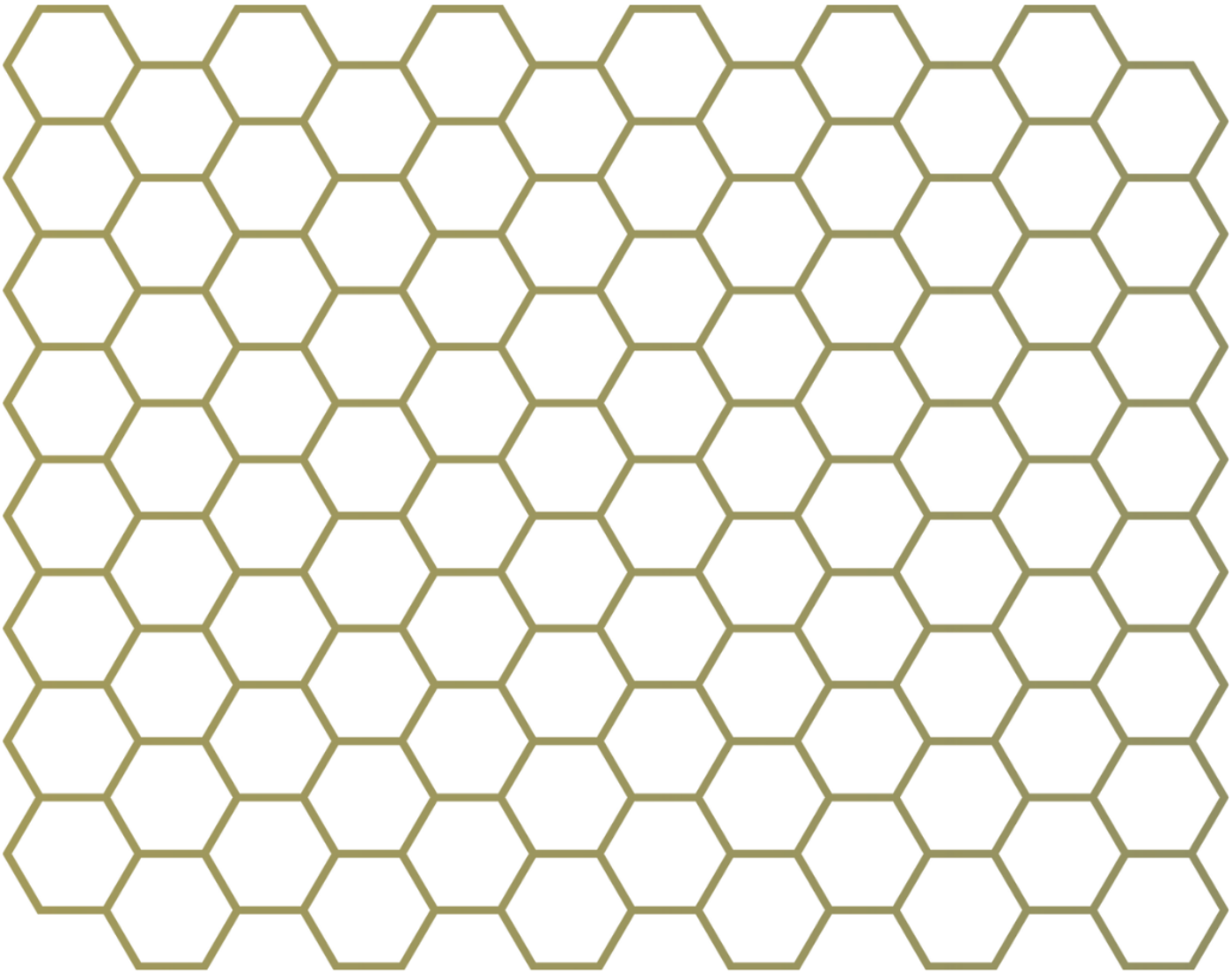
ADAPT TO CHANGE

Achievements in 2021



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Adapt to Change

It is hardly an exaggeration to state that the beginning of 2021 remained a challenging time for the Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC).

The coronavirus disease of 2019 (COVID-19) was still not over in 2021, and it continues to have a severe influence on people's lives while disrupting the process of human and economic growth. This interruption coincides with the several obstacles that existed before to the COVID-19 pandemic, which hampered the attainment of the 2030 Sustainable Development Goals (SDGs) as well as the NAM CSSTC's goal.

Nonetheless, NAM CSSTC believes that NAM member countries and NAM CSSTC have demonstrated their capacity and ability to optimise development and strengthen South-South technical cooperation while responding to COVID-19 and other issues that negatively impact developing countries. There are various modifications and adaptations in place to ensure that the process for the people of the developing countries' economic growth continues even if the COVID-19 pandemic persists.

South-South Cooperation is a sort of solidarity between the people and countries of the South, and the events of the COVID-19 pandemic

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have increased the need for such solidarity. The global South shares assistance and training to deal with the economic impact of COVID-19, ranging from agricultural assistance and training to education.

Some of the recommendations made as a result of the assistance and training were to re-stimulate the delivery of agricultural system materials to various regions in order to reduce costs, as well as collaboration between developing countries and consumers in other countries in order to meet export standards.

NAM CSSTC has been present for over 26 years and continues to strive to remain relevant, adapt to changes, and always operate for the benefit of the human and economic development of developing countries. COVID-19 disturbs us, but it does not deter us.

We would like to thank the NAM member countries, particularly the Republic of Indonesia and the NAM Chair, the Republic of Azerbaijan, for the ongoing support for the NAM CSSTC in assisting developing countries to accomplish their development goals. We also thank our partners: The Government of Fiji, the Coconut Research Institute of Sri Lanka, the National Electoral Committee of the Bolivarian Republic of Venezuela, the International Coconut Community, the Secretariat of the Regional Plan of Action to Promote Responsible Fishing Practices in the Region, including Combating IUU Fishing (RPOA-IUU), Universitas Gadjah Mada, the Halal Food Authority of the United Kingdom, Telkom University, and Bangladesh Agricultural University.

We also appreciate all NAM CSSTC staff at all levels for their readiness to adapt to new modes of working and their unwavering dedication to ensuring the implementation of high-quality South-South cooperation programmes, both conducted in person and virtually.

We would like to take this occasion to stress how inclusive the NAM CSSTC's South-South Cooperation initiative is. It is the right of all persons in NAM member countries – whether in government, Non-Governmental Organisations (NGOs), the private sector, the intergovernmental sector, or development agencies – to benefit from NAM CSSTC activities and play an essential role in achieving the SDGs. The COVID-19 pandemic phase will teach NAM CSSTC how to become more empowered and resilient intergovernmental institution.

Diar Nurbintoro

Acting Director

NAM CSSTC

Table of Content

Chapter I
Prior to the Implementation of Programmes

NAM Member Countries from Every Region Were Served

Since 2020, the Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC) has been doing virtual activities. This implementation approach is a step made by NAM CSSTC to remain productive in the face of international travel constraints caused by lockdown in many countries to avoid the transmission of coronavirus disease 2019 (COVID-19). The NAM CSSTC activity, which was organised in conjunction with the International Coconut Community (ICC) at the time, drew hundreds of people from Africa, Asia, South America, Central America, the Caribbean, and the Pacific.

NAM CSSTC recognises that by utilising various tactics to maintain virtual activities exciting and easily absorbed by participants, NAM CSSTC may continue to organise South-South Cooperation activities optimally.

NAM CSSTC hosted multiple virtual activities in 2021 with a substantially higher number of partners. There were 19 virtual activities carried out with partners from NAM member countries as well as development partners, universities, and the private sector. Activities were also carried out in the fisheries, energy, and education sectors, in addition to the agriculture sector. And, just like the previous year, the virtual activities hosted by NAM CSSTC and partners in 2021 were not devoid of participants.

There were more than 15 participants in each activity, and one activity had more than 67 participants, which was a hydroponic virtual training session for South American, Central American, and Caribbean countries. Each participant was also excited about completing the whole training series and developing action plans to put what they have learned into practice in their line of

"If NAM CSSTC could only reach countries in Asia, the Pacific, or Africa through face-to-face activities in 2019 or earlier years, NAM CSSTC reached countries in South America, Central America, and the Caribbean through virtual activities."

work.

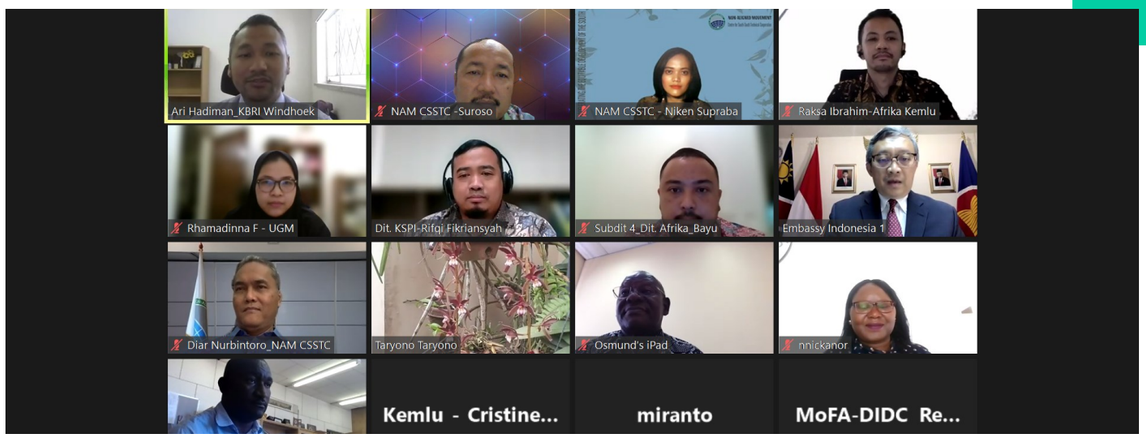
NAM CSSTC gains leverage from virtual activities since it can plan more activities with the same budget. If the total number of NAM CSSTC activities in 2020 is 9 (nine), the total number of NAM CSSTC activities in 2021 was more than doubled, i.e. 19. If NAM CSSTC could only reach countries in Asia, the Pacific, or Africa through face-to-face activities in 2019 or earlier years, NAM CSSTC reached countries in South America, Central America, and the Caribbean through virtual activities. The NAM CSSTC has genuinely carried out its mandate of strengthening South-South cooperation for 120 NAM member countries, which are distributed across various locations throughout the world.

