, fishery species with high annual catch, and species that are identified for future exploitation. The assessment also includes habitats that have important ecological roles.
- 8.5 Considering limited data availability for some species, habitats and sub-regions, expert elicitation will be conducted using an online survey questionnaire to gain expert opinion and draw on local knowledge and expertise of managers, fishers, scientist, and decision makers, which are essential inputs to the vulnerability assessment.

- 8.6 Dr. Johnson administered the online survey as part of the presentation, and gathered feedback for its effective application in the countries and local sites.

### **Discussion Highlights**

- 8.7 The survey will be translated into local language to also gain more inputs from the local stakeholders.
- 8.8 Dr. Fonseca suggested that Dr. Johnson needs to identify the adaptation option and bring the idea to the concept of sustainable livelihood approach. It is more tangible to do the evaluation at specific site at country level. Dr. Johnson responded that she is also gathering the data about the social structure on local knowledge, local initiatives. So, the information will be included and inform the recommendation mentioned by Dr. Fonseca too. Part of the guidance material will be about taking it down to the smallest scale, while she is not about to conduct the assessment on community scale, some of the guidance material will be able to inform more detailed community discussion with the in-country teams
- 8.9 To respond to Mr. Guo's suggestion on the chat box, Dr. Johnson already has some initial discussions to address the integration of climate change adaption to ICM plans at the local level. The output will be on a local scale to use the information for local planning and it forms part of the guidance material.
- 8.10 For the Australian waters, Dr. Johnson realized that she needs to update because there are still gaps in the data. There will be some follow up on them.
- 8.11 To respond to Prof. Edyvane's questions on the chat box, Dr. Johnson said that the SST input will be on the increase in SST over this time of period until 2070, also the absolute temperature because it's critical in term of ecological threshold. The boundary itself has always been marine, not looking at water security for coastal community.
- 8.12 More discussions also happened in the chat box which can be found in ANNEX III

## **9. Session 5: Regional Governance Mechanism**

### **Development of Regional Governance Mechanism to Support Sustainable Management of the Coastal and Marine Resources in the Arafura and Timor Seas Region by Dr. Lida Pet-Soede ([Link to PPT](#) and [Progress Report](#))**

- 9.1 Dr. Pet-Soede introduced the scope of their work in relation to the priorities identified in the 5-year ATS regional strategic action program (SAP), and the approach and methods being used including two-weekly coordination calls with the RPMU on Mondays where she invited anyone who is interested to join.
- 9.2 The desktop study on relevant documentation is nearly done, while national consultations through virtual meetings are in progress, aimed at identifying priority regional actions that require a mechanism for regional collaboration, and assessing lessons learned from different regional mechanisms as well as the experience from the ATSEA phase 1 project. A matrix for ranking and comparison of options for the ATS regional governance mechanism has been drafted. The initial results will be validated in another round of country consultation interviews.

- 9.3 Dr. Pet-Soede referred back to the targets in the ATS SAP as key reference/starting point, and requested the participants to rate which of the targets require regional collaboration in order to be achieved. She proceeded to present different principles and considerations for requiring regional collaboration, and identified different levels of regional collaborations including coordination, cooperation, collaboration, harmonization, economic integration and administrative/legal/institutional integration.
- 9.4 Dr. Pet-Soede conducted a poll for all participants using Mentimeter as part of her presentation as an exercise to rank the regional mechanism options.
- 9.5 For every option identified, they need to be tested using several tests below:
- Market test
  - Regionalism test
  - Benefit test
  - Political oversight test
  - Risk and Sustainability test
  - Duplication test

### **Discussion Highlights**

- 9.6 Prof. Edyvane suggested that the sub-national actors and indigenous interests are also important to be involved in the assessment especially like the places in northern territory where they have indigenous people living or utilizing the resources in the coastal area.
- 9.7 In response to a question from Ms. Aimee Gonzales on the chat box on capacity and resource considerations in conducting the tests in each participating country, Dr. Pet-Soede explained that the number of the tests used at the end will depend on the capacity and resources available.
- 9.8 Dr. Pet-Soede responded to Ms. Kathrine Gallardo-Aguiling's question about the role of the SPF in identifying the best option for the regional governance mechanism. Dr Pet-Soede was not sure whether the SPF in itself needs to decide what's the best option for the regional mechanism. Because SPF should be for research and capacity building. But the participants can give the feedback about the options.
- 9.9 Dr. Pet-Soede responded to Ms. Gonzales's comment on the chat box that she is working on the specific issues for collaboration and some of the mechanisms that they are looking at is typically the role of the SPF where members, if they have a project or particular knowledge, they can suggest it to the government
- 9.10 More discussion also happened in the chat box which can be found in ANNEX III.

