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Report of the Participatory Risk Assessment of IUU Fishing in the BOBLME Region

Event organized on 20th November 2024 on the Sidelines of the Regional Training Course on "Enhancing Capacity for Monitoring Control and Surveillance (MCS) of Domestic and International Fishing Vessels to Combat IUU Fishing" organized by SEAFDEC from 19-22 November 2024 under the BOBLME-II Project

BOBP

Bay of Bengal Programme
Inter-Governmental Organisation
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Bay of Bengal Programme Inter-Governmental Organisation
Chennai 2024

About the document

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The side event on Illegal, Unreported, and Unregulated (IUU) fishing during the SEAFDEC Training Programme, held on November 20, 2024, in Bangkok, Thailand, facilitated a robust dialogue among stakeholders from South and Southeast Asia. Hosted jointly by BOBP-IGO and SEAFDEC, with participation from FAO and IUCN, the event focused on participatory risk assessment and fostering regional collaboration to address IUU fishing challenges in the Bay of Bengal Large Marine Ecosystem (BOBLME).

Discussions revisited previous studies on IUU hotspots, highlighted emerging challenges, and emphasized the importance of updated regional strategies. Key presentations shed light on advancements in legislative frameworks, vessel monitoring systems, and collaborative mechanisms. Participants from member countries shared national updates, identified opportunities for regional cooperation, and explored the feasibility of establishing a Joint Working Group (JWG) to enhance shared learning and resource management.

This report consolidates the key outcomes of the event, including the need for enhanced data validation, risk assessments, and improved inter-agency and regional collaboration. It underscores the collective commitment to combating IUU fishing through structured national and regional efforts, setting the stage for sustainable fisheries management across the Bay of Bengal region.

Report prepared by

R Mukherjee

P Krishnan

Ahana Lakshmi

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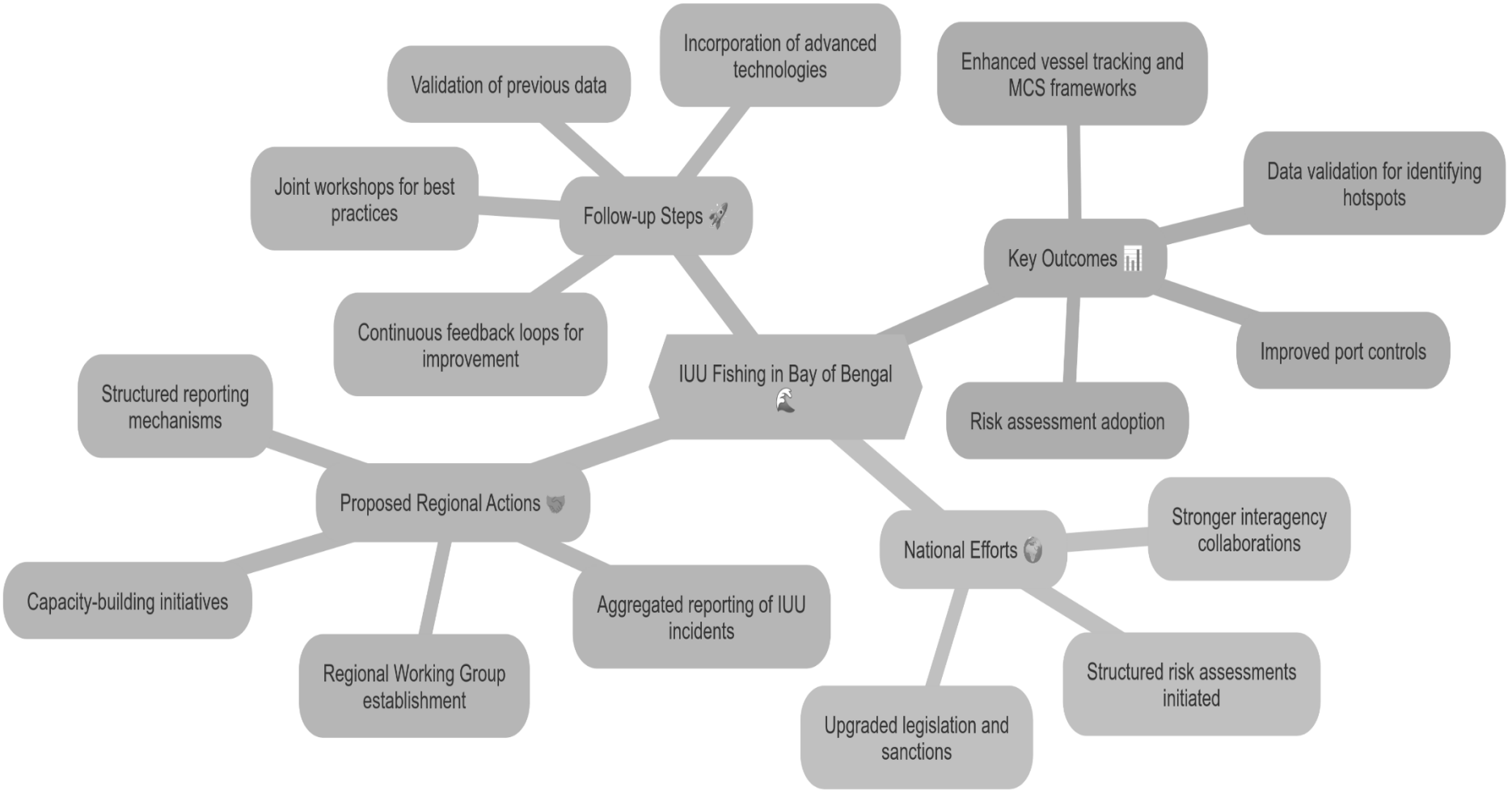

1.0 Introduction

Illegal, Unreported, and Unregulated (IUU) fishing represents a significant threat to sustainable fisheries management, marine ecosystems, and the livelihoods of coastal communities globally. In the Bay of Bengal Large Marine Ecosystem (BOBLME) region, where fisheries are a critical source of food security, employment, and economic growth, addressing IUU fishing has become a priority for regional collaboration. The Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO) and Southeast Asian Fisheries Development Center (SEAFDEC) convened a side event under the BOBLME-II Project during the Regional MCS Training Programme on November 20, 2024, in Bangkok, Thailand, to address this critical issue. The side event aimed to achieve the following objectives:

1. **Data Validation:** Reassess the validity of IUU hotspots identified in earlier studies and determine any changes or emerging areas.
2. **Risk Assessment:** Explore the application of FAO's risk assessment methodology to evaluate national IUU risks.
3. **National Updates:** Provide updates on progress and challenges in national efforts to curb IUU fishing over the last five years.
4. **Regional Collaboration:** Propose a structure for a BOBLME Regional Working Group on IUU Fishing to monitor implementation of NPOA and RPOA-IUU and enhance collaboration among countries.

The participants included national participants from Bangladesh, India, Indonesia, Malaysia, Maldives, Sri Lanka and Thailand, and representatives from FAO, IUCN, SEAFDEC and BOBP-IGO totalling thirty-four. About thirty-eight percent participants were women. The national participation in the event, drawn from participants in the main training programme, reflects a diverse range of experience. Out of all national participants: Senior-level participants accounted for 30% of the total, including in roles such as Deputy Secretary, Director, and Deputy Director. These participants brought leadership and strategic oversight to the discussions. Mid-level participants represented 35%, comprising roles such as Assistant Research Officer, Assistant Fisheries Officer, and Fisheries Officer. This group contributed technical and operational insights. Junior-level participants made up 35%, primarily roles such as Junior Planner and Capture Fisheries Production Manager, emphasizing field-level execution and on-ground expertise. The prospectus and agenda of the event is given in **Annexure 1** and the List of Participants is given in **Annexure 2**.

2.0 Brief proceedings of the event

2.1 Opening remarks

Mr. Rajdeep Mukherjee, representing Director, BOBP-IGO, welcomed participants to the side event and thanked SEAFDEC for jointly organizing the meeting. Setting the context of the meeting, he said

that during the first phase of BOBLME several studies were carried out to measure the extent of the IUU fishing. However, with passage of time since then, there was a need to revisit the findings and assess their validity. At the same time there was also a need to identify methods suitable for monitoring IUU fishing given the complexity around its identification. He outlined the broad points for discussion, including:

- Are the IUU hotspots identified in earlier studies still relevant?
- What are the characteristics of IUU fishers in the Bay of Bengal region?
- Are existing threats persisting, or are there emerging/new threats?
- Is there value in cooperation between South and Southeast Asia to combat IUU fishing? What lessons can be learned, and how can this cooperation be advanced?
- What is the feasibility of a regional plan covering the entire Bay of Bengal?
- Can BOBP and SEAFDEC form a working group supported by FAO's technical oversight committee and IUCN for monitoring and evaluation, integrating environmental and fisheries dimensions?
- How can non-participating countries in the BOBLME region be engaged, particularly given the transboundary nature of IUU fishing?

Mr. Mukherjee then provided an overview of the agenda, highlighting the collaborative objectives of the session.