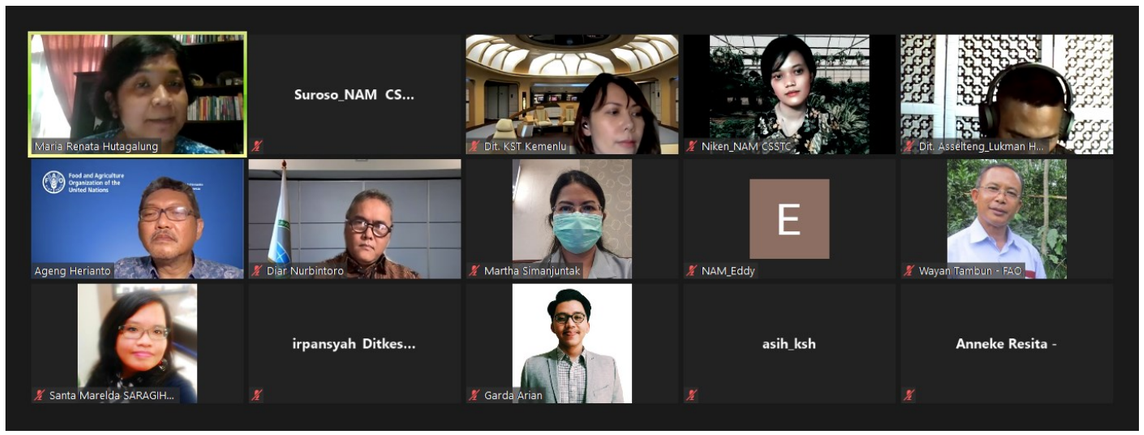
All activities in 2021 were completed to the reporting stage, so that each activity has a thorough report containing the list of participating nations, the number of participants, the topics discussed during the activity, and the results of the participant evaluation. All of these reports were also distributed to NAM member countries via the NAM Coordination Bureau in New York, United States of America in the form of quarterly periodic reports. NAM CSSTC's fourth and final Progress Report on 2021 activities was submitted in January 2022.

NAM CSSTC also documented participant comments on the follow-up to the implementation of the activities in which they participated, and these inputs were evaluated and scheduled in the programme of activities for fiscal years 2022 and 2023.

Of course, various problems have emerged in the implementation of activities in 2021, particularly virtual activities. Making participants engage in activities and participate in the entire sequence of events is an art form for NAM CSSTC and its partners. In this regard, we tackled it by keeping the activity lively through extensive question and answer sessions and digital games in which people can engage.

Participants thoroughly enjoyed the interactive session, and they grew increasingly encouraged to continue following the unfolding events.





Creating a Foundation for Greater South-South Cooperation

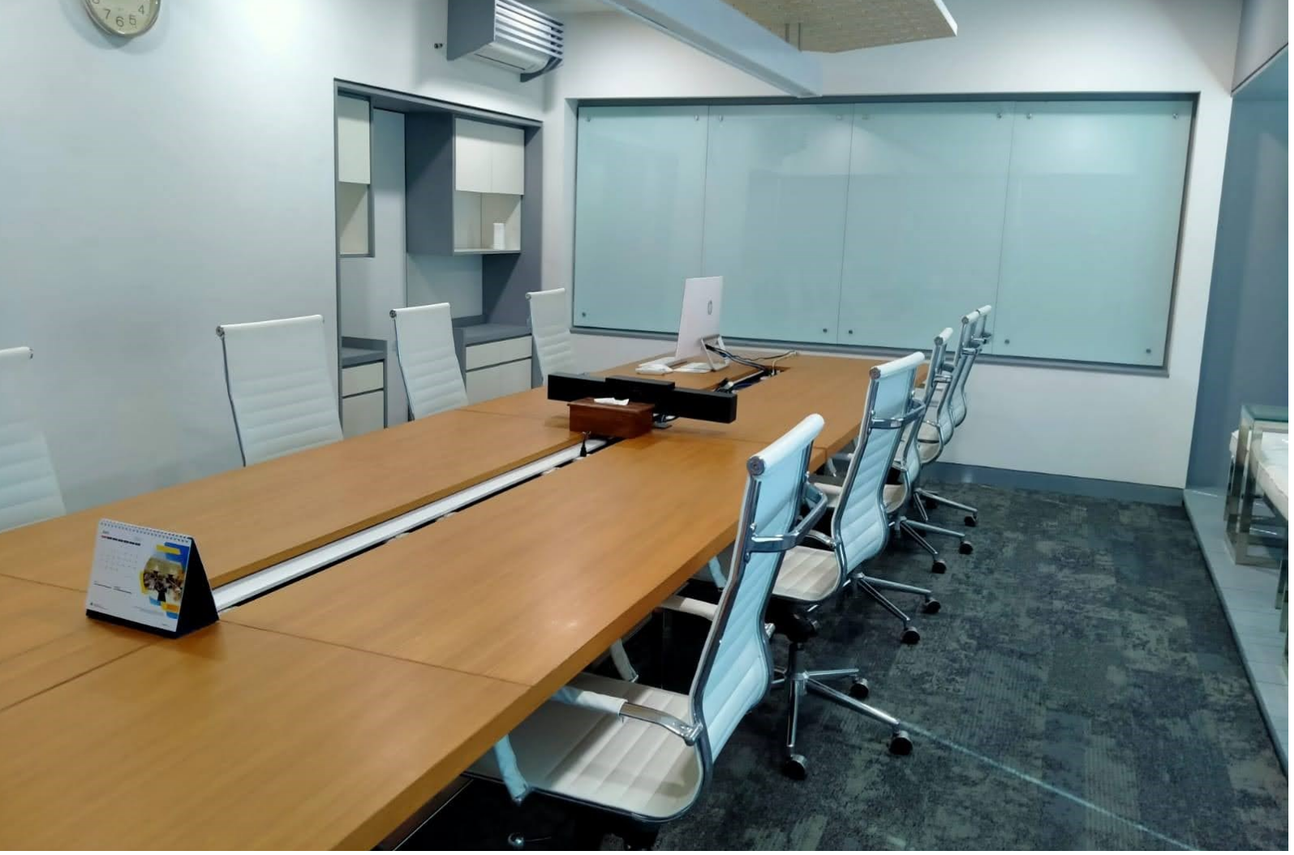
NAM CSSTC held various capturing demands at the end of each programme of activities organised in 2020. Capturing demand entails participants filling out a questionnaire to select several topics of activity based on the availability of experts who are part of the NAM CSSTC network, and it is known from filling out the questionnaire that some of the training topics are most in demand by participants from various developing countries that are NAM member countries. NAM CSSTC followed up on the questionnaire results in 2020 by programming it for 2021.

Given that the results of capturing demand focus solely on agriculture, NAM CSSTC also opens up a wide range of opportunities for Ministries/Agencies in Indonesia and abroad to explore opportunities for collaboration with NAM CSSTC in the 2021 programme outside of the agricultural sector.

NAM CSSTC had the opportunity to meet the Secretariat of Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) through an introduction by the Ministry of Marine Affairs and Fisheries of the Republic of Indonesia, which has been a partner of NAM CSSTC since 2018. NAM CSSTC was also programming the International Energy Forum-The ASTECHNOVA Conference, which has become a regular programme plan based on a five-year agreement with Universitas Gadjah Mada.

NAM CSSTC also maintains its commitment to continuing the Business Administration College Scholarship programme for Telkom University student from Solomon Islands entering semester 2 and 3 in 2021.

According to various assessments, the NAM CSSTC covered fields other than agriculture in 2021, including fisheries, energy and education.



“Capturing demand entails participants filling out a questionnaire to select several topics of activity based on the availability of experts who are part of the NAM CSSTC network, and it is known from filling out the questionnaire that some of the training topics are most in demand by participants from various developing countries that are NAM member countries.”

The Goal of the Meeting

The following are some of the goals of the meeting:

- To identify potential partnerships for the implementation of programmes of technical cooperation;
- To know the context of NAM member countries’ problems;
- To know what efforts NAM member countries have made and why such efforts have not been successful in resolving these problems;
- To identify new models to resolve these issues through NAM CSSTC technical cooperation; and
- To decide whether the issues raised by dialogue partner concern NAM CSSTC.

All of the above indicators were met at the NAM CSSTC meetings, resulting in a programme planned for 2021.

The Programme's Development

Agricultural Training Project for Countries in Asia and the Pacific

On the invitation of the Ministry of Agriculture (MoA) of Indonesia, NAM CSSTC attended a meeting with various units within the MoA of Indonesia on January 13, 2021. The NAM CSSTC's presence was intended to investigate opportunities to use the expertise of the MoA of Indonesia in virtual agriculture training requested by the Government of the Republic of Fiji through its Embassy in Jakarta, which has been submitted since the end of 2020. The MoA of Indonesia stated at the meeting that it is capable of organising virtual activities considering the unit's technology infrastructure and experts' readiness.

Following the meeting, NAM CSSTC held a hybrid meeting on February 3, 2021 in Sentul, West Java. The units from the MoA of Indonesia that were present were technical implementing units with the main task of providing agricultural Human Resources (HR) training in Indonesia and abroad, namely the Indonesian Centre for Agricultural Training (ICAT) of Lembang and the ICAT of Ketindan.

The discussion had shifted to a more technical level, with ICAT explaining its e-learning system, which can be used to implement virtual training for people of developing countries, as well as the readiness of its human resources to create good practise videos that can serve as a substitute for face-to-face practise activities in the South-South Technical Cooperation. The two ICATs also introduced the concept of training modules, which included modules for four trainings: a) tissue culture; b) pest and plant disease control; c) hydroponics; and d) food packaging and labelling.