## **10. Overall Review for Day-2**

### **Review from Prof. Edyvane**

- 10.1 Prof. Edyvane did a review about Marine Information Resources for USAID last year, especially on the habitats. Nevertheless, the assessment did not include fishery and oceanography factor, but included a lot of datasets mostly for key species and habitats.



- 10.2 Oceanography is an important component too because it ensures that all components work together for the network, pelagic systems and patterns of connectivity. Australia also has comprehensive oceanography data to support the study.
- 10.3 Prof. Edyvane suggested to consider the indigenous component in the marine turtle regional plan of action.
- 10.4 For climate change, Prof. Edyvane suggested to cite Dr. Fonseca's research for Timor-Leste and emphasized local adaptation programs that are currently on the way.
- 10.5 ATSEF network has enormous community around it, particularly in Indonesia. ATSEF Australia has been terminated, but many lessons can still be learned.
- 10.6 Social network analysis will be really useful to understand how relationships work in the complex social political space.

### **Lessons Learned from YSLME and Review by Mr. Guo ([Link to PPT](#))**

- 10.7 By 2019, 93 MPAs in the Yellow Sea were designated in the People's Republic of China and the Republic of Korea, an increase of 19 MPAs from 2013 or from 5.2% to 5.52% of the total area of the Yellow Sea. But the gap analysis showed that there are still gaps especially in mapping migratory bird and mammals as indicators that should be included in the MPA Network.
- 10.8 Selection criteria is key for the best strategy in network design which also considered physical connectivity.
- 10.9 In YSLME case, unfortunately, the project was not able to get enough participation from the site manager and relevant experts within the area because of the pandemic. Without capacity being developed for the site managers, it is very difficult to see changes.
- 10.10 In terms of adaptation, Mr. Guo suggested that the consultants need to consider Integrated Coastal Management plan.
- 10.11 For the framework of governance mechanism, in YSLME there are 6 regional working groups focusing on different aspects. Moreover, there are national working groups. These mechanisms will make sure that there are technical clearance and technical assurance at national and regional levels before an issue escalates to the council.
- 10.12 The Transboundary Diagnostic Analysis/Strategic Action Program (TDA/SAP) should be included in the governance mechanism.

### **11. Key Takeaways and Closing of the workshop**

- 11.1 Prof Karen gave insights on the regional ATSEA and YSLME programs. The TDA/SAP process is actually to identify the key actions and process for identifying the leverage points. These are specific actions or interventions that would have the most effective and maximum outputs in terms of addressing the priority environmental concern. The specific actions will be integral in addressing those problems. It can be a policy or legal intervention, capacity building or training.

- 11.2 Program mapping is also important to understand what other partners are doing so that the ATSEA program can synergize with them well.
- 11.3 Mr. Dwi Ariyoga Gautama from UNDP/NCU Indonesia added information that Indonesian government is working on a new MPA establishment in Kolepom Island, Papua Province which should be added into the MPA Network Design. Kolepom MPA is the new MPA that the government wants to speed up its establishment process. The presentation from MPA Network team will help NCU Indonesia in analyzing the zoning plan. Mr. Gautama also wanted to discuss further about the WebGIS database to identify what kind of data NCU Indonesia should contribute to within the periodic time.
- 11.4 Dr. Green hoped that all studies can be really useful for the four littoral countries and will be the first step for collaboration among the countries to design an MPA network for the region. Thus, CTC needs to take into account how the four countries really work together by facilitating a series of workshop.
- 11.5 The consultants also concurred that apart from the information sharing platform (dropbox) to be set up by the RPMU, a Data Sharing Agreement would also be helpful to facilitate exchange of data and information between and among consultants or other agencies.