Mr. Isara Chanrachkij of SEAFDEC welcomed participants on behalf of the SEAFDEC Training Department. He emphasized that IUU fishing is a critical issue not only in Southeast Asia but globally. SEAFDEC's annual training programs aim to build the capacity of stakeholders, including fisheries officers and fishers, to combat IUU fishing. Collaboration across regions, he noted, was essential to achieving this goal. He expressed satisfaction in working with BOBP-IGO given the region's significant fishing activities, and hoped that the discussions would lead to fruitful directions for improving project implementation plans to combat IUU fishing in the Bay of Bengal and across the broader region.

Ms. Angela Lentisco from FAO expressed her pleasure at the opportunity for South and Southeast Asian countries to jointly discuss strategies to combat IUU fishing. Reflecting on the Strategic Action Programme (SAP) of the BOBLME Project, approved nearly a decade ago, she highlighted the significant changes that had occurred since then. This meeting, she noted, provided an excellent opportunity to revisit the targets set ten years ago, assess their current relevance, and identify what had changed. Based on Dr. Simon Funge-Smith's presentation and the collective experiences of participants, Ms. Lentisco urged the group to decide on actionable next steps to achieve the project's remaining targets while addressing the evolving realities of combating IUU fishing.

Following the opening remarks, participants introduced themselves.

2.2 Overview of previously identified hotspots and recent updates

Dr. Simon Funge-Smith, Consultant, FAO made a presentation summarizing the results from previous studies.

He said that there were many things happening now that made countries willing to combat IUU. Countries themselves were realising that they have issues with overcapacity and within that, IUU; and this was leading to impacts on resources and lost rents. What was really interesting was that the IUU component is still not being quantified or where the problem is and how the country is going to tackle it. That side of things was still not being made public. But that the countries were willing to do it was very high-profile policy for an international cooperation particularly with the port state measures. Also, the countries were very aware that they have an IUU issue that they need to tackle; they are not necessarily reporting it. Joining different mechanisms, they have developed National Plans of Action, acceded to the Port State Measures Agreement, and reported against SDG targets (14.6) (though this is more regarding their efforts to improve their legislation on fisheries framework to combat IUU fishing). There were various regional declarations such as the ASEAN-SEAFDEC joint declaration and the ASEAN guidelines for preventing the entry of IUU fish and fishery products into the supply chain and the Indian Ocean Rim Association (IORA) Action Plan (2017-2021). There has also been scrutiny from market countries because market countries say that they will not accept products if it cannot be proved that it is not from IUU fishing, thus bringing pressure on countries to comply with the evidence that is being requested or demanded by importing countries to show that these products are not coming from IUU. Finally, there was a lot more publicly available remotely sensed observations particularly in the shape of satellite

imagery; and also, things linked to global information systems such as AIS that were used as a proxy for guessing about what is going on and for indicating where IUU activities might be happening. These proxy measures look at vessels and their locations and based on algorithms, look at whether vessels are moving in a certain way, are stopping, meeting and using these kinds of events to build a picture of whether or not there is a likelihood of these vessels being engaged in IUU fishing.

Dr Funge-Smith went on to explain different methods of estimation and extrapolation including estimation and extrapolation and or modelling and said that the indication was that the volume of IUU catch had been substantial in the past. He listed various studies published between 2008 and 2023 and the methodologies that they had followed. Focus was often on illegal activity, primarily by foreign vessels with data extrapolation. He showed the IUU identified hotspots in 2015 by APFIC and IUU locations in 2019 as mapped by Wilcox. He also showed how fishing effort AIS data was unevenly distributed whereas whole year light imagery highlighted smaller scale vessels, not tracked by VMS/AIS. He said that overcapacity and overfishing of resources were major IUU drivers as clearly identified in the BOBLME SAP.

He pointed out that though there was no formal quantification, were there signs in BOBLME area that perhaps IUU is reducing? Explaining that IUU activity is not static, he said that one of its characteristics was how IUU activity starts up, closes, or shifts to take advantage of new opportunities. Foreign encroachment was identified by all countries, but its frequency and scale were challenging to estimate and was this being deterred more effectively? Current evidence from the actions of the coastal states indicated their commitment to combatting IUU fishing is greater than in the past as there was lower tolerance for IUU, improved vessel management (registration, licensing, VMS), increased MCS, more effective port controls/PSMA and desire to maintain market access. But with little or no documentation, it was hard/impossible to demonstrate if IUU has reduced. The presentation of Dr Funge-Smith is given in ***Annexure 3.***

In closing, Dr. Funge-Smith said that the following statements about the current situation of IUU in the Bay of Bengal could be made:

- ✓ IUU fishing has evolved significantly over the past 5-10 years. While its volume and geographical presence may have changed, addressing its existence remains a key focus for sustainable fisheries management.
- ✓ Many countries have made notable strides in controlling IUU fishing, especially in historically high-risk areas. Strengthening efforts in regions with limited progress can inspire collective action toward eradicating IUU fishing.
- ✓ The effective management of IUU fishing has improved globally, but no country can claim complete elimination. Enhanced monitoring and transparent public documentation offer significant opportunities to showcase progress and build credibility.
- ✓ The BOBLME project is uniquely positioned to facilitate regional monitoring and risk communication efforts, enabling countries to better communicate their progress in

combating IUU fishing. This approach can help assess whether IUU fishing is truly increasing or declining, with actionable insights for the region.

2.3 Feedback of national participants on IUU Hotspots, new areas of concern and national updates on IUU Control

Bangladesh

The representative from Bangladesh highlighted that in South Asian countries, awareness of IUU fishing among government leaders and relevant departments remains limited. He emphasized the importance of building capacity within the Department of Fisheries to estimate and address IUU fishing in both the EEZ and high seas. The lack of capacity to measure the changing magnitude of IUU fishing is a persistent challenge. Regional cooperation is essential for quick responses to shared issues. Bangladesh, while contributing minimally to IUU fishing at the international level due to the absence of high-seas vessels, is working to regulate domestic fisheries through legal reforms, licensing for small-scale fisheries, and certifications for imports and exports. Measures like punishment for IUU fishing and publishing IUU vessel lists have been introduced. A survey conducted by FAO in 2022 underscored capacity gaps, which could be addressed through regional collaboration.

In response to a query, the representative noted that the IUU scenario in Bangladesh had changed between 2015 and 2021. While earlier surveys focused on high-seas vessels targeting tuna, Bangladesh lacked such fleets at the time. He suggested reevaluating identified hotspots from the 2021 reports.

India

The Indian representative outlined measures taken by India to combat IUU fishing, including annual seasonal fishing bans along the east and west coasts, online registration and licensing systems, and mandatory physical verification of fishing vessels. The country is installing transponders across mechanized and motorized fishing vessels to monitor movements and prevent boundary violations. Data from 2022-23 and 2023-24 revealed hotspots of IUU activities in the Bay of Bengal, with reported incidents decreasing from 334 to 225. India remains committed to regional cooperation and data-sharing to strengthen Monitoring, Control, and Surveillance (MCS) measures.

In response to queries, the representative explained that data on IUU hotspots were collected manually and emphasized the need for improved data accuracy. He acknowledged that increased MCS could initially lead to higher reported IUU incidents before long-term reductions are achieved. India also called for the adoption of AI technologies and coordination among neighbouring countries to combat IUU fishing effectively.

Indonesia

Indonesia has developed a quota-based fisheries management system integrated with a digital application (APIT) to streamline licensing, data collection, and monitoring processes. This system has improved recording efficiency, increasing data accuracy quite substantially. The representative highlighted challenges in capacity building and the need to expand APIT's reach to provincial and artisanal fisheries. Indonesia has shifted from input to output controls, requiring payments based on actual landings. Enhanced data systems now support both government policymaking and business decisions. The representative confirmed that the new system could be used to verify previously presented data.

Malaysia

Malaysia has implemented a comprehensive framework to combat IUU fishing, including updated legislation, interagency cooperation, and the use of tools such as VMS, AIS, and port state measures. The Malaysian Fishing Vessel Record (MFVR) ensures vessels are uniquely registered and compliant. Malaysia actively participates in regional and international initiatives like SEAFDEC, RPOA-IUU, and IOTC. Surveillance and inspections are prioritized, with measures in place to prevent entry of IUU vessels into Malaysian ports. Malaysia's recent actions include rejecting port entry for 46 containers of frozen fish linked to IUU vessels and finalizing SOPs to manage foreign IUU vessels by 2024.

Maldives

Maldives has implemented strict regulations to combat IUU fishing, focusing on migratory species like tuna. Foreign fishing vessels are prohibited in its EEZ, and longline and handline fishing are the only methods allowed for yellowfin tuna. The Fisheries Integrated System (FIS) records all catch-related data and enables traceability. Surveillance challenges persist due to the country's vast EEZ, but information sharing with neighbouring countries has improved detection efforts. Amendments to the NPOA are underway, with implementation expected by 2025. The Maldives is also addressing concerns over unregulated recreational fishing by tour operators.

Sri Lanka

Sri Lanka considers IUU fishing a serious threat to food security, economic stability, and the environment. The country has amended its Fisheries and Aquatic Resources Act (FARA) to include heavy penalties for IUU violations and has issued regulations to strengthen enforcement. Sri Lanka implements port state measures and cooperates with regional organizations like IOTC and FAO. Current actions include mandatory catch declarations, VMS, and port inspections. Future plans focus on refining the NPOA-IUU, enhancing VMS systems, and improving catch data collection. Sri Lanka also seeks funding and technical support to advance its IUU management measures.