NAM CSSTC also received input from Ministry of Foreign Affairs (MoFA) of Indonesia officials who were also present at the meeting, to include countries other than Fiji, given previous requests from

these countries, so it was decided that the agricultural training project would be expanded to include countries in Asia and the Pacific with similar geographical and climatic characteristics to Fiji.

NAM CSSTC paid a visit to ICAT of Lembang on March 1, 2021, to discuss the follow-up to the planned agricultural training project for Asia and Pacific countries. The names of the resource persons who provided the training, as well as the technical committee involved, were decided at the meeting, which was attended by all structural and functional levels within the ICAT of Lembang. The flow of training implementation was also identified, beginning with the socialisation of the use of e-learning and continuing with tests, presentations and discussions, and surveys – and it was decided which sub-activities would be carried out synchronously and which would be asynchronously. At the meeting, NAM CSSTC and the MoA of Indonesia also set the date for the training.

Despite visiting ICAT of Lembang, NAM CSSTC did not visit ICAT of Ketindan, which is also a partner of NAM CSSTC in one of the agricultural training projects for Asian and Pacific countries, namely pest and plant disease control training. This is due to a spike in the COVID-19 pandemic situation in the middle of the year, forcing NAM CSSTC to make this difficult decision in order to save the lives of NAM CSSTC officials and staff from potentially preventable transmission. However, intensive coordination with ICAT of Ketindan was still carried out remotely, ensuring that the implementation of pest and plant disease control training was as successful as the trainings physically prepared with ICAT of Lembang.

This success was also supported by the fact that NAM CSSTC and ICAT of Ketindan have been working together since 2018, so the two organisations already have a shared understanding of various aspects of training implementation.

Cooperation in the Energy Sector with Universitas Gadjah Mada

Since 2016, NAM CSSTC has had a Memorandum of Understanding (MoU) and Cooperation Agreement in the energy sector with Universitas Gadjah Mada (UGM), but both instruments expired in September 2021. As a result, the NAM CSSTC accepted an invitation from the UGM Department of Engineering Nuclear and Physical Engineering (DTNTF) to determine which regulatory instruments would be used in the implementation of ASTECHNOVA in 2021: the old or the new. The NAM CSSTC's presence in Yogyakarta was carried out on March 17, 2021.

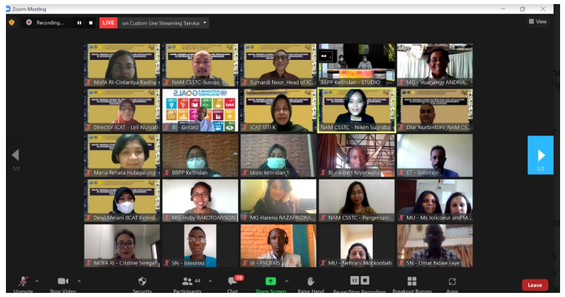
At the meeting, it was decided that the completion of the process of ratifying the MoU and the new Cooperation Agreement would be used as a basis for implementing activities in 2021.

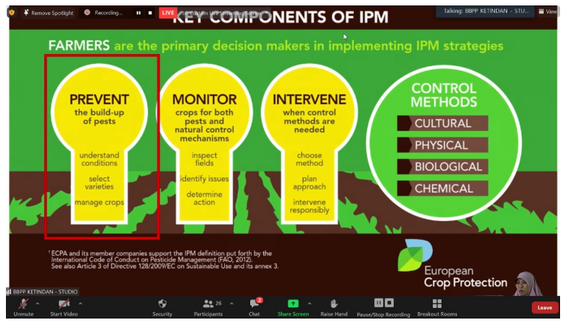
Dr. Alexander Agung, the Head of DTNTF, conveyed the idea of developing ASTECHNOVA 2021 activities to be held concurrently with the 2021 EPIC Conference. This was immediately approved by NAM CSSTC because, in addition to benefiting from efficiency terms with the addition of programmes, NAM CSSTC could also cover other fields that are indeed intersected with energy issues raised at the EPIC conference.

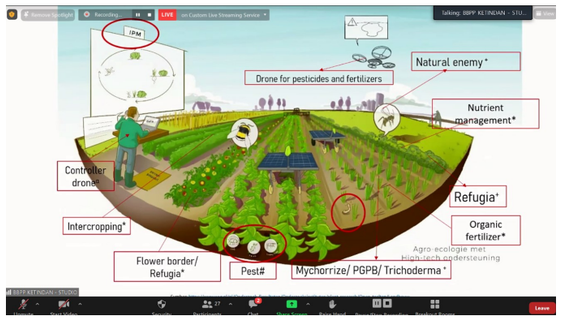
Following the meeting, the ASTECHNOVA-EPIC joint conference preparation activities be carried out remotely until the event's implementation in August 2021.

At the meeting, it was decided that the completion of the process of ratifying the MoU and the new Cooperation Agreement would be used as a basis for implementing activities in 2021.

Agricultural Training Projects for Countries in the Africa, Caribbean, Central America and South America Region







Considering the level of interest in implementing agricultural training projects for countries in the Asia and Pacific region, the Directorate of International Development Cooperation of the MoFA of Indonesia contacted NAM CSSTC in March 2021 to explore the possibility of implementing agricultural training projects for countries in the Africa, Caribbean, Central America and South America region. On March 10, 2021, the meeting was held virtually.

The meeting was a watershed moment for NAM CSSTC, allowing it to finally reach countries, particularly in South America, Central America, and the Caribbean, after many years, and NAM CSSTC greatly appreciates the MoFA of Indonesia' initiative. At the meeting, NAM CSSTC offered to provide a training project similar to that provided to countries in the Asia and Pacific region, with the caveat that the agricultural commodities sampled were grown and cultivated in the target countries.

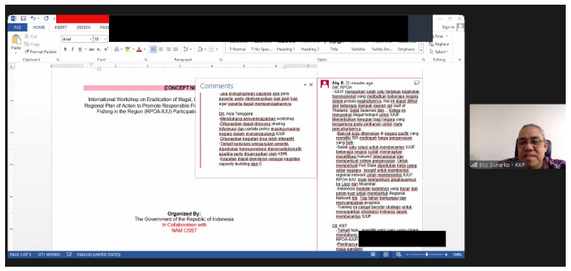
The MoFA of Indonesia supports the NAM CSSTC concept because the topics covered were relevant to the needs of the target countries in Africa, South America, Central America, and the Caribbean. The MoFA of Indonesia sought participants, while NAM CSSTC worked with experts in both the ICAT of Lembang and ICAT of Ketindan, as well as guest speakers from countries other than Indonesia.

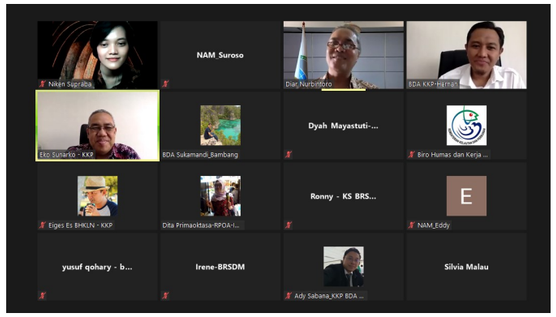
International Workshop on Eradication of IUU Fishing for RPOA-IUU Participating Countries, and Pacific Countries

On March 19, 2021, the NAM CSSTC met with the Directorate of International Development Cooperation of the MoFA of Indonesia, as well as the Ministry of Maritime Affairs and Fisheries (MMAF) of the Republic of Indonesia, which is in charge of the RPOA-IUU. During the meeting, the MAF of Indonesia requested that NAM CSSTC support the RPOA-IUU's active role in international fora in the prevention and control of IUU fishing, which was positively received by NAM CSSTC given that fisheries sub-activities in this aspect contributes to the betterment of coastal communities in NAM member countries.

The meeting's outcomes were the mechanism for implementing activities, an international workshop held online.

On April 28, 2021, NAM CSSTC met virtually with MMAF of Indonesia again, and MMAF of Indonesia submitted a proposed Concept Note that would be used as a guideline for prospective workshop participants in considering their participation. The meeting also agreed on the title of the activity, which is "International Workshop on Eradication of IUU Fishing for RPOA-IUU Participating Countries and Pacific Countries."





The meeting also determined the division of tasks for each agency, including the technical implementation of the Workshop, where each activity participant was also a presenter/speaker in giving presentations related to "Lesson of Regional Effort to Combat IUU Fishing."

On 3-4 August 2021, NAM CSSTC participated in a Focus Group Discussion (FGD) on Strengthening the Role of the RPOA-IUU, which was organised by MMAF of Indonesia, as a warm-up for the implementation of the Workshop activities as well as for the concrete action of NAM CSSTC in support of the active role of the RPOA-IUU.

Several IUU Fishing problems were identified during the FGD, and solutions were explored during a workshop held a week later, including issues related to differences in dynamics, modus operandi, and the IUU Fishing network. In addition to the issue of IUU fishing, the strength of the RPOA-IUU was presented in the FGD, with the intergovernmental agency receiving support from organisations other than NAM CSSTC, namely UNDP/ATSEA-2 and FAO-ISLME.

Improvement of the Business Administration Scholarship Programme

The bachelor's degree scholarship programme for Telkom University (Tel-U)'s Business Administration Study Programme (Tel-U) has been in operation since 2020. In 2021, NAM CSSTC focused on evaluating the scholarship and considering whether to extend it until Semester 3 and 4.

On September 6, 2021, a meeting for evaluation activities was held between NAM CSSTC, Tel-U, Indonesian Government Representatives, and scholarship recipient. During the discussion, a general overview of the dynamics of online lecture participation encountered by scholarship beneficiary was gained. NAM CSSTC identified numerous areas that need to be improved for the programme's effectiveness, one of which being the requirement for stable internet access for scholarship recipient so that she may focus on their studies in a focused and effective way.