#### Next Step Plan by Ms. Casandra Tania

- 11.6 Arafura and Timor Seas Expert Forum (ATSEF) arranged during the phase 1 of ATSEA was comprised of representatives from governmental ministries, agencies, and academe. ATSEA-2 aims to reactivate ATSEF members and expand the stakeholder involvement by reaching out to civil society, community groups, private sector, and local government. The new platform will be called as Stakeholder Partnership Forum (SPF).
- 11.7 As the first event for SPF, a consultative webinar series will be held on 2-5 November 2020 virtually via zoom. ATSEA-2 regional consultants will be the main speakers and are expected to deliver progress of the studies. The event will target participants from previous ATSEF members, potential SPF members, and general public. There will be 5 themes which are Introduction of SPF, Sustaining Ecosystem Services in ATS region focusing on Climate Change and Marine Pollution, Sustainable Fisheries, and Biodiversity Protection.
- 11.8 RSC meeting will be conducted to provide inputs on the initial reports from each regional thematic assessment, as well as to review and approve proposed work plans for the completion of regional thematic assessment reports. RSC meeting will be held on November 25 or 26, 2020. The consultants are expected to submit progress report again 2 weeks prior and present the progress of works.
- 11.9 Regional Project Management Unit of ATSEA-2 now has a Dropbox account as a storage platform for data and information sharing among the consultants and ATSEA-2 team.

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## ANNEX II. Technical Workshop Agenda

Time	Programme	Presenter	Moderator
Tuesday, 6 October 2020 (GMT+8)			
10:00-10:30	Opening & Introduction		Dr. Handoko Adi Susanto
10:30-11:30	Marine and Land-Based Pollution (20' presentation for regional & Indonesian part, 20' presentation for Timor-Leste part, 10' Q&A)	Dr. Won-Tae Shin, Dr. Abilio da Fonseca, Gary Spiller	Casandra Tania
11:30-12:00	Red Snapper Fisheries Assessment in Indonesia (20' presentation, 10' Q&A)	YKAN	
12:00-12:30	IUU Fishing (20' presentation, 10' Q&A)	Center for Sustainable Ocean Policy – UI	
12:30-12:50	Comments from external reviewers	Yinfeng Gou & Karen Edyvane (tbc)	Dr. Handoko Adi Susanto
12:50-13:00	Closing of Day 1		
Wednesday, 7 October 2020 (GMT+8)			
10:00-10:20	Review of Day 1		Casandra Tania
10:20-11:00	MPA Network & Marine Turtle (30' presentation, 10' Q&A)	CTC	Cristine Ingrid Narcise
11:00-11:30	Climate Change Vulnerability Assessment (20' presentation, 10' Q&A)	Dr. Johanna Johnson	
11:30-12:00	Regional Governance Mechanism (20' presentation, 10' Q&A)	PT Hatfield Indonesia	
12:00-12:20	Comments from external reviewers	Yinfeng Gou & Karen Edyvane (tbc)	Kate Gallardo
12:20-12:50	General Discussion		
12:50-13:00	Next Steps & Closing		Casandra Tania

## ANNEX III. Chat Box Monitor

### TECHNICAL WORKSHOP DAY 1 (6 OCT 2020)

First Presentation : Marine-Land Based Pollution by. Dr Won Tae Shin

From	To	Question and Response
Iwan (UNDP)	Dr. Shin	Environmental Sensitivity Index (ESI) mapping: how do you define 'environmental' on this study? area coverage? single data vs time series? how we can translate ESI into policy decision making process? It is interesting to know Montara oil spill issue. It may be a good case to be discussed in the ATSEA's supported regional governance cooperation. Many thanks for the presentation & sharing new knowledge.
Karen	Dr. Shin	<p>Good scientific overview of the Montara spill by AIMS...</p> <p>An enormous amount of environmental work has been done on the south coast, as part of the Tasi Mane oil/gas development. Including work by Worley Parsons and also, Norway (Oil for Development program) - including a coastal sensitivity atlas, for the entire south coast.</p> <p>The 'coastal sensitivity atlas' project was lead by environment agency (not fisheries) - with Norwegian GIS and mapping specialists - it's a digital atlas.</p> <p>Coastal inundation and riverine flooding has been extensively studied in Timor-Leste - as part of disaster risk management.</p>