Thailand

Thailand has strengthened regional and international cooperation to combat IUU fishing, emphasizing the importance of collaboration in implementing the Port State Measures Agreement (PSMA). Since 2015, Thailand has seen improvements in IUU management, with cooperation among flag states supporting inspections and enforcement. The representative highlighted the incremental progress made in implementing PSMA and stressed that effective cooperation is essential for long-term success.

The following table summarizes the key points mentioned by national participants.

Key Point	**Details and Countries Mentioning**
Capacity to Address IUU (Awareness, Implementation, Data, and Monitoring)	- Bangladesh: Limited capacity to measure IUU magnitude; requires departmental awareness and tools. - Indonesia: Capacity challenges in training and implementing digital systems for artisanal and provincial fisheries; data collection improvements achieved through APIT. - India: Efforts to improve data accuracy using advanced tools; manual data collection still predominant. - Sri Lanka: Limited capacity for risk assessment and enforcement due to funding gaps; plans to strengthen VMS and data collection. - Malaysia: Focuses on accurate data collection and vessel monitoring through AIS, VMS, and port inspections.

Key Point	Details and Countries Mentioning
	- Maldives: Improved capacity with FIS and VMS but struggles with surveillance of vast EEZ.
Regional Cooperation and Participation in International Forums	- Bangladesh: Advocates regional collaboration for quick response to IUU challenges. - India: Calls for mutual knowledge sharing, data-sharing, and capacity building among coastal states. - Malaysia: Active in SEAFDEC, RPOA-IUU, IOTC, and other initiatives; promotes joint actions against IUU. - Maldives: Collaborates with neighbouring countries for surveillance and information sharing. - Sri Lanka: Works with IOTC, FAO, and regional partners to address IUU collaboratively. - Thailand: Stresses cooperation with neighbouring and flag states to enhance PSMA implementation.
Monitoring Tools (VMS, AIS, Transponders, Digital Systems)	- India: Installed transponders on vessels for real-time tracking and boundary violation alerts. - Indonesia: APIT system integrates licensing, logbook, and payment management for enhanced monitoring. - Malaysia: Implements VMS and AIS to monitor vessels and track catches. - Maldives: Uses FIS with VMS for fleet monitoring and catch data management. - Sri Lanka: Employs VMS and observer programs to monitor flagged vessels and enforce compliance.
Port State Measures and Enforcement	- Malaysia: Implements strict controls to prevent port access for IUU vessels; enhanced SOPs for foreign vessel management. - Sri Lanka: Conducts port inspections and refuses services to IUU-linked vessels. - Thailand: Enforces PSMA with a focus on cooperation between port and flag states. - Maldives: Prohibits foreign vessels from fishing in the EEZ and monitors compliance through port sampling and FIS.
Legislative and Regulatory Reforms	- Bangladesh: Introduced licensing for small-scale fisheries and certifications for imports/exports; publishes IUU vessel lists. - India: Updated laws to include online vessel registration, physical verification, and entry/exit tracking. - Indonesia: Transitioned to quota-based fisheries management where payments are based on actual landings rather than licenses. - Malaysia: Strengthened Fisheries Act and related legislation; working on additional amendments. - Sri Lanka: Enhanced FARA with heavy penalties and comprehensive regulations for enforcement. - Maldives: Developed NPOA-IUU with updates to be implemented by 2025.
Heavy Penalties and Sanctions for IUU Violations	- Malaysia: Enforces strict penalties and maintains a zero-tolerance approach for IUU violations. - Sri Lanka: Imposes heavy penalties under FARA amendments to deter repeat violations and encourage compliance.

Key Point	Details and Countries Mentioning
Tuna Fisheries and High Seas Challenges	- Bangladesh: Lacks high-seas vessels but identifies hotspots for tuna and highly commercial species. - Maldives: Strictly regulates tuna fisheries, allowing only longline and handline fishing; foreign vessels are prohibited in the EEZ.

Action Point: Collate and document the steps taken by countries to upgrade legislation, improve policies, monitor and control larger vessels through VMS and tracking, strengthen port controls, and use data to analyze catches, vessel movements, and fishing locations. Include details on regional collaboration and risk assessments to update the BOBLME baseline, highlighting current IUU hotspots, the scale of the problem, and associated risks.

2.4 Introduction to Risk Assessment Methodology

Next, Dr. Funge-Smith presented a semi-quantitative methodology for assessing IUU fishing risks and monitoring progress, emphasizing the value of a risk-based approach to enhance transparency and management effectiveness. This approach encourages countries to assess the presence and seriousness of IUU fishing, identify its types and locations, and determine the extent to which it is under control. He highlighted that acknowledging and managing IUU fishing responsibly not only strengthens national credibility but also provides an opportunity to demonstrate proactive efforts toward sustainable fisheries.

He noted that while most countries in the region are already working on addressing IUU fishing, quantifiable data on its volume and value remain limited. To bridge this gap, Dr. Funge-Smith suggested focusing on significant issues, such as apprehension of vessels involved in IUU fishing, and disaggregating data by vessel size, gear type, and domestic or foreign origin. Linking certain IUU activities to RFMOs like the IOTC could also ensure broader regional accountability.

He proposed a practical methodology combining questionnaire-based assessments, electronic monitoring (e.g., VMS, AIS), and other information sources, such as MCS data, expert opinions, media reports, and public contributions where available. Countries with electronic monitoring systems could analyze and organize their data into actionable reports to identify IUU hotspots and trends.

The core of the semi-quantitative risk assessment methodology presented by Dr. Funge-Smith is the risk scoring approach (Figure 1). It combines two primary dimensions of IUU fishing: likelihood and impact. Likelihood measures how often IUU activity occurs and the probability of detection, considering factors such as the frequency of incidents (e.g., daily, weekly, or rarely) and the effectiveness of Monitoring, Control, and Surveillance (MCS) systems in deterring illegal activity. Strong MCS systems lower the likelihood score by increasing the probability of detection, while weak enforcement raises the likelihood. Impact assesses the severity of IUU activity in terms of the number and size of vessels involved, with larger and more numerous vessels contributing to higher impact scores. By multiplying these two factors, the methodology calculates an overall risk score, with high likelihood and high impact indicating critical areas requiring immediate intervention and low scores denoting minimal risk and effective management. These risk scores are then plotted on a grid to visually identify IUU hotspots, categorized into red (high risk), yellow (medium risk), and green (low risk) zones. Red zones represent priority areas for action, yellow zones require targeted measures, and

green zones indicate controlled areas needing routine monitoring. This approach allows countries to focus their resources on addressing the most severe IUU issues while ensuring sustained management in lower-risk areas. The methodology is adaptable to various contexts, enabling risk assessments for specific geographical areas, fishing methods, or vessel categories, such as domestic versus foreign fleets or small-scale versus large-scale operations. Periodic reassessments every one to two years track changes in IUU activity, providing evidence of progress or identifying new areas of concern. By integrating data from electronic monitoring systems, MCS sightings, expert opinions, and supplementary sources like media reports and public contributions, the methodology offers a comprehensive and credible framework for addressing IUU fishing. Moreover, it serves as a powerful communication tool, allowing countries to demonstrate effective management of IUU fishing by showcasing controlled hotspots and prioritized interventions. This transparent and systematic approach aligns with regional and international frameworks, supporting collective efforts under initiatives like the BOBLME project to combat IUU fishing sustainably.

Dr. Funge-Smith emphasized that this methodology supports targeted Monitoring, Control, and Surveillance (MCS) actions and enables countries to communicate their management strategies and achievements. By documenting hotspots and demonstrating that IUU issues are being addressed, countries can present a clear picture of progress toward sustainable fisheries management.

He concluded by recommending that the BOBLME countries consider developing a regional tracker or communication platform. This tool could consolidate risk assessments and actions, providing a unified framework to highlight collective achievements and guide future priorities. Such a platform would align with the objectives of the BOBLME project and reinforce regional collaboration in combating IUU fishing.