The NAM CSSTC meeting also voted to keep the scholarship award and re-evaluate it after Semester 4 finishes.

In addition to the development of the five initiatives listed above, the NAM CSSTC held a series of coordination with various partners throughout 2021 to coordinate activities such as:

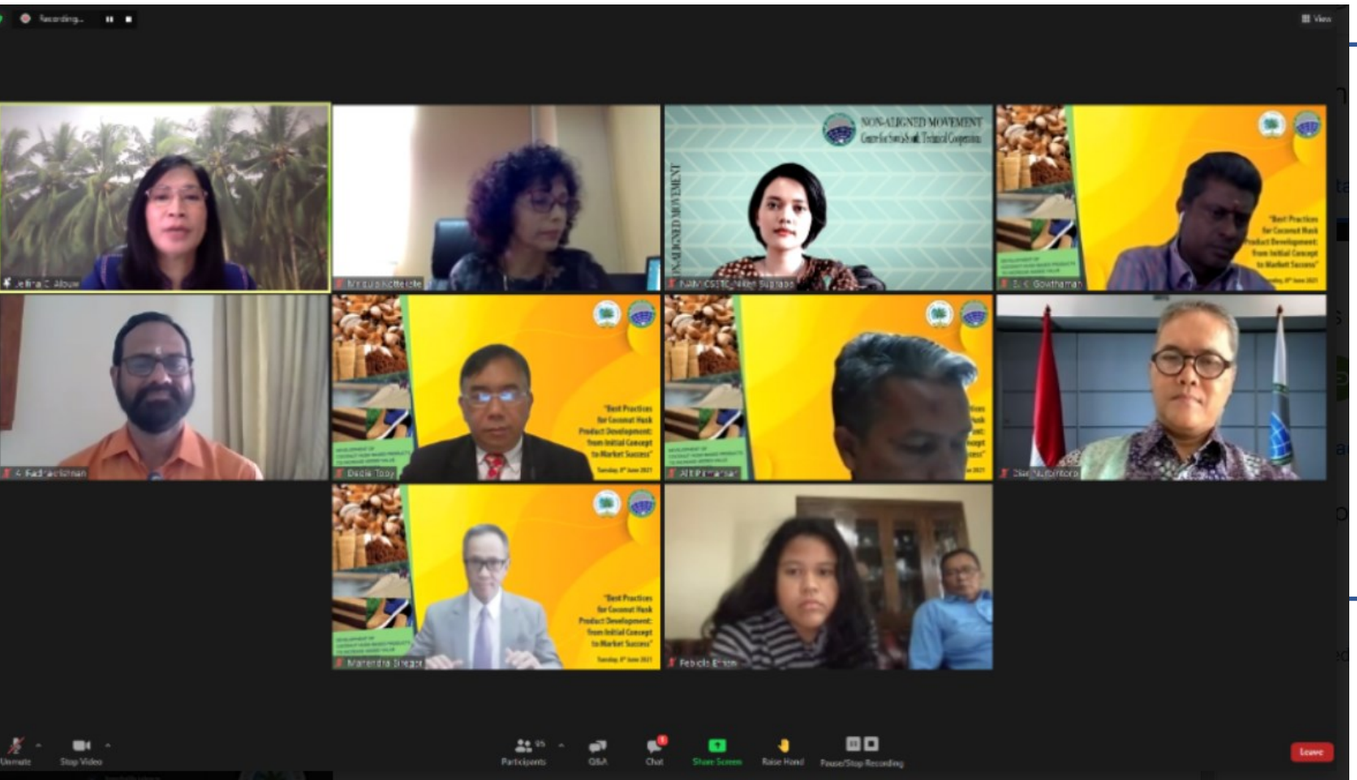
a. Coconut Development Online Training Course;

b. Webinar on Development of Coconut Husk-Based Products to Increase Added Value in the Era of VUCA: Best Practices for Coconut Husk Product Development, From Early-Stage Concept to in-Market Success;

c. Sponsorship of the “International Certificate Course for Coconut Development Officers.”

Other activities

Unlike other activities, activity development was done in stages, and NAM CSSTC believes that preparation can be done more swiftly in various modes such as e-mail, phone, or correspondence.



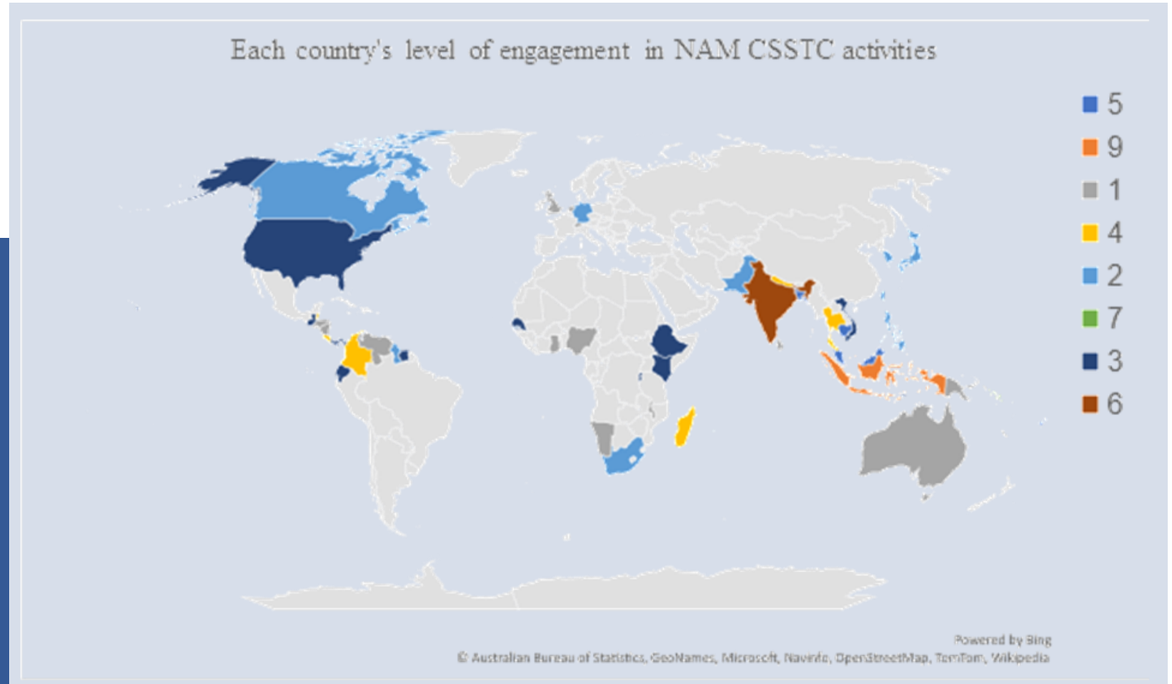
Selection of Participating Countries

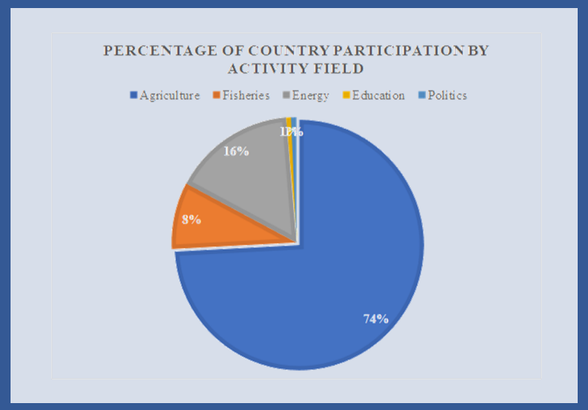
In general, all NAM CSSTC activities are open to the public from a variety of sources, including government agencies, intergovernmental organisations, universities, and the corporate sector. NAM CSSTC relies largely on data available at the MoFA-Indonesia outlining the needs of each country for a programme of activities when conducting activities with the MoFA-Indonesia.

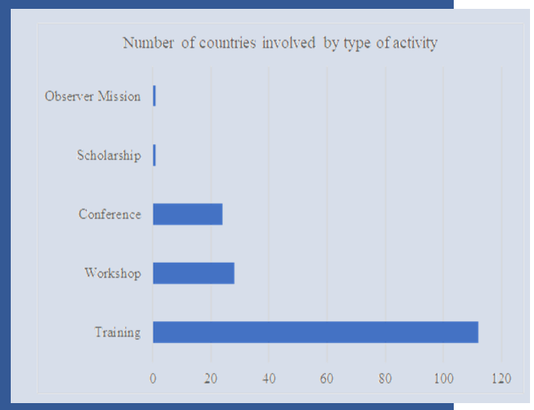
In terms of activities held with other institutions, NAM CSSTC selects participating countries using a variety of techniques, including government volunteerism in nominating prospective participants to participate in the activity, a balanced distribution of participating countries for multi-country activities, and the relevance of activities to the candidate's field of work. These factors are critical in ensuring that the activity material is well absorbed by the participants and that the participants actively participate in the activities.

Because NAM CSSTC must ensure that participants take part in a sequence of activities from a distance, the virtual activity brings its own art to the table. As a result, for activities that continue many days, NAM CSSTC always analyses the list of participating participants, and people who participate in the first session can participate in the following session, earn a certificate, and be registered as participants at the end of the activity.

The quantitative data on country involvement in NAM CSSTC activities is shown below







The Reasons for Agricultural, Fisheries, Energy, Education, and Political Programmes

High Participation Rate in the Implementation of the Agricultural Programmes

It is well known that the agriculture sector is never overlooked in the NAM CSSTC agenda of activities. Based on the preceding sub-chapter charts, it is clear that the agricultural sector was the most dominant sector in the NAM CSSTC programme of activities in 2021. The question of the chosen field to be programmed goes beyond the balance of activity distribution for NAM CSSTC.

The South-South cooperation programme in agriculture serves to strengthen international collaboration in the agricultural market, as NAM CSSTC learned at the Coordination Meeting for Strengthening the Regional Cooperation Forum, which NAM CSSTC participated on 21-22 February 2021 in Bogor, Indonesia. NAM CSSTC hopes that through including NAM member countries in South-South cooperation efforts in agriculture, it will be able to assist these countries in achieving their national objectives while also establishing regional cooperation platforms.