Second Presentation by Mr. Gary Spiller

From	To	Question and Response
Lida	Gary	do you other others have the study reports on ghostnets issues?
Iwan	Karen	Prof Karen would be great to have the coastal sensitivity atlas. Do you have a report/reading material on this?
Yinfeng	Gary	Could you send the literature of food poisoning from microplastics or plastics.
Noah	Gary	you mentioned that per capita, waste generation is 1/3rd that of Europe, but how does it compare to other comparable countries? And do we have any information regarding where household waste accumulates?
Lida	Karen	that's great karen, how about the Indonesian and TL waters? and where to get the reports?
Karen	Lida	My paper on ghostnets and links to IUU fishing in the ATS.
Karen	Gary	<ul style="list-style-type: none"> <li>• Ocean plastics is also being monitored in Timor-Leste, by several groups. A great study done by Australia in 2018.</li> <li>• Australia has done over a decade of research on ocean debris, including ghostnets and its impacts on marine life - on the northern coastlines of Australia.</li> </ul>

		<ul style="list-style-type: none"> <li>• This UNDP report is a complete CVA for Timor-Leste - includes lots of good datasets, e.g. flooding, inundation.</li> </ul>
Alison	Gary	<p>you mentioned earlier that your work may inform MPA design. Please share any relevant information that you may have with us, so we can incorporate/consider it for the regional MPA design we are doing. Thanks!</p>

Third Presentation : IUU Fishing Presentation by Dr. Arie Afriansyah

From	To	Question and Response
Lida	Arie	Also, the U and the U does not mean that the loss is economic. There is still lots of people who make money from the U and U fishing. There may be tax losses, but otherwise it cannot just be included all as economic losses. IUU basically makes it hard to make decisions on fisheries management, it is not so that IUU is all about economic losses.
Karen	Arie	Indonesia and Australia have a MAJOR IUU research collaboration - through CSIRO...  Directorate General of Surveillance and Control on Marine Resources and Fisheries - key IUU contacts for Indonesia.
Gerson	Arie	National Directorate for fishing inspection, us responsible for IUU fishing and the key contact for RPoA/NPoA.  I will share the contact person details soon

Others

From	To	Question and Response
Marthen	Karen	do you know or have data resources/references for coastal and marine key habitat such as coral reef, mangrove and seagrass in the north part of Australia ?
Karen	Marthen	Marthen - I have LOTS of information !  We also have 'sites of significance' and potential MPAs identified too...as part of MPA network planning.



## TECHNICAL WORKSHOP DAY 2 (7 OCT 2020)

First Presentation - MPAN Design by Mr. Marthen Welly, Mr. Yusuf Fajariyanto, and Dr. Alison Green

From	To	Question
Mr. Yinfeng	CTC	a question to the MPA team: have you considered spawning sites for fish species which are not included in the Red Snapper EAFM yesterday?
Yusuf	Mr. Yinfeng	We also consider SPAGs data but we still not yet get the data, we tried to get it from SCRFA but they are not have the data for this region

From	To	Comment
Karen	CTC (Yusuf)	Need to correct the MPA map - to ensure they are NOT terrestrial protected areas.
Karen	CTC	Updated coastal-marine habitat datasets are available, particularly for Timor-Leste and Australia.
Yoga	Karen	Karen in Merauke part existing MPA are Mangrove area that will link with the new MPA
Karen	Yoga	Yes, but many of the NT "MPAs" are terrestrial.
Karen	CTC	Best to use CAPAD as the defining classification of protected areas in Australia.  Updated mangrove datasets available. And good to include actual breeding and nesting sites for turtles and seabirds - datasets are available, particularly for Australia.  Please check out the North Marine Bioregional Plan - for very good threat mapping and assessments.
Yusuf	Karen	We also put Protected Areas in terrestrial (we already pick only PA that adjacent with coastal areas) because we consider the connection between MPA and PA that adjacent with the Sea/Coastal
Ian	CTC	I am on Australia's North MPA Advisory Committee that relates to this area and may be able to help with contacts and information.
Marthen	Ian	thank you Ian willing to help, much appreciate it and for sure will contact you
Lida	CTC	regarding snapper spawning probably more reasonable to think about temporal effort reduction instead of spatial no take zones. but also, they may spawn all the time similarly with many other species, you need to check if fishers know when the females are gravid
Marthen	Lida	thank you Bu Lida on your suggestion, we will check it with YKAN
Lida	Marthen	@marthen also just check for the main species their spawning behaviour/biology as there is a lot available online that can help you think whether spatial measures or temporal or general effort control measures are suitable for snapper
Marthen	Lida	@Ibu Lida, noted, we will check it thank you
Ian	CTC	I think that the CSIRO national facility research vessel has done some cruises through northern Australia MPAs. Not sure what data was collected.