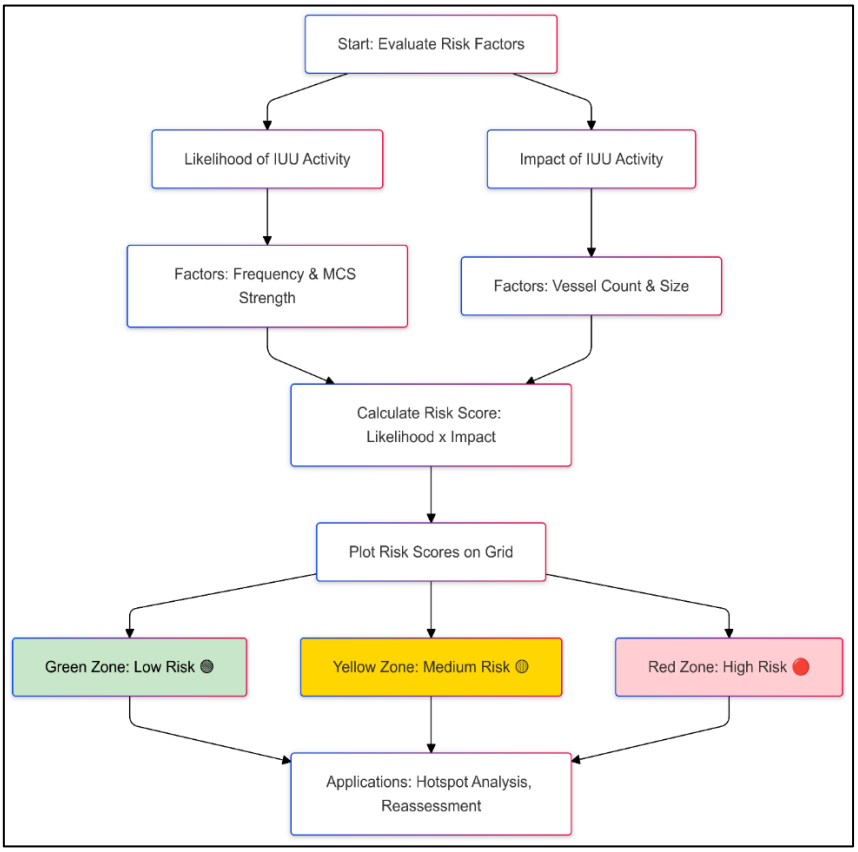

Figure 1. The proposed risk scoring methodology

2.5 Feedback from participants on the risk-scoring methodology

Following the presentation, participants discussed the proposed risk assessment methodology and its potential application. While acknowledging its usefulness, they highlighted the need for additional clarity, practice, and country-specific adaptation to maximize its effectiveness.

Key Points of Discussion

- **Time Constraints and Practice Needs**:
    - The event did not provide sufficient time to fully understand or apply the scoring methodology. Although a quick exercise was planned, participants expressed the need for additional time to grasp the tool's structure and mechanics.
    - Participants agreed that practicing with real examples and gathering input from officials would be essential to build confidence in applying the methodology.
- **Country-Specific Adaptations**:
    - Participants noted the value of using the methodology on specific fisheries or regions within their countries:
        - Examples suggested included hilsa fisheries for one country, non-tuna fisheries for another, offshore or shared water areas for others, and addressing foreign fishing vessels in high-seas areas.
        - These examples reflect the diverse challenges and opportunities across the region, emphasizing the need for tailored approaches.
- **Regional Context**:
    - It was noted that for Southeast Asia, practical tools to assess IUU fishing have been a long-standing priority. Participants highlighted the need to evaluate whether this methodology can effectively support the identification and measurement of IUU fishing at the national and regional levels.
    - If data collected over a set period, such as 2024 to 2026, showed improvements or stability in green-zone areas, this could be presented positively as a sign of effective management, in alignment with international standards.
- **Encouraging Progress**:
    - Participants noted that most countries are likely to identify only minor IUU issues falling into green zones or low-risk orange zones, with only a few areas of higher concern. This reflects significant progress compared to a decade ago when IUU challenges were more severe.
    - Areas such as shared waters between neighbouring countries were acknowledged as requiring ongoing collaboration, though the overall number of vessels and frequency of encroachments were reported to be manageable.

Action Points:

- Countries should begin testing the methodology on specific fisheries or regions with available data, focusing on priority areas for IUU management.
- Structured follow-up exercises should be considered to refine the methodology and practice its application, with a focus on incorporating real-world data and experiences from participants.
- A report documenting progress, stability, or changes in IUU hotspots should be developed periodically, using the methodology to communicate the effectiveness of national and regional efforts.

2.6 Structuring the BOBLME Regional Working Group on IUU Fishing

On the issue of regional cooperation, several points were raised during the discussion. Participants were asked whether they saw value in learning from each other's experiences and if establishing a Joint Working Group (JWG) for the Bay of Bengal Region would be beneficial. It was emphasized that the responses reflected personal views and not official country positions.

The response to both questions was overwhelmingly positive. Participants agreed that regional cooperation would significantly aid in combatting IUU fishing by fostering dialogue and collaboration across the Bay of Bengal. Establishing a JWG was viewed as a constructive step toward bringing countries from both sides of the Bay together to share insights, discuss challenges, and identify solutions collaboratively.

The role of the Maldivian fishery community in supporting Monitoring, Control, and Surveillance (MCS) through reporting was particularly appreciated as an example of effective community participation. Participants acknowledged that they had learned a great deal about the diverse fisheries management practices implemented in different countries, some of which were previously unfamiliar to them.

The idea of a JWG was seen as especially valuable for long-term cooperation. Participants noted that such a platform would facilitate sustained engagement and provide opportunities for Southeast Asian nations to collaborate more closely with South Asian countries, including through joint training programs. This was considered a practical way to enhance regional understanding, share best practices, and strengthen collective efforts to address IUU fishing.

The discussion underscored the importance of continued dialogue and exchange of ideas to foster regional cooperation, with a JWG emerging as a promising mechanism for achieving these objectives.

3.0 Key takeaways from the Side-Event

Data Validation:

1. Countries are encouraged to validate IUU hotspots identified in earlier studies to confirm their relevance or identify new changes.
2. Improved data collection systems provide the opportunity to monitor shifts in IUU fishing activities over time.

Risk Assessment:

3. The Maldives is effectively employing a risk-based approach, setting an example for applying the FAO's risk assessment methodology.
4. There is growing interest among countries to adopt risk assessment exercises with structured guidance and support.

National Updates:

5. Significant progress has been made in upgrading legislation, policies, and sanctions to address IUU fishing.
6. Enhanced vessel tracking systems and interagency collaboration have strengthened national MCS frameworks.
7. Improved port controls and data systems have enabled better management of fishing activities and compliance.
8. National activities over the past five years demonstrate a strong commitment to combating IUU fishing through coordinated efforts.

Proposed Regional Structure:

9. Aggregated reporting of IUU incidents (e.g., locations, frequencies, estimated volumes) can improve regional transparency and decision-making.
10. There is consensus on the need for a structured BOBLME Regional Working Group to monitor NPOA and RPOA-IUU implementation.
11. Countries are willing to commit to regional risk assessment exercises and capacity-building initiatives to enhance collaboration.
12. Follow-up meetings and structured reporting mechanisms can sustain momentum and strengthen country-to-country collaboration.

4.0 Post-Workshop Development

All the participants agreed to set up a WhatsApp group to continue the dialogue. This is the first time, members from south and southeast Asia have come together to setup such a group on IUU fishing.

Annexure 1: Prospectus & Agenda

Participatory Risk Assessment of IUU Fishing in the BOBLME Region

A Dinner Meeting on Curbing of IUU Fishing under the BOBLME Project at the Sidelines of the SEAFDEC-BOBP-IGO Regional MCS Training Programme

Event Time & Date: 1600 Hours November 20, 2024
Location: TD's Dormitory Meeting Room, Samut Prakan, Thailand
Duration: 2.30 hours

1. 0 Introduction

The **Bay of Bengal Large Marine Ecosystem (BOBLME) Project**, funded by GEF and NORAD, seeks to foster regional cooperation among member countries to address critical transboundary environmental challenges, including Illegal, Unreported, and Unregulated (IUU) fishing. IUU fishing remains a significant barrier to sustainable fisheries management in the Bay of Bengal, leading to the depletion of vital fish stocks, resource conflicts, and loss of biodiversity. The BOBLME Project aims to achieve a **20% reduction in IUU fishing** within its program phase by strengthening national and regional Monitoring, Control, and Surveillance (MCS) systems, enhancing vessel tracking, and implementing regional data-sharing frameworks. In summary, by the end of the project, the following key outputs are anticipated:

1. 20% reduction in IUU **fishing from the BOBLME phase 1 baseline estimate** for selected fisheries.
2. Implement and as necessary **prepare Regional Plan(s) of Action (RPOA)** to address IUU fishing in the BOBLME.
3. **Seven National** Plans of Action (NPOAs-IUU) and national IUU Monitoring, Control and Surveillance (MCS) systems and Vessel Monitoring Systems (VMS) **strengthened.**
4. **Tools for promoting best practices**, such as MCS, Port State Measures (PSM) and traceability of fish and fisheries products (including catch documentation schemes), policies and national actions, to combat IUU fishing developed and implemented in national pilot/investment projects. Countries supported in acceding to the PSMA.
5. **Regional capacity development programme on port inspections, MCS and traceability** implemented with 20 national fisheries staff trained in each country.
6. **Gender is mainstreamed** into actions to combat and eliminate IUU Fishing in BOBLME.

However, establishing the baseline of IUU fishing from which the progress can be monitored in challenging. A study commissioned by FAO in this regard highlighted increasing regional commitment due to factors like economic pressures from export markets (e.g., the EU), public demand for sustainable seafood, and international obligations under agreements like the Port State Measures Agreement (PSMA). IUU fishing impacts resources, leads to economic losses, and creates conflicts within national fisheries, especially between small-scale and large-scale fishers.