Agriculture, according to NAM CSSTC, is a vital axis in accomplishing development goals. Agriculture is the most potent tool for alleviating hunger, ending poverty, and establishing common prosperity. Agricultural growth can be two to four times more successful in raising people's earnings in emerging countries with plentiful natural resources. The agriculture sector is also always ready to welcome the younger generation who are not absorbed in urban employment/office work.

As a result, it is not surprising that, in the implementation of the NAM CSSTC agricultural programmes, the participation rate of participants is relatively high when compared to programmes in other fields, as shown in the graph in the previous section, which shows that in 2021, 74 percent of the total countries involved in the NAM CSSTC 2021 activities participated in the agricultural activity programme.

As a result, it is critical for NAM CSSTC to actively assist NAM member countries' efforts to promote agricultural growth in their respective countries.

According to the NAM CSSTC assessment, the following agricultural needs exist in developing countries:

1. Superior seeds with high yields and resistance to external threats;
2. Strategies for controlling pests and plant diseases that are friendly to the environment and human health, as well as agricultural products that will be consumed by the community;
3. Agricultural techniques that do not require high capital and can be done not only by a farmer but also by a community – especially in light of the COVID-19 pandemic crisis;
4. Knowledge of diverse agricultural product processes; and
5. Knowledge of marketing methods so that agricultural products can be sold on a mini market scale or even

Based on the identification of the 5 (five) needs listed above, various agricultural programme activities were developed in 2021 to meet the needs of the people of the NAM member countries. Various commodities, ranging from coconuts to vegetables, fruits, tubers, and grains, were also sampled in the programme of activities to boost participants' com-

Each visit's goal was to gain an understanding of the agricultural commodity industry's status and to gather input from stakeholders in order to determine their needs for a South-South cooperation programme in the agricultural sector.

In terms of animal husbandry, NAM CSSTC also met with the Indonesian-MoA and BAPPENAS on June 22, 2021, to discuss the feasibility of creating a programme to eradicate brucellosis in livestock goods meet export criteria.

NAM CSSTC perceives that livestock is inextricably linked to agriculture and, in particular, the environment. Human food needs and animal feed frequently overlap, and appropriate livestock management can help save water resources while also reducing the discharge of environmentally hazardous substances.

Solving Illegal, Unreported and Unregulated Fishing

In addition to agriculture, the NAM CSSTC considers the fisheries sector to be equally essential. The fisheries sector contributes significantly to development in terms of employment, food and nutrition security, and commerce. In contrast to agriculture, however, the majority of the fishing trade is made up of exports.

Given the significant economic benefits of fisheries, fisheries operations and cultivation are extremely vulnerable to exploitation or overexploitation by irresponsible parties. In addition to overexploitation, Illegal, Unreported and Unregulated (IUU) fishing is a problem that frequently afflicts countries with a high potential for fishery resources. Overfishing and IUU fishing, on the other hand, can endanger the sustainability of fisheries.

As a result, assistance in ensuring ecological and social resilience in the fisheries sector is required. One of them is a preventive attempt to reduce overfishing and IUU fishing.

This is the motive for NAM CSSTC to assist the RPOA-IUU Secretariat's efforts to combat IUU fishing in fishery product-producing countries and Pacific countries. This action is a key step toward maintaining and developing policies and regulations that assure the sector's long-term viability.

Stable and Empowered Society

In developing countries, energy is also an important aspect of people's lives. Renewable energy sources include solar, wind, geothermal, water, ocean waves, and biomass, as well as non-renewable energy sources such as petroleum, liquid hydrocarbon gas, natural gas, coal and nuclear. The type of energy chosen has an impact on the environment, as well as economic, political, and social consequences, so it is critical to raise awareness of the importance of being cautious when selecting energy sources.

Strengthening the Platform for Exchanging Information and Experiences on Renewable and Non-Renewable Energy

During the COVID-19 pandemic, energy has become increasingly important because people have become more reliant on electrical energy as their work style has shifted to working from home (WFH). In addition to work, electricity is required to power ventilators and other medical devices used by hospitals to treat patients. People rely on electricity in e-commerce transactions for online shopping because of movement restrictions.

As a result, the energy sector was one of the areas covered in the NAM CSSTC activity programme for 2021, as a manifestation of NAM CSSTC's support for energy security and sustainability in member countries. Increased collaboration with UGM, as well as the inclusion of third-party government agency such as the Indonesian National Nuclear Energy Agency (BATAN), strengthens the platform for exchanging information and experiences from countries around the world on renewable and non-renewable energy.

Education is a critical component of community development. An educated community can contribute to their family and environment in a variety of ways, promoting the development of a stable and empowered society.

NAM CSSTC maintains the education sector as an area of the NAM CSSTC programme in 2021 due to various considerations, including:

1. Increase chances of being accepted into the labour market;
2. Increase opportunities for income growth, thereby supporting the improvement of quality of life and, as a result, the economy;
3. Improve problem-solving abilities, particularly in the context of making decisions on one's own;
4. Ensure a prosperous life;
5. Contribute to the formation of a modern society;
6. Bridge ties with other countries.

Given the benefits described above, it is not incorrect to say that investing in education can help a country's future.

NAM CSSTC offers a variety of schemes for educational collaboration, including collaboration between NAM CSSTC and institutions to host a webinar with academic attendees. Similarly, as learned by NAM CSSTC during a meeting with Tel-U on April 7, 2021, in the form of giving scholarships for foreign students to pursue formal studies at institutions.

In 2021, NAM CSSTC continued to focus on assisting student from Solomon Islands with her education.

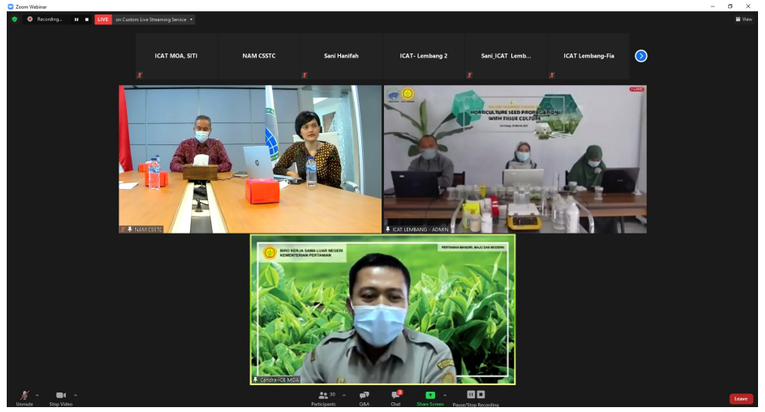
Chapter II

Discussions with Experts and Participants from Various Countries that are Enriching

Involvement of Institutions from Indonesia, Bangladesh, Fiji, and the United Kingdom in Training Implementation

The Need of Using Tissue Culture Techniques

The Non-Aligned Movement Centre for South South Technical Cooperation (NAM CSSTC), in collaboration with the Directorate of Technical Cooperation of the Ministry of Foreign Affairs (MoFA) and the Indonesian Agricultural Training Centre (ICAT) of Lembang of the Ministry of Agriculture (MoA)-Republic of Indonesia organised a training course with the title of “Online Training Course on Horticulture Seed Propagation with Tissue Culture.” There were three regional batches for the course. Training sessions for Asia-Pacific countries were held on March 22nd – 26th and April 1st, 2021, July 30th – August 4th for African countries, and August 4th -7th, 2021 for Caribbean, Central American and South American countries.



The training was attended by a total of 93 participants. Participants of the training came from a diverse background which includes government officials, extension workers, scientists, and members of the agribusiness community. Participants also came from 21 countries, which were Bangladesh, Fiji, Indonesia, Lebanon, Nepal, Pakistan, Solomon Islands and Vietnam, Barbados, Belize, Colombia, Costa Rica, Ecuador, Ethiopia, Guatemala, Guyana, Madagascar, Namibia, Panama, Senegal, and South Africa.

The training focused on tissue culture definition, fundamental culture theory, the strengths and disadvantages of tissue culture, a tissue culture lab, phases of tissue culture, culture media, and growth. The series of training was given by experts from the ICAT in the area of tissue culture media. Results of tissue culture explant management and acclimatisation were also presented at the virtual training. A variety of digital methods, including e-learning, video conferencing and video streaming were utilised throughout the sessions.

The training emphasised the need of using tissue culture techniques, namely to preserve plantation features, protect the plantation from infections and viruses, and provide seasonal flexibility. It also emphasised the need of using tissue culture techniques for plants with high economic value and that meet soil conditions.

Experts from Indonesia shared knowledge on how to build up a Tissue Culture laboratory, including the necessary parameters such as sterility, humidity, and adequate airflow.

They also informed participants about tissue culture media made from Morishige or Potato Dextrose Agar. Aside from Morishige or Potato Dextrose Agar, it was also discovered that culture media can also be made out of distilled water mixed with nutrients and other plant-growth-promoting chemicals.

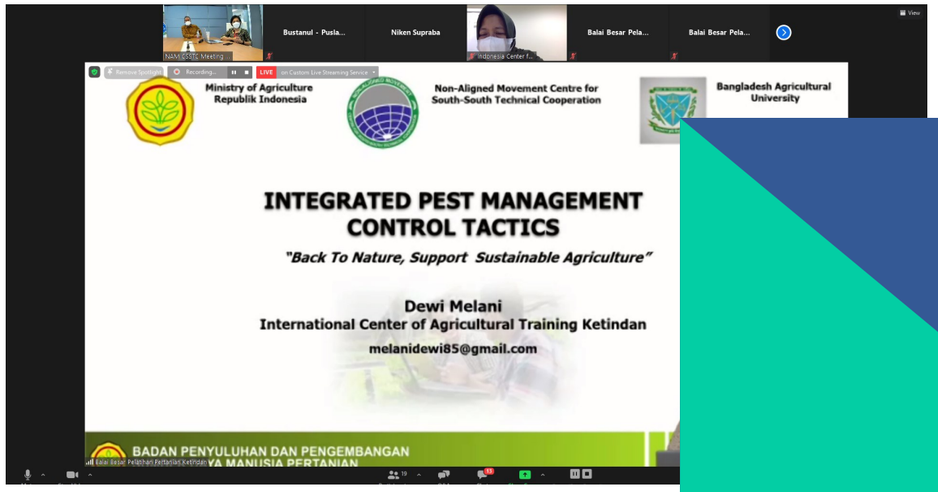
Finally, the trainers demonstrated how to transplant the plant to the field, which necessitates a gradual acclimatisation process. Acclimatisation also includes the use of fungicide to sterilise the plantlet in order to protect it from fungal contamination.

A Bangladeshi Expert Shared His Knowledge in Integrated Pest and Disease Management

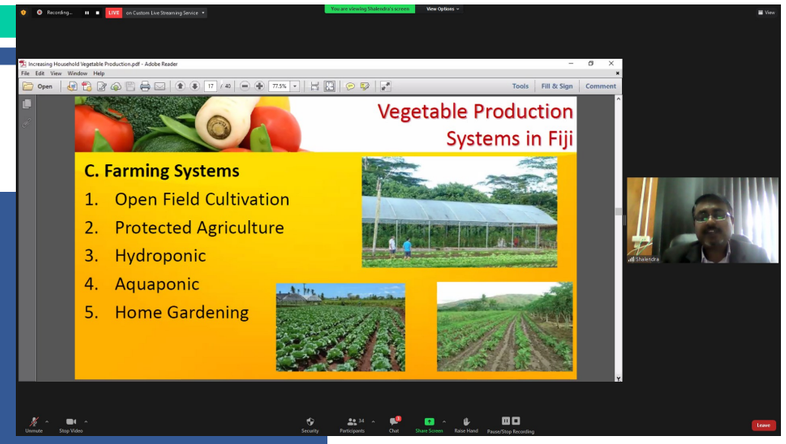
From April 29th to 30th, 2021, the NAM CSSTC, in collaboration with the MoA – Republic of Indonesia and Bangladesh Agricultural University, presented a “Online Training Course on Principals and Applications of Integrated Pest and Disease Management (IPDM) in the Tropics.” Separate but identical training was also held with MoFA – Republic of Indonesia for African countries from August 25th to 27th, 2021, and for Caribbean, Central American and South American countries from August 31st to September 2nd, 2021.

A total of 75 people from 25 countries attended the training, including government officials, academics, and private sector representatives from Bangladesh, Cambodia, Fiji, India, Indonesia, Malaysia, Nepal, Solomon Islands, Barbados, Belize, Burundi, Colombia, Costa Rica, Ecuador, Ethiopia, Guatemala, Madagascar, Malawi, Mauritius, Panama, Rwanda, Senegal, South Africa, Suriname, and Tanzania.

The course was organised with the urgency of inventing tools to integrate appropriate activities that prevent the growth of pests and plant diseases, as well as other treatments, into economically justified levels while minimising dangers to human health and the environment in mind. This is referred to as IPDM. The training focused on ecologically based IPDM, integrated tactics in pest management, crop protection issues, and disease management of agriculture plants.

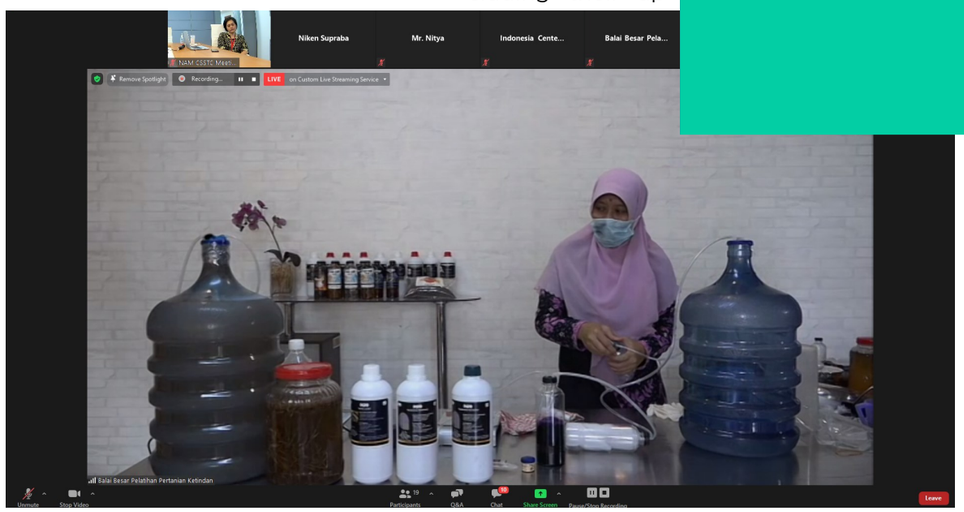


Fijian Speaker Shared His Experiences with Peers from Asia and the Pacific

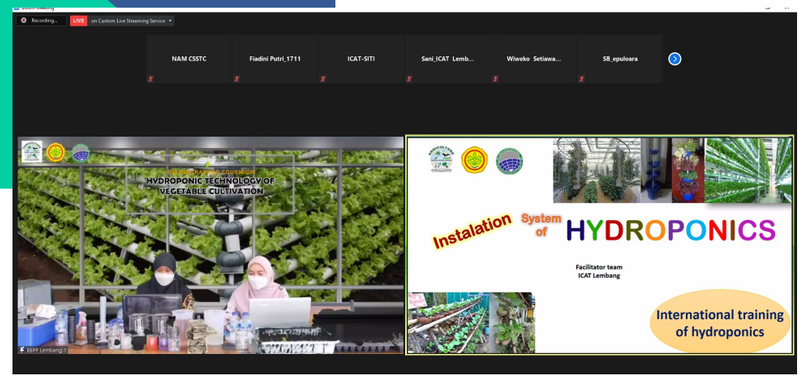


The training was given by experts from the governmental and higher education institutions in the field of IPDM. Wide range of digital methods were used, including e-learning, video conferencing and virtual simulations.

The experts explained how to detect a pest as well as the initial steps to managing it, one of which is soil testing. They next moved on to the topic of botanical pesticides, including their ap-



The MoAs of the Government of Fiji and the the Republic of Indonesia, in collaboration with the NAM CSSTC, hosted a “Online Training Course on Hydroponic Technology of Vegetable Cultivation” for Asia and Pacific countries on the May 27th-28th, 2021. Separately, comparable training was organised with the MoA and the MoFA of the Republic of Indonesia on the September 27th and 28th, 2021 for African countries, and on the September 29th and 30th, 2021 for Caribbean, Central American and South American countries.

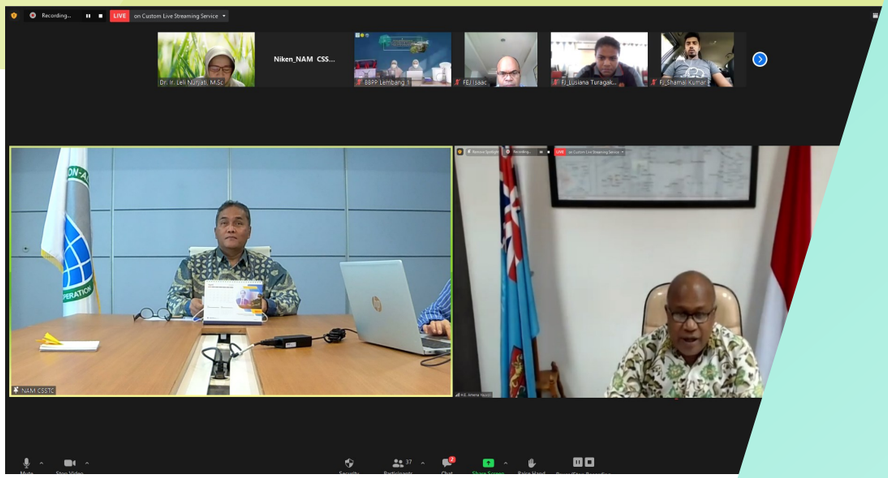


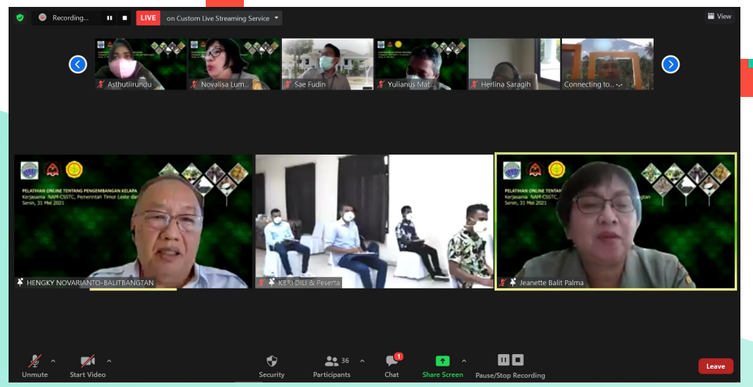
Experts from the MoA of the Government of Fiji and the MoA of the Republic of Indonesia guided the virtual training for Asia and the Pacific, while experts from the MoA of Indonesia guided the training for African, Caribbean, Central American, and South American countries. The training utilised e-learning and video resources besides the actual engagement with trainers throughout the session. The courses were focused on management and maintenance of hydroponics.

Dissemination of In -Depth Coconut Development Knowledge

A total of 97 participants attended the training, which included government officials, academics, and private sectors. Bangladesh, Cambodia, Fiji, India, Indonesia, Nepal, Solomon Islands, Belize, Burundi, Colombia, Costa Rica, Ecuador, Gambia, Guatemala, Guyana, Kenya, Madagascar, Mauritius, Nigeria, Panama, Rwanda, Suriname, and Tanzania were among the 24 countries represented.

The training began with a discussion of the larger application of hydroponic technology for agriculture. It then went on to discuss the benefits of adopting hydroponic systems, particularly in areas where there is a scarcity of water for agriculture. It also touched on the many types and characteristics of hydroponic systems. The trainers next went over the nutrient content of the hydroponic crops in great detail. The nutritional mechanics of vegetables cultivated hydroponically were discussed. The experts then offered in-depth explanations of the factors that should be considered in hydroponic cultivation. Finally, one country representative finished the discussion by outlining his government's position on vegetable cultiva-





The NAM CSSTC held “Coconut Cultivation Online Training” on May 31, 2021, in collaboration with the Indonesian Palmae Crops Research Institute (IPCRI) – MoA of the Republic of Indonesia.

The programme covered all areas of coconut agriculture, including superior coconut seed identification; coconut plantings, technology and improvements; coconut pest management and coconut diseases; and coconut products diversification and commercialisation in Timor-Leste.

The training was facilitated by experts from IPCRI. A range of digital techniques were utilised, including interactive communication with the trainers, e-learning and video materials. The training was attended by a number of governmental officers and entrepreneurs as well as Timor-Leste coconut producers.

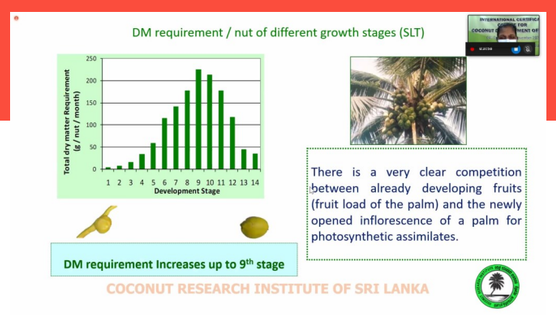
The discussion was divided into three sections. First, the participants were instructed on how to pick the best coconut seed with high yield potential and climatic adaptability, as well as how to further develop the seed. The second topic centred on techniques for treating and preventing coconut diseases. Lastly, opportunity for further bilateral cooperation in the exports of coconut and coconut-derived products was also discussed in detail.

Speaker from Northern Country Attend to Share Halal Labelling Knowledge

Taking place into different months and countries, the NAM CSSTC offered sponsorships to participants from Cambodia, Indonesia, New Caledonia, and Vietnam to attend the International Coconut Community (ICC) and the Coconut Research Institute (CRI) of Sri Lanka's "International Certificate Course for Coconut Development Officers" from October 4 to November 5, 2021.

The sponsorship was aimed to improve coconut producers' capacities and know-how to make value-added coconut products and also assist coconut-producing countries to meet their national development goals.

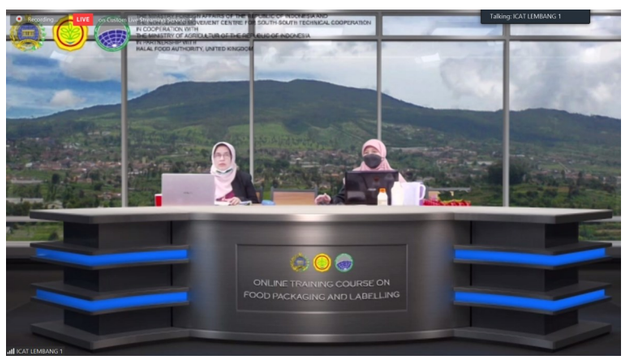
The course taught participants how to manage seedlings, plant pests, and coconut production through intercropping, as well as apply knowledge of replanting.



The “Online Training Course on Food Labelling and Food Packaging” was co-hosted by the Indonesian Centre for Agricultural Training (ICAT) of Lembang, the MoA, the MoFA of the Republic of Indonesia, and the Halal Food Authority of United Kingdom. The training was divided into three regional sessions. The training took place on the 29th and 30th of June 2021 for Asia-Pacific countries; on the 25th and 29th of October 2021 for African countries, and between the 1st and 5th of November 2021 for Caribbean, Central American, and South American countries.

The courses focused on food packaging, food labelling and halal-labelling and were guided by experts from the ICAT in Lembang and the Halal Food Authority, United Kingdom. Actual engagement with trainers, e-learning and video resources were utilised in the training.

The courses were attended by 84 people from 23 different countries, including Belize, Burundi, Colombia, Costa Rica, El Salvador, Ethiopia, Gambia, Honduras, Kenya, Madagascar, Nicaragua, Panama, Rwanda, Suriname, Tanzania, Cambodia, Fiji, India, Indonesia, Nepal, Pakistan, Solomon Islands, and Timor-Leste.



The discussion of the Asia-Pacific session commenced by the application and utilisation of wax coating for food exports. The training was concluded by discussion on food labelling regulation and requirements.

The discussions of the African, Caribbean, Central American, and South American countries were started by an explanation of how to apply for halal certification. Following that, the trainers informed the trainees about the use of polymer packaging for food. The discussions were subsequently followed by an examination of the application of wax covering to exported fruits. Finally, the discussions were ended by delving further into international and national labeling guidelines.

Promoting International Cooperation in the Development of Agriculture, Energy Security

Sustainable Coconut Development

On 8th of June, 2021, ICC and NAM CSSTC organised "Webinar on Development of Coconut Husk-Based Products to Increase Added Value in The Era of VUCA: Best Practices for Coconut Husk Product."

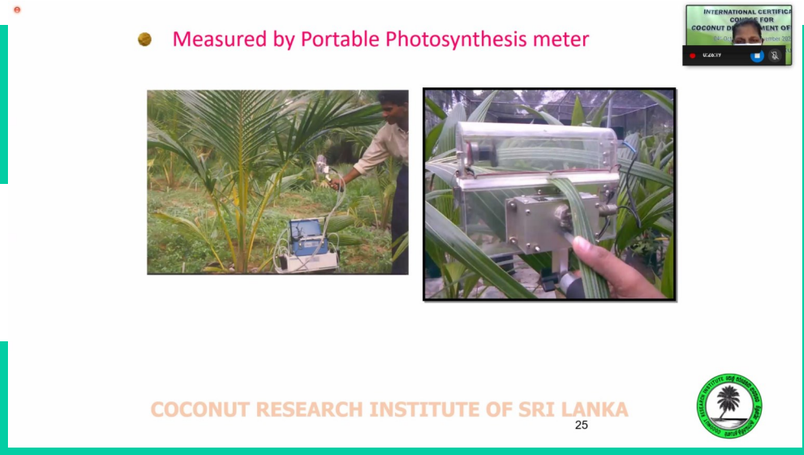
The webinar's overarching goal is to foster collaboration in order to support the achievement of sustainable coconut development goals in coconut producing countries, as well as the development of coconut products to increase added value in an era of volatility, uncertainty, complexity, and ambiguity (VUCA).

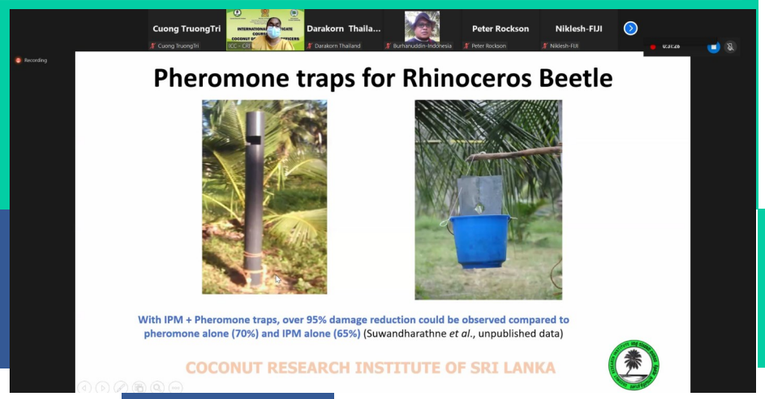
The webinar invited prominent government officials, researchers, and coconut product entrepreneurs from India, Indonesia, and the Netherlands to share their experiences in processing coconut husk into diverse goods. International participants came from Fiji, Ghana, India, Indonesia, Kenya, Malaysia, Micronesia, the Netherlands, the Philippines, the Solomon Islands, Sri Lanka, Switzerland, Thailand, the United Kingdom, and the United States.

The webinar discussion yielded the following major points: players focused on the development of coil boards must assure long-term high-speed manufacturing; India has conducted a feasibility study in the development of coconut husk-based cottages and geotextiles; and The Scientific Research Centre or the government can provide clear instructions on how to use coconut husk.

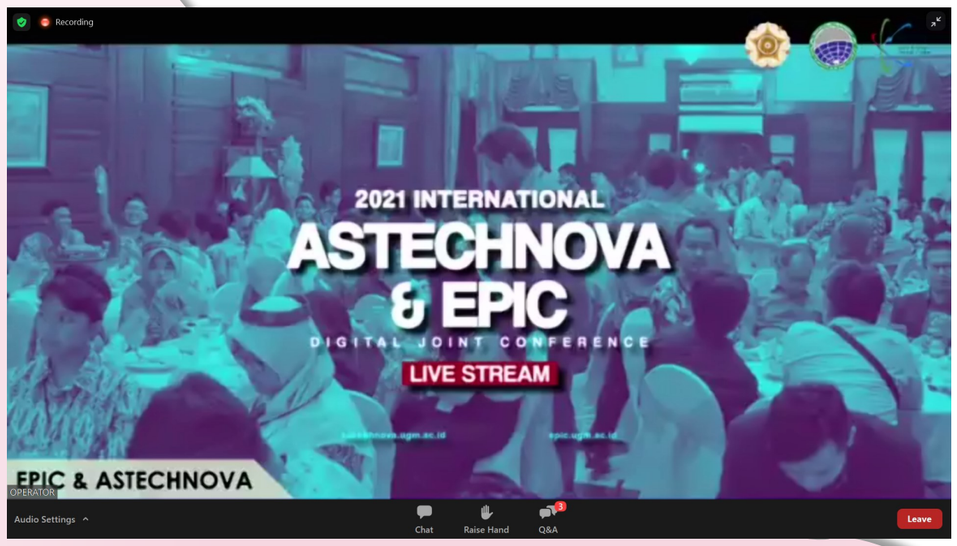
The collaboration with ICC in 2021 did not end with the holding of a webinar, because in October 2021, NAM CSSTC partnered with ICC once more to organise training in the coconut sector for one month.

ICC, in collaboration with the Coconut Research Institute (CRI) of Sri Lanka, held a “International Certificate Course for Coconut Development Officers” from October 4 to November 5, 2021. NAM CSSTC sponsored the attendance of participants from Cambodia, Indonesia, New Caledonia, and Vietnam to learn from Sri





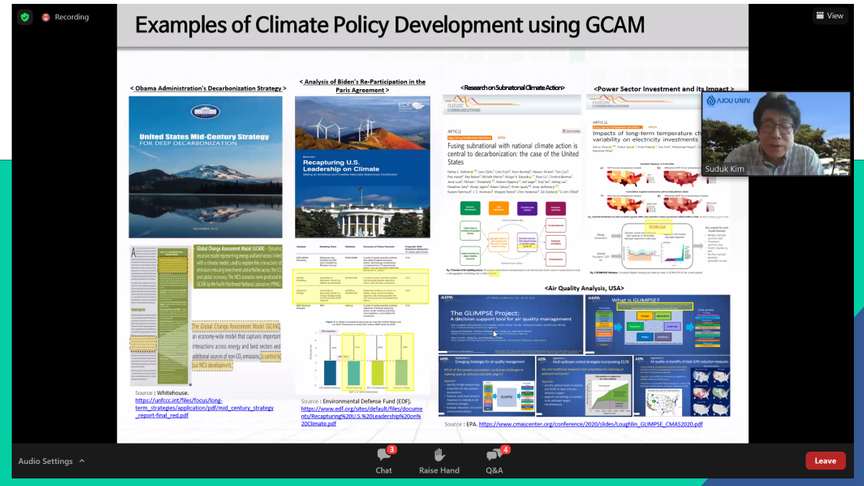
National and Global Energy Security



The EPIC-ASTECHNOVA 2021 international joint conference was organized by Universitas Gadjah Mada (UGM) in partnership with the NAM CSSTC and the Indonesia National Agency for Nuclear Energy and took place on August 24th and 25th, 2021.

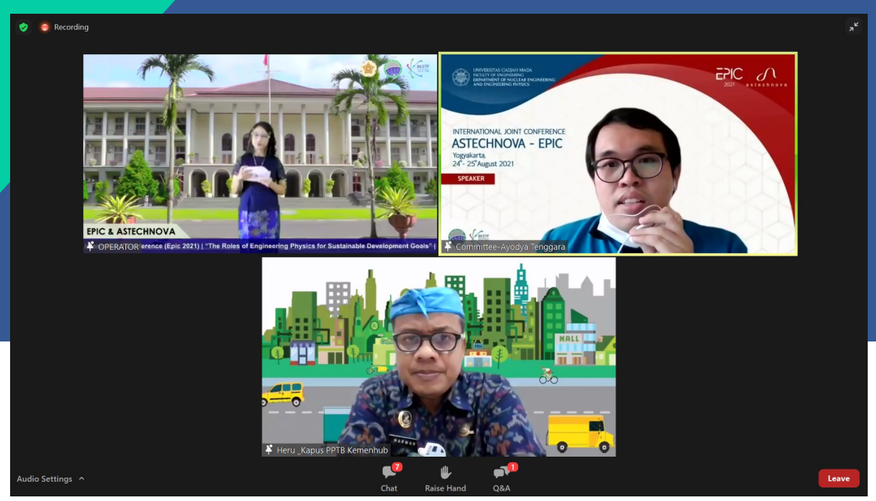
The conference was held to help bridge and accommodate the span of renewable energy research and development. This conference brings together a huge number of academics, scientists, engineers, and professionals from around the world. 197 people from Bangladesh, Canada, Germany, India, Indonesia, Japan, Malaysia, Singapore, South Korea, Taiwan, Thailand, and the United States attended the conference.

The conference also invited experts from Bangladesh, Belgium, Germany, Indonesia, Japan, Malaysia, South Korea, United Arab Emirates and the USA to share the latest ideas and experiences through informative research on technological progress which will guarantee national and global energy security.



The discussion of ASTECHNOVA conference was divided into four topics. The first topic was alternative building, in which the speaker explored ways to incorporate climate change consideration in building design. The second topic was material selection for green construction, in which the speaker addressed a plan to develop thermally-adaptive living spaces in tropical climates with minimum costs. The third topic concerned with United Arab Emirates (UAE) Nuclear Strategy, which discussed lessons learned from UAE nuclear energy policy. Finally, the conference concluded by examining Korea's commitment to addressing climate change.

The EPIC conference consisted of seven topics. The first discussion explored ways of incorporating smart sensors in the 4.0 industry standard. The second session focused on the Fukushima Innovation Coast Framework, a Japanese government programme aimed at reclaiming lost businesses in the Fukushima coastline area through the development of renewable energy sources. The third discussion focused on the application of technology in healthcare through the structural health monitoring systems. The discussion then moved on to the fourth issue, which was the use of nanomaterial technology in Tribo-Electric Nano Generators (TENG). The fifth topic presented an explanation of how ultrafast lasers are used in industry. The sixth topic centred on the wide range of applications for Metal Organic Frameworks (MOFs). Finally, the conference finished with a discussion of how to achieve a green energy transition.



Chapter III

Increased Possibilities for Interaction with a Wider Range of Partners

The Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC) is active in networking activities in addition to arranging programme events. Networking efforts are carried out through the participation of NAM CSSTC in activities organised by partner institutions. These networking activities, according to NAM CSSTC, provide a more comprehensive awareness of the nature and functioning mechanisms of partner institutions, which will improve the implementation of joint programmes by boosting solidarity.

Networking activities are also critical to NAM CSSTC's growth. Networking activities allow NAM CSSTC to meet and get acquainted with institutions it has never met before, as well as attend activities held by partner institutions. NAM CSSTC also took advantage of this chance to present itself to a larger audience.

Networking activities serve numerous functions, including establishing long-term partnerships with partners and establishing a positive reputation.

Opportunities for MSMEs in Southeast Asia

NAM CSSTC witnessed the inauguration of the ASEAN Access portal and the socialisation of the Indonesian National Small and Medium Enterprises (SMEs) site on June 16, 2021. The portal was created by the Indonesian Ministry of Cooperatives and SMEs in collaboration with Deutsche Gesselschaft fur Internationale Zusammenarbeit (GiZ) as an information platform and commercial partnership for ASEAN SMEs development.

Looking at the connections between the SME sector and the NAM CSSTC programme of activities, the NAM CSSTC believes that the presence of the ASEAN Access portal can provide opportunities for MSMEs from NAM member countries in Southeast Asia to explore markets and interact with a broader range of partners.

Joining the COCOTECH Conference with other 160 ICC Member Country Participants

From August 30 to September 2, 2021, the ICC hosted the "49th International COCOTECH Conference & Exhibition." 160 people from various ICC member countries attended the event, including speakers from the Philippines, Indonesia, India, Australia, Belgium, Mexico, Tanzania, Singapore, Thailand, Malaysia, Fiji, Jamaica, and Sri Lanka. Speakers from UNESCAP were also present. The participation of NAM CSSTC in the COCOTECH Conference allows NAM CSSTC to get an understanding of the dynamics of the global market for coconut goods.

According to the speakers, the worldwide market for coconut goods would rise at a rate of 12.5 percent per year between 2020 and 2026. This expansion can be fuelled by good coconut utilization, such as maximizing coconut flour extrusion goods and utilizing coconut land with food crops for the community with a high economic value. Furthermore, other tactics, such as biotechnology, particularly coconut culture, age, and size of explants, as well as the physiology of donor explant products and endogenous plant growth regulators in explants, can be applied.

Collaboration Programme with ICC for 2022

NAM CSSTC attended an ICC meeting in Nusa Dua, Bali, on December 17, 2021, to discuss the ICC collaboration programme for 2022.

During the meeting, the NAM CSSTC proposed holding a symposium on harmonized coconut quality standards. Furthermore, from the ICC's standpoint, NAM CSSTC is requested to recommend foreign experts in the coconut business who are known to NAM member countries.

Exploring the Provision of Capacity Building Support to Namibia

On December 14, 2021, NAM CSSTC attended a meeting hosted by the Indonesian Embassy in Windhoek. The purpose of the conference was to bridge the meetings of NAM CSSTC, Gadjah Mada University (UGM), and the University of Namibia (UNAM) to explore the provision of capacity building support to Namibia.

NAM CSSTC presented the theme of capacity-building assistance for UNAM during the meeting, which includes:

a. energy conservation training;
b. face-to-face training in tissue culture techniques; and
c. other activities that support efforts to strengthen the Asian-African university network.

The approved activities are scheduled to take place in 2022, with UGM experts participating.

NAM 60th Anniversary Side Event

In 2021, the Non-Aligned Movement celebrated the 60th anniversary of its formation at the inaugural NAM Summit in Belgrade in 1961. The NAM CSSTC attended the event "Online Public Discussion: 60 Years of the Non-Aligned Movement: The Past, Now, and Future," which was held hybrid at the University of Belgrade.

In the activity, NAM CSSTC provided an overview of the dynamics of South-South Technical Cooperation implementation during the COVID-19 pandemic, as well as NAM CSSTC's commitment to always make all 120 NAM member countries benefit from NAM CSSTC's programme implementation.

Becoming an International Overseer during a Regional Election in a Member Country

Delegations from the NAM CSSTC agreed to send an Observation Mission to Venezuela at the invitation of the President of the National Election Commission (NEC) of Venezuela. On November 14, 2021, the Mission landed in Caracas, Venezuela. It consisted of three observers (Diar Nurbintoro, Niken Supraba and Eddy Supriyatno).

The delegates had stayed in the nation until November 23rd, 2021. Each of the three NAM