Karen	ATSEA-2	With so much excellent data being compiled for the ATS region, is ATSEA considering a shared, ATS GIS ??
Cassie	Karen	Yes, we're actually working on developing an interactive map (WebGIS based) for the ATS region
Aimee	Karen	RPMU/PEMSEA is working on extending/developing seaknowledge bank a platform for data/documents sharing plus maps..  as online interactive platform

## Second Presentation – Climate Change VA by Dr. Johanna Johnson

From	To	Question
Yinfeng	Johanna	the cc adaptation is supposed to be integrated into the ICM plan at local level. To what extent has the team considered the existing ICM plans to ICM plans to be developed. The overall approach is to integrated CC adaption measures, ecosystem-based or nature-based solutions, into the ICM plan.
Ian	Johanna	So do you want Australian input now, or wait until new survey?
Gary	Johanna	Johanna have you integrated SST measurements into your vulnerability assessment?  Areas of high vulnerability could be a good criteria for local MPA selection
Karen	Johanna	Are you looking at CC impacts on water security ? Its a major issue for coastal communities in Timor-Leste.  Which SST inputs/datasets are you using ?
Aimee	Mr. Yinfeng	to Mr. Yinfeng's question- existing ICM program will be used as basis to update ICM interventions in Manatuto, for example. This is part of the ATS workplan in TL and Indonesia That is part of sustaining ICM programs from EAS region to ATSEA region..
Karen	Johanna	Are you looking at climate-linked mangrove dieback ?

## Others

From	To	Comment
Alison	Johanna	Yes please Jo - perhaps it is time that we have another call to discuss data sharing.
Karen	Johanna	Great presentation. Check out the amazing oceanographic datasets and modelled outputs from IMOS. The footprint includes the entire ATS and also, broader region.  Links to IMOS - oceanographic information - excellent ! <a href="http://oceancurrent.imos.org.au/">http://oceancurrent.imos.org.au/</a>
Karen	Johanna	Abilio Fonseca's wonderful PhD on climate change vulnerability and adaptation - in Timor-Leste. Excellent for community-based CC adaptation planning.
Karen	Johanna	ADB & WorldFish did an excellent CC adaptation program for Timor-Leste.
Gary	Karen	Yes we used the UNDP study and modified vulnerability map for the south coast of TL

Karen	All	Dr Abilio Fonseca is Timor-Leste's recognised leading climate change expert. His PhD, mapping climate impacts, exploring local vulnerability and adaptive capacity is excellent.
Mr. Yinfeng	Johanna	The approach as presented will be very useful in helping climate resilient MPA networking done by CTC team. Great
Marthen	Mr. Yinfeng	Yes and for sure Dr. Mr. Yinfeng, climate change data and information important on resilience MPA Network design
Ian	All	We would really appreciate links to all of the GIS datasets for the Red Snapper EAFM project please.
Lida	Deti	the questionnaire can usually not be saved when using googleforms minimize and do it later good luck johanna and team
Deti	Lida	Thank you Ibu Lida. Yes, We can't save it. We should reload and start again from the first page if we're not minimizing it.
Johanna	All	For anyone who didn't complete the online survey, here are the links: Indonesia: <a href="http://bit.ly/CCAtseaID_ENG">http://bit.ly/CCAtseaID_ENG</a> Timor Leste: <a href="http://bit.ly/CCAtseaTL_ENG">http://bit.ly/CCAtseaTL_ENG</a>

From	To	Reference
Karen	Johanna	Recent Coastal vulnerability assessment for Timor-Leste - by UNDP
Karen	Johanna	UNDP ICM and coastal adaptation plan for Timor-Leste.
Karen	Johanna	ADB Report
Karen	Johanna	Enormous climate-linked dieback of mangroves in the Gulf of Carpentaria (Duke et al 2017)
Karen	Johanna	Excellent paper on SST trends - including major boundaries, oceanographic, seascape features (Wiffels et al 2018)

### Third Presentation – Regional Governance Mechanism by Dr. Lida Pet-Soede

From	To	Question
Karen	Lida	How are you addressing sub-national actors - and Indigenous interests ?
Aimee	Lida	The different types of tests was flashed briefly but would they consider the varying capacity and resources of each participating countries in the tests?
Kate	Lida	Question to Ibu Lida: As ATSEA is also targeting to establish an SPF. How big of a role do you see the SPF would play in identifying the best option for ATS regional gov mechanism?
Aimee	Kate	SPF can help build compelling arguments and also work on specific issues for collaboration
Cassie	Lida	Bu Lida, based on your initial interviews, could you say that there's appetite to collaborate at regional level?