Key Observations and Current IUU Status

The advisory note underscores the difficulty in quantifying IUU fishing due to its covert nature, making it hard to measure accurately. A baseline study by APFIC in 2016 and a later assessment by Wilcox et al. (2021) estimate illegal fishing volumes in the Bay of Bengal at around **716,000 to 1,363,000 tonnes (Table 1)**. Overcapacity and overfishing, particularly from trawlers and cross-border incursions, are identified as significant drivers. Despite improved regional MCS efforts, including enhanced port controls and vessel registration, IUU fishing persists.

Study	**IUU catch Tonnes**		**Value (million USD)**		**% of annual catch reported to FAO**	**Coverage (area/location)**
	Lower	Upper	Lower	Upper	%	
Meere & Lack, 2008	3,400,000 – 8,100,000		-		8 – 16%	Asia-Pacific. Case studies and examples. Did not make an aggregated estimate (Area 71)
Agnew et al 2009	467,865	970,589	421	874	8 – 16%	Eastern Indian Ocean (larger than BOBLME)
Agnew et al 2009	785,897	1,729,588	707	1,557		Western Central Pacific
APFIC review 2016 (Un-published Presented at APFIC 34th Session)	716,071	745,814	1,128	1,854	10%	Bay of Bengal, Andaman Sea and Malacca Straits. Focussed on illegal activity, primarily by foreign vessels. No extrapolation.
	777,478	940,498	935	1,810	8 – 10%	South China Sea, Gulf of Thailand, Arafura-Timor Sea, Banda Sea, Savu Sea, Sulu-Celebes, Sulawesi Sea, Makassar Strait, Molucca Sea, Halmahera Strait
BOBLME, 2015	2,169,766	6,540,997				Asian region. Whole of country EEZ so includes large areas outside of BOB. The figure is the estimate of illegal catch for the countries in Bay of Bengal. The study also

Study	IUU catch Tonnes	Value (million USD)	% of annual catch reported to FAO	Coverage (area/location)
				estimated unreported catch. Data was extrapolated.
Wilcox et al., 2021	1,363,000	4,921.3	21%	Bay of Bengal and Andaman Sea. Focussed on illegal activity, primarily by foreign vessels. Data was extrapolated.
Spijkers et al., 2023	1,320,921	1,301.1	28%	East and West Indian Ocean. Use similar methodology to CSIRO 2019

2.0 Objectives of the Event

In the above background, participants from the regional training programme along with officials from FAO, SEAFDEC and BOBP-IGO will meet on 20th November 2024 for a dinner meeting to discuss the following issues:

- Data validation: Are the IUU hotspots identified in the earlier studies still valid? If there are changes, then what are these changes.
- Risk assessment: Use a risk assessment methodology proposed by FAO to assess the national risks of IUU fishing.
- National updates: provide update on national activities during last 5 years to curb IUU fishing.
- Proposed a structure for BOBLME Regional Working Group on IUU Fishing to monitor progress in implementation of NPOA and RPOA-IUU, plan and support capacity building activities and improve country-to-country collaboration.

Agenda for the Dinner Meeting on IUU Fishing (20th November 2024)

Duration (hours)	**Activity**	**Details**
1600 - 1610	Welcome and Opening Remarks	BOBP-IGO & SEAFDEC
1610 - 1620	Presentation on IUU Hotspot Data by FAO Overview of previously identified hotspots and recent updates.	Simon Funge-Smith, Consultant, FAO
1620 - 1640	Group Discussion on IUU Hotspots Assess relevance of existing hotspots, discuss changes, and note new areas of concern.	Participants
1640- 1650	Applying the FAO Risk Assessment Methodology: Explanation of the proposed methodology for assessing national IUU risks.	Simon Funge-Smith (FAO Consultant)
1650 - 1710	Interactive Risk Assessment: Participants apply the methodology to their country contexts and provide feedback.	Participants
1710 -1750	National Updates on IUU Control Efforts: Recent national efforts to combat IUU fishing, highlighting best practices, challenges, and lessons learned.	Country Representatives
1750 - 1805	Structuring the BOBLME Regional Working Group on IUU Fishing	Angela Lentisco (FAORAP), R Mukherjee, BOBP-IGO
1805 - 1820	Feedback on Input on the structure, priority areas for collaboration, and capacity-building needs.	Participants
1820 - 1830	Wrap-Up and Next Steps	Concluding Remarks by SEAFDEC and BOBP-IGO Summary of key points, agreed actions, and a roadmap for BOBLME IUU initiatives.
1830 -	Cocktail Dinner	Hosted by Director, BOBP-IGO

Annexure 2: List of Participants

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BOBP-IGO

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Annexure 3: Presentation on IUU Fishing

BOBLME IUU sub-component Baseline, progress monitoring and the BOBLME RPOA

Simon Funge-smith

BOBLME Project and IUU

BOBLME Strategic Action Programme and TDA identified overexploitation of marine resources as a major issue for common action in the BOBLME

- Recognized this was driven by:
  - excessive fishing effort
  - destructive fishing methods
  - unselective fishing practices and gear
  - illegal, unregulated and unreported (IUU) fishing

Over-fishing and over-capacity recognized, but IUU fishing prioritized in 2015

Theme 1: Marine living resources

Fisheries and other marine living resources are restored and managed sustainably

Objective 1:
Restore fisheries resources that are degraded

Targets

- Increase abundance and biomass of selected national and transboundary fish stocks by 5% by 2025
- Reduce fishing capacity in degraded fisheries by 10% by 2025
- Reduce IUU fishing in the region by 20% by 2025

Objective 2:
Restore and maintain species composition

Targets

- Improve mean trophic level of the catch by 5% by 2025
- Increase the biomass of higher trophic level species (e.g. large demersals, tuna and sharks) by 5% by 2025

Objective 3:
Reduce the proportion of juvenile fish caught and/or retained

Targets

- Reduce the percentage of juvenile fish caught by 10% by 2025
- Reduce the percentage of juveniles of commercially important fish caught by 25% by 2025
- Reduce unselective/destructive fishing by 20% (using a measure of fishing effort) by 2025
- Reduce fishing effort targeting juvenile fish by 20% by 2025

Objective 4:
Restore biodiversity status of 1980 by 2025

Targets

- Enhance species richness in selected ecosystems
- Eliminate the use of destructive fishing gear and practices by 2025, including in critical habitats
- Reduce incidental catch of vulnerable and endangered species by 50% by 2025

BOBLME countries endorsed the TDA/SAP Major outcome to:

"Formulate a Regional Plan of Action on IUU fishing (RPOA-IUU) and/or multi-national agreements to strengthen arrangements to determine and implement management measures to combat IUU at a regional level."

Drivers encouraging growing policy commitment to combat IUU fishing in the region since BOBLME SAP endorsed (2015)

1. Belief that IUU is contributing to overfishing, impacts on resources and lost rents (but rarely, if ever, quantified)
2. The growing realization that marine fisheries resources require more effective sustainable management, with application of capacity and effort controls.
3. Recognition that IUU fishing creates conflicts in national fisheries (esp. SSF & LSF, between gears)
4. Commitments taken on by countries to tackle IUU fishing as part of:
   - NPOA-IUU
   - Obligations for those countries that have acceded to the PSMA
   - SDG target (14.6)
   - ASEAN-SEAFDEC Joint Declaration and ASEAN Guidelines for Preventing the Entry of IUU Fish and Fishery Products into the Supply Chain
   - Indian Ocean Rim Association (IORA) Action Plan (2017–2021)
5. Market or trade requirements
   - Requirement by European Union requiring proof fish is not from IUU fisheries (affecting several countries)
   - WTO disciplines (most recently)
   - Seafood companies importing seafood from Asian countries
6. Increasing global public access to vessel information and fisheries data, makes vessel activity harder to hide

1. IUU in the BOBLME region - how serious is it?

- By its nature IUU fishing extremely hard to quantify
- Activity typically occurs beyond the reach of fishery enforcement activity
  - Secretive, so difficult to monitor and measure
  - Only comes to light when there is a successful, high profile apprehension, or major complaint
- Not something that is typically reported into public information mechanisms (except perhaps PSMA and RFMO processes)
- Countries reluctant to reveal extent of IUU activity of national fishing fleets and sometimes also IUU by foreign vessels operating in their waters

Identifying & quantifying IUU in the BOBLME

- Almost no national data made public
  - Few, if any, national studies
  - No quantification of IUU in NPOAs
- A number of historic regional efforts to get an idea of locations and quantify the scale of IUU fishing in the Asian region
- These used different methods of estimation and extrapolation including:
  - **Estimation**
    - Case studies, anecdotal information
    - Media reports of IUU fishing
    - Expert respondents
    - Fishery officer respondents
    - Grey literature
    - Peer reviewed journals
  - **Extrapolation and or modelling** (from the estimations)
    - gives confidence ranges, and fills gaps

Study	IUU catch Tonnes		Value (million USD)		% of annual catch reported to FAO	Coverage (area/location)
	Lower	Upper	Lower	Upper	%	
Meere & Lack, 2008	3,400,000 – 8,100,000		-		8 – 16%	Asia-Pacific. Case studies and examples. Did not make an aggregated estimate (Area 71)
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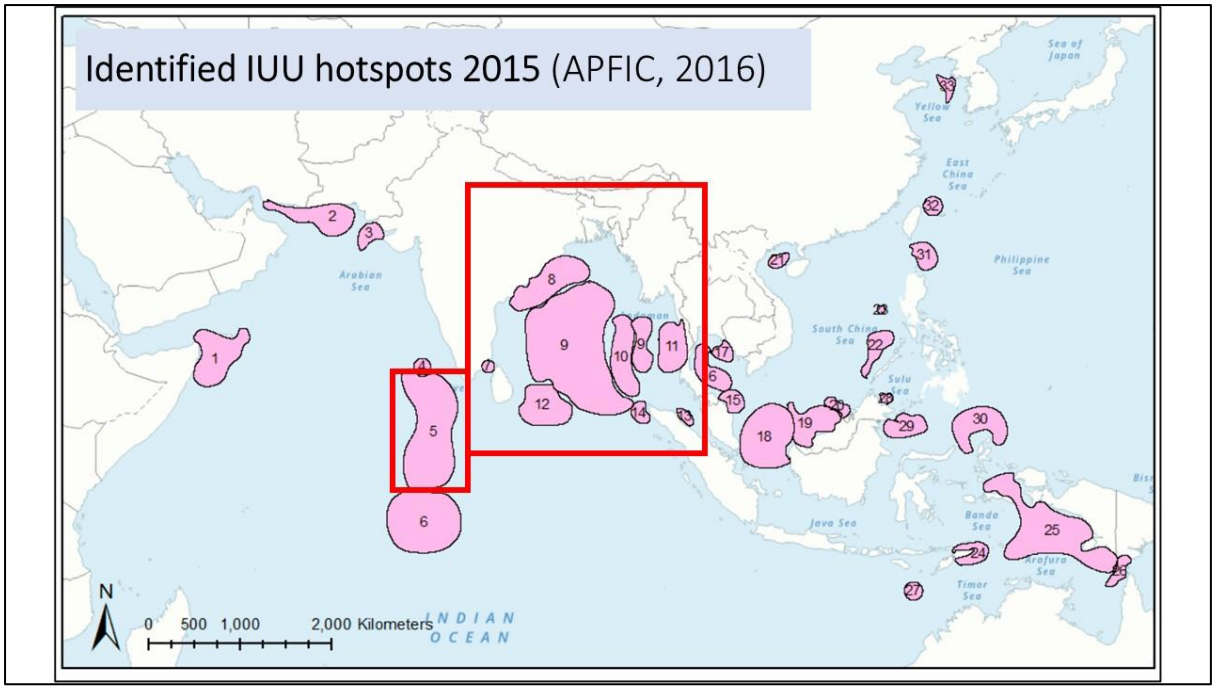
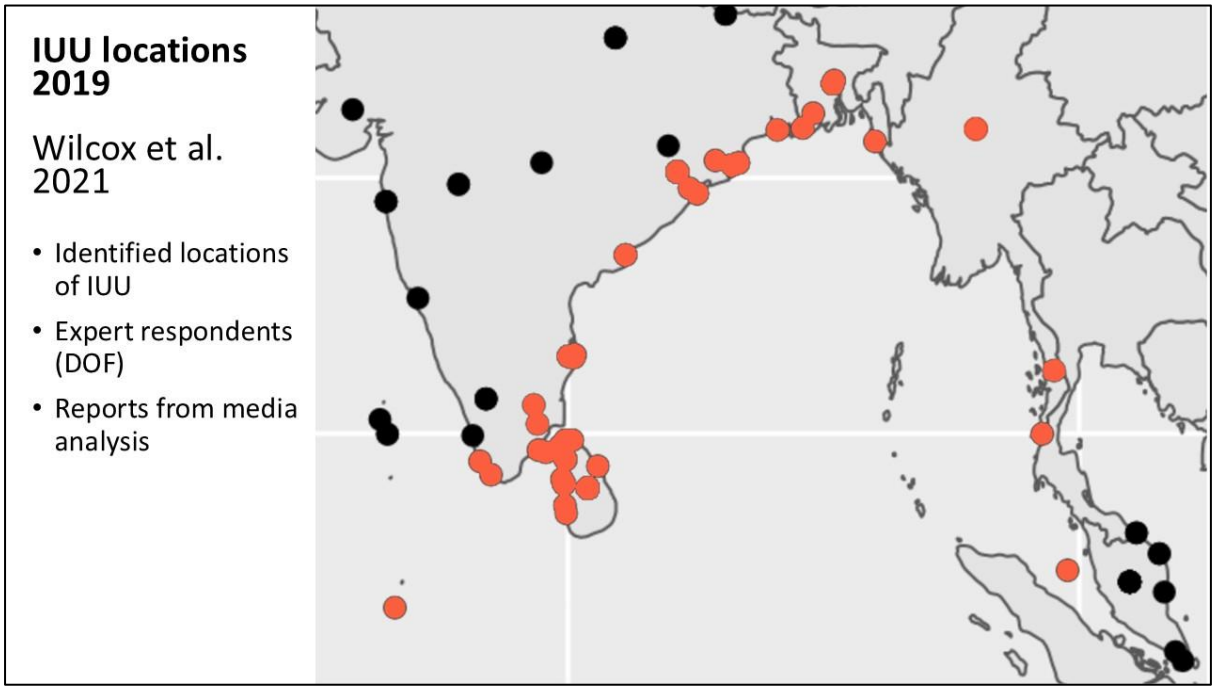

Identified IUU hotspots 2015 (APFIC, 2016)
Sea of Japan
Yellow Sea
East China Sea
Philippine Sea
Arabian Sea
South China Sea
Sulu Sea
Java Sea
Banda Sea
Timor Sea
Arafura Sea
INDIAN OCEAN
N
0 500 1,000 2,000 Kilometers

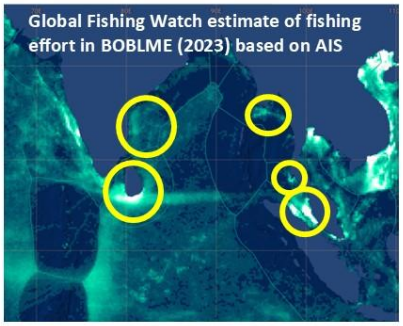

IUU locations 2019
Wilcox et al. 2021
• Identified locations of IUU
• Expert respondents (DOF)
• Reports from media analysis

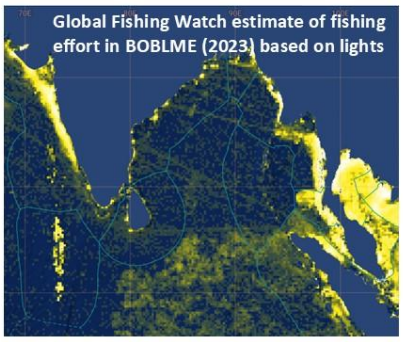
Overcapacity and overfishing of resources are major IUU drivers

- Clearly identified in the BOBLME SAP
- National data >307,000 fishing vessels operating in BOBLME Area 57.1
  - 73 percent small-scale (<12m length, unmotorized or powered with outboard engines); 28 percent medium and large scale
- Mostly domestic or neighbouring country
  - Very registered to operate outside of the national EEZ waters
  - Trawlers generally operate within the EEZ areas on narrow coastal shelf resources
  - Trawlers (and associated transhipment activity) operating laterally across neighbouring maritime borders, most commonly associated with historical IUU fishing activity in the BOBLME
- Some countries starting to address this
  - Efforts at capacity reduction (Malaysia, Thailand)
  - Only Malaysia has NPOA capacity
  - Some recent effort to match capacity and effort to resources

AIS Global Fishing Watch estimate of fishing effort in BOBLME (2023)

- Fishing effort analysis based on algorithms can show where fishing effort is concentrated
- Note thisis effort not IUU!
- Fishing effort AIS data is unevenly distributed
  - **Note limited activity of large vessels (AIS) within the EEZ areas…**
  - Except Straits of Malacca, Sri Lanka India
- Whole year light imagery highlights smaller scale vessels, not tracked by VMS/AIS
  - Fishing effort is unevenly distributed
  - Mostly, but not 100% fishing vessels
  - **Highlights intense activity in coastal area of all EEZs**
  - Limited offshore (except tuna fleets outside BOBLME





Although we have no formal quantification…are there signs in BOBLME area that perhaps IUU is reducing?

- IUU activity is not static and one of its characteristics is how IUU activity starts up, closes down, or shifts to take advantage of new opportunities
- Foreign encroachment is identified by all countries, but its frequency and scale are challenging to estimate - is this being deterred more effectively?
- Current evidence from the actions of the coastal states indicates their commitment to combatting IUU fishing is greater than in the past
  - Lower tolerance for IUU
  - Improved vessel management (registration, licensing, VMS)
  - Increased MCS
  - More effective port controls/PSMA
  - Desire to maintain market access
- **With little or no documentation, it is hard/impossible to demonstrate if IUU has reduced**

We can make the following statements about the current situation of IUU in the Bay of Bengal

- IUU is no longer the same as it was 5-10 years ago.
- While the amount of IUU (volume or number of locations) has probably changed, it is likely to still exist to some degree
- Some countries are now more effectively controlling IUU (in the most serious historic hotspots)
- Other countries have demonstrated less commitment or capacity to take action and have made limited progress
- Whilst it is possible to claim that IUU is now more effectively managed, no country can credibly claim to have zero IUU
- The lack of monitoring and public documentation limits the countries ability to demonstrate they are effectively controlling IUU
- **Supporting some BOBLME level monitoring and risk communication can assist countries to more effectively communicate their actions to combat IUU**

2. BOBLME IUU sub-component

Project document indicators **Outcome 1.2: IUU catch in the BOBLME reduced**

- By the end of the project, the following key outputs are anticipated under this Outcome:
  1. 20% reduction in IUU **fishing from the BOBLME phase 1 baseline estimate** for selected fisheries.
  2. Implement and as necessary **prepare Regional Plan(s) of Action (RPOA)** to address IUU fishing in the BOBLME.
  3. **Eight National** Plans of Action (NPOAs-IUU) and national IUU Monitoring, Control and Surveillance (MCS) systems and Vessel Monitoring Systems (VMS) **strengthened.**
  4. **Tools for promoting best practices**, such as MCS, Port State Measures (PSM) and traceability of fish and fisheries products (including catch documentation schemes), policies and national actions, to combat IUU fishing developed and implemented in national pilot/investment projects. Countries supported in acceding to the PSMA.
  5. **Regional capacity development programme on port inspections, MCS and traceability** implemented with 20 national fisheries staff trained in each country.
  6. **Gender is mainstreamed** into actions to combat and eliminate IUU Fishing in BOBLME.

BOBLME project targets

1. 20% reduction in IUU
   - over 2014 baseline - which is not clearly specified in Project Document but intended as the APFIC 2016 review and Wilcox et al 2021 reviews
2. RPOA-IUU endorsed
3. NPOA-IUU being implemented in 7 countries
4. Regional training platform(s) operational
   - Indicated: MCS training , Port inspections
   - **Note:** could be any training or capacity building that would contribute to policy or actions related to reducing IUU activity (e.g. fishing vessel capacity management, improved resource management)

3. Ways to monitor progress

- **Quantitative** - requires use of data from monitoring
  - Reduction of IUU incidents (from MCS monitoring data)
  - Reduction of number of locations (IUU hotspots) where IUU is considered problematic
  - Reduction of impact (e.g. vessels numbers reduced in IUU hotspots)
- **Semi-quantitative** or **proxy** measures
  - Allow change to be estimated
  - May track the same metrics above, but use estimation methods
    - Country reporting
    - Expert opinion
    - Media reports
  - IUU risk assessment (likelihood vs. impact) indicate reduction in risk
- **Qualitative**
  - Progress towards establishing/strengthening national framework to combat IUU
    - Signing up to international agreements
    - Institutional and legal reforms, investments, cooperation
    - Establishment of operational capacity (VMS centres, port measures, MCS capability, information sharing)

4. BOBLME project baseline

- **Indicator: 20% reduction in IUU in the BOBLME region**
  - Estimation reduction by
  - ~150,000 tonnes (from 716-746,000 tonnes, 2016 APFIC Baseline)
  - ~273,000 tonnes (1,363,000 tonnes Wilcox et al, 2021)
- The lack of quantification and identification of IUU at the national level is puzzling
  - basis for funding actions
  - implementation should be linked to the extent and severity of the IUU issue
- This limits ability to state clearly what progress is being made on combatting IUU

Agree on BOBLME IUU baseline target

- The baseline is not clearly specified in Project Document but intended as the APFIC 2016 review and Wilcox et al.,2021 reviews.
  - 20% reduction in IUU fishing from the BOBLME phase 1 baseline estimate for selected fisheries.
  - **This is an estimated reduction by 150,000 - 273,000 tonnes**
  - **The PSC should agree and endorse this as the project baseline**
- Countries need to assess IUU
  - Apply a risk-based approach to determine the severity of the IUU identified
  - Use expert respondents approach (simplified Wilcox et al. 2021 method) to identify IUU issues and apply a semi -quantitative approach to track change.
  - Method outlined in this report.
  - **PSC should endorse this and it needs to be incorporated into the workplan**

Quantitative BOBLME project progress tracking on indicator

- **Indicator: 20% reduction in IUU in the BOBLME region**
  - Estimation reduce by
  - ~150,000 tonnes (from 716-746,000 tonnes, 2015 APFIC Baseline)
  - ~273,000 tonnes (1,363,000 tonnes CSIRO 2019)
- Focus on the illegal fishing component (not unreported and unregulated)
  - IUU within EEZ
  - Exclude RFMO related tuna as covered under the IOTC
  - Cover foreign and domestic vessels
  - Try to disaggregate by large and small scale, or gear type (help estimate quantity)
- Develop a rough estimate of the catch that is IUU
  - Identify IUU activity: how many locations, species targeted or gear group
  - Estimate annual occurrences: number of vessels (and types) and how often frequency
  - Estimate the amount of catch based on vessel/type/size and gear and duration
  - Estimate the volume and thus the value

Data sources or ways to estimate

- If there is formal national monitoring this is the best
  - Use electronic monitoring data (VMS, GPS on board or AIS) for larger vessels
  - MCS data on sightings or apprehensions
- Expert opinion (semi-quantitative if you get enough respondents)
  - Use (DOF) expert opinion to identify locations and vessel size/gear type & indicate frequency (e.g. APFIC/Wilcox et al. 2021 method)
- Back up with other analysis
  - Media reports (media search)
  - IUU tracking internet sites
  - Public reporting and citizen science (only if this is already in place)

Example of a scoring-approach for IUU risk assessment

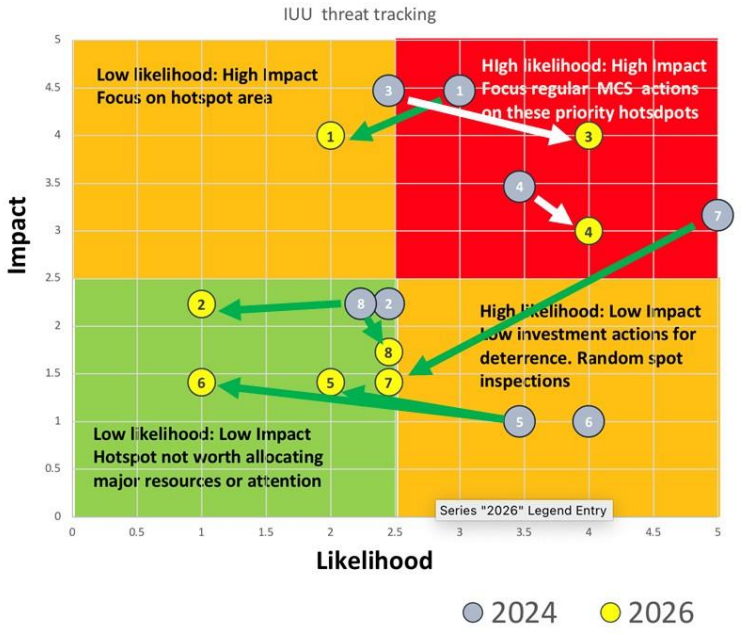
- 2 factors of **likelihood** of IUU
  - How frequently is the IUU occurring?
  - What are the chances of being caught?
- 2 factors of **impact** of IUU activity
  - How many vessels are involved?
  - How big are they?
- Likelihood score: Square root Frequency x Risk of capture
- Impact score: Square root Number of vessels x Vessel size
- Example maximum:
  - Likelihood score = 5: Daily IUU with no risk of capture
  - Impact score = 5: >200 vessels that are 500 tonnes
- Example minimum:
  - Likelihood score = 1: A few times a year with high chance of being caught
  - Impact score = 1: less than 5 vessels that are are less than 10 tonnes
- Risk score = likelihood x impact

Likelihood				Impact			
Frequency	X	Risk of capture		Number of vessels involved		Vessel size/ capacity (tonnes)	
Daily	5	None	5	>200	5	>500	5
Weekly	4	Very low	4	51-200	4	201-500	4
Monthly	3	Low	3	11-50	3	51-200	3
Many times in short period	2	Moderate	2	6-10	2	10-50	2
A few times a year	1	High	1	<5	1	<10	1

Semi-Quantitative progress tracking

20% reduction in IUU in the BOBLME region

1. Identify IUU activity locations
2. Score likelihood of IUU and severity of impact
3. Use a risk plot to track change (mainly driven by national actions and shifting IUU fishing opportunities)
4. A positive change, is recorded as success



	Risk score		
Hotspot	2023	2026	Comment
1	13.4	8	Some improvement
2	5.5	2.2	Improvement
3	11.0	16	Deterioration
4	12	12	No change
5	3.5	2.8	Improvement
6	4	1.4	Improvement
7	15.8	3.5	Significant improvement
8	5	4.2	Minor change

e.g. In the period 2024 and 2026: there were 8 identified IUU hotspots: 5 hotspots show improvement, 1 hotspot has become worse, 2 have no significant change.

Overall out of the 8 hotspots identified, only three are considered medium or high risk.

Qualitative BOBLME Tracking

- This is text based reporting of actions and initiatives that countries have taken
- They monitor progress on other key **indicators of commitment** to combat IUU
  - NPOA-IUU update and implementation
  - Institutional reforms and strengthening (national reports, year by year)
  - MCS and Port control strengthening; fleet controls
  - Progress against the checklist of actions (see table)
  - Other progress that supports efforts to combat IUU (e.g. Fishing Capacity management, effort reduction, stock rebuilding; ASEAN-SEAFDEC RPOA 2017)
  - Sources of info:
    - Annual national report back to BOBLME WG
    - National reporting: SDG reporting 14.6.1, national PSMA report, reporting to RPOA-IUU (note this does not include South Asia)
    - Third party monitoring: e.g. IUU_fishing_risk_index, media reporting analysis

Qualitative tracking: updating the BOBLME baseline indications of country progress since 2015

- Countries report on progress on the key elements:
  - Improved legal frameworks
  - EEZ boundary definition
  - Draft/Revised NPOA-IUU
  - MCS Programme
  - Vessel tracking
  - Vessel registration
  - PSMA
  - MCS networks (coordination, info-sharing)
- Progress towards Consortium for the Conservation and Restoration of the BOBLME (CCR-BOBLME) - **Related to IUU - update baseline, stocktake and track IUU**

5. Tracking output RPOA -IUU endorsed

Typical features of an RPOA

- Incorporate a regular assessment of national IUU risks (vulnerability and impact)
- Monitor implementation (or development) of NPOA-IUU or equivalent actions
- Incorporate a commitment to sharing of information
- Should complement other aspects of fishery management that contribute to combatting IUU (e.g. fleet overcapacity, vessel registration, removal of subsidies that contribute to IUU, improved resources assessment, decent work and safety at sea)
- Align and support the international framework and regional commitments, including RFMOs
- Identify capacity building and training needs
- Indicate the mechanisms (ongoing, or those to be established) for implementation, roles and responsibilities
- Have a regular reporting mechanism
- Have a clear end of project sustainability strategy (i.e. there are ongoing processes that would sustain some or all of its elements)
- **A draft RPOA outline has been prepared**

6. Tracking output: NPOA-IUU

	BGD	INS	IND	MAL	MDV	SRL	THA
FAO NPOA-IUU as part of Implementation of IPOA-IUU	NPOA 2019	NPOA 2012-2016	No	2nd NPOA 2013	NPOA 2019	2nd NPOA 2015	2nd NPOA 2021

- All countries except 1 have NPOA-IUU
- In several cases the NPOA-IUU are now out of date, some have been revisited and updated
- Assisting countries in updating NPOAs is a recognized action in the BOBLME project, although it seems there may be little demand for this assistance
- **BOBLME could focus on:**
  - **monitoring progress and achievements of NPOA implementation**
  - **NPOA updating (how many are planning to do this?) and NPOA development (India)**

7. Tracking output: Tools for promoting best practices examples for knowledge sharing of best practice, pilots

Theme	Country examples for knowledge sharing of best practice, pilots (to update!)
Vessel tracking	Indonesia CSIRO working on radio tracking of vessels to support other methods like VMS or satellite imagery Malaysia (SEA-IU project) Indonesia Use of AI to see vessel tracking (Ocean Mind) DOF Thailand using PSMART (AI) to track fishing vessel route Pilot project on low-cost vessel tracking system for SSF vessels
Port Inspections	Procedures for checking fishing vessels entering port Using AI to support cross-checking of documents
Surveillance	Risk assessment methods for identifying IUU and targeting MCS Thailand CRA (common risk assessment method) Drone use in aerial surveillance Surveillance cameras on landing sites Use of AI on board cameras
Quantifying IUU and impact	Identify IUU hot spot, estimation of economic loss from IUU fishing Tracking analysis (machine learning AI) Malaysia citizen science and reporting apps
E-documentation	QR Codes on fishing vessels Electronic Reporting Systems: Digital platforms, e-logbook SSF on-board GPS uploading data when vessels enter port
Capacity resources	Capacity reduction initiatives (Malaysia, Thailand, others?) Effort/Vessels/catch linked to capacity and resource assessment – country

8. Tracking output: Regional training platform(s) operational

- In-house project training courses run by SEAFDEC, BOBP-IGO or perhaps FAO and national, agencies (few existing comprehensive courses)
- Supports or facilitate access to regional training by other bodies (NOAA, AFMA, IMCS, EU, CSIRO (via coordination with mechanisms such as RPOA-IUU, AN-IUU , IORA)
- Training rolled-out in region by various organizations and bodies (course materials unavailable)
  - Port controls, port inspections, implementing PSMA (theory and practical-hands on)
  - Designing and implementing MCS, at-sea inspections (mainly theory)
  - Awareness raising on the International fishery governance framework
  - Vessel tracking, use of data, remote sensing, other methods for remote identification of IUU activity (IUU hotspot tracking has not yet been subject to training courses)
- Facilitate access to online training resources (few relevant courses available)
- Regional meeting for awareness raising and experience training on country pilots/best practice
- Training on complementary measures: e.g. NPOA-capacity, linking resource assessment to capacity-effort
- **Countries need to indicate their priority capacity building needs (agenda item at the regional WG meeting)**
- **Are there enough funds to develop and run training courses?**

9. Tracking output: Gender mainstreaming

- This is an indicator for the sub-component
- It should be elaborated in the Gender action plan for the project
  - Men are primarily involved in fishing operations and thus directly active in IUU fishing
  - Traders are often complicit or involved in receiving IUU catch and these may be men or women
  - Impacts of IUU fishing may disproportionately affect women, particularly in the small-scale sector
- Specific targets or actions for the IUU sub-component likely to cover:
  - Identification of gender specific impacts of IUU or responses to combat IUU
  - Look specifically for IUU issues within the small scale sector

Plan and convene Regional WG meeting

- Key to component tracking, RPOA development, knowledge sharing
- Could be a **joint SEAFDEC-BOBPIGO meeting**
  - Virtual or physical depending on resources
- Alternatively, virtual preparatory meeting followed by in-person regional WG meeting.
  - **This might be convened by the RCU**, with support of BOBP-IGO and SEAFDEC
- The main purpose of the WG meeting would be to:
  - Countries provide an updated national baseline on IUU and risk assessment (or brief on on how to do this)
  - Countries provide report back of their progress against the checklist of actions
  - Other actions in support of PSMA, RPOA-IUU, AN-IUU, ASEAN IUU Task Force, ASEAN-SEAFDEC RPOA IUU, IORA FSU/CGFM
  - Results of ad hoc third-party research studies (e.g. IUU estimates)
  - Review draft RPOA-IUU and modify
  - Identify suitable training courses in the region
  - Identify awareness raising activities related to pilots in the region
- **The report of the Regional Working Group Meeting and actions towards BOBLME RPOA-IUU provides the input for BOBLME sub-component monitoring**

10. Conclusion (1) - message

- There has been a history of IUU in the BOBLME, some of it substantial (frequency, numbers of vessels and total catch)
- With a few exceptions, it is probably fair to say that most countries are now "effectively controlling" IUU (most serious hotspots)
- While IUU has probably reduced, some IUU will exist, but if there is no monitoring how can we support a claim we are controlling IUU??
- What is credible, is being able to say:
  - We monitor IUU across our EEZ
  - We have identified where it occurs and estimated the number and types of vessels involved and the frequency
  - Based on risk analysis, we consider the impact to be low in all but [a few] cases
  - We target our MCS on these most serious areas
  - Overall IUU activity within our EEZ is effectively managed
- **Supporting BOBLME-level monitoring can assist countries to more effectively communicate their actions to combat IUU**

Conclusion (2)

- Agree 20% reduction, from IUU baseline (2015-2019) = 150,000 - 273,000 tonnes
- Set a date for the Working Group Meeting (develop agenda)
- Agree on tasks for countries to present at WG meeting
  - Update their national IUU baseline (risk assessment, hotspots, or national tracking)
  - Update progress on NPO
  - Report on progress of the checklist of actions (many already completed)
- Agree on draft outline of the RPOA (simplify if necessary to focus on a few key achievable items)
- Consider one regional training course (easiest way is to support participation in existing course)
- Develop knowledge sharing events on best practice (can be virtual seminars, or in-person sharing)
  - target national MCS/IUU/PSM staff of DOF
  - For virtual seminars, it may be useful to open to private sector
- Work with RCU on the gender aspects of IUU

About the Bay of Bengal large Marine Ecosystem Project

The Bay of Bengal Large Marine Ecosystem Project II (BOBLME-II: 2023-28) builds on the success of BOBLME-I (2009-15). It strives to promote sustainable management of fisheries and marine life while conserving their habitats in the Bay of Bengal, with ecosystem services of approximately USD 240 billion over the next 25 years that will be protected and sustained. Funded by the Global Environment Facility (GEF) and the Norwegian Agency for Development Cooperation (NORAD), the project is being implemented by the Food and Agriculture Organization of the United Nations (FAO). The International Union for Conservation of Nature (IUCN), the Southeast Asian Fisheries Development Center (SEAFDEC), and the Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO) are the executing partners. The BOBP-IGO is executing the project in South Asia for the benefit of its member countries.