From	To	Comment
Karen	Lida	We need to consider the legal dimensions in the ATS. Significantly, the Arafura and Timor Seas are defined as a 'semi-enclosed seas' under Article 122 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS). UNCLOS places a RESPONSIBILITY and an OBLIGATION on on countries bordering enclosed and semi-enclosed seas to cooperate in resource management, the protection of the

		marine environment - and also, marine scientific research (see Article 123).
Aimee	Mr. Yinfeng	TDA/SAP for ATSEA done already. For ATSEA 2 - These thematic studies and workshops are part of the process of updating them. PNG will do their National SAP.

#### External Review & General Discussion

From	To	Comment
Alison	Karen	Thank you Karen for your kind comments on the MPA design project. You mentioned some of our biggest challenges. Connectivity is indeed one of the most important considerations for a regional MPA design, but also one of the hardest to get empirical data on (e.g., for fisheries species). We definitely need to learn more about indigenous Protected Areas in Australia. Thank you for all of the great information that you have shared already, and we hope you can help us find more relevant information on these two issues.
Alison	Yinfeng	Thank you Mr. Yinfeng for your helpful comments on the MPA design. Over the last 10 years, we have spent a lot of time developing biophysical and socio-economic design criteria for MPA design, and how to apply these in the region. We will present these for input and review by the countries and scientific advisors when we present the first draft of the MPA design for review. Regarding migratory birds, we already have some data layers regarding these. Although perhaps we need to give this more consideration in a regional context. Thanks again.
Yinfeng	Alison	Thank you Alison for your further information on the past work on MPAs. ATSEA institutions has rich experience in MPA networking and for sure a lot can be shared to LME community.
Karen	All	We had very good TDA process, but not so for the SAP. Maybe because ATS region is too big. For example, for reducing pollution, are we talking about the whole ATS or only in some hotspots?  The importance of program mapping and leverage point
Alison	All	One challenge with the MPA network is how to best engage with the four countries to collaborate on establishing a regional MPA network. A design is just the first step. I wonder if we can draw on lessons learned from establishing a Coral Triangle Marine Protected System, where the six countries worked together to develop a framework for this through a series of workshops.  How
Karen	Alison	A regional MPA planning workshop is a great idea !
Lida	Alison	Alison, i wonder though if it should then be focused on 'transboundary' targets for the MPAs, otherwise you already have the CTI CTMPAs that also can bring Australia in
Yinfeng	Alison	Alison: people network - ecological network - management network.
Lida	Alison	try to then focus on MPAs as needed for the biota and issues that are really transboundary

Johanna	All	I support the development of data sharing agreements between consultants
Aimee	All	We are on the verge of signing a MOA with PNG NFA. Advertised the National project coordinator post already.
Karen	All	Could I suggest a list of ATS experts, stakeholder contacts that could be shared - that could be updated, regularly...
Novi	All	Just a thought, for MPA network may be can also elaborate the marine population connectivity study by treml et al 2012
Gary	All	standard approaches needed for local MPA establishment and vulnerability assessments
Amira	All	Thank you Kate for giving the floor to us, as we mentioned yesterday we'd also agree with Mr. Won has mentioned. Our team faced with the challenges to gather uniform overlay data of satellite imagery (for IUUF estimates) especially from TL and PNG. Preferably, government research center or any institutions collected such data. Thank you.
Gary	RPMU	Also Web based GIS when will this be available to share data
Alison	Novi	Thank you Christian. Unfortunately I don't think that includes the ATSEA region but I will check again.
Yusuf	Novi	Thanks Mba Novi, yes we already have the data and will consider this in the post hoc analysis
Gary	Karen	Karen can you please provide the link for the ADB Wordfish survey in TL Thank

From	To	Reference
Yinfeng	All	Here is a list of reports produced by YSLME II Project for sharing with everyone.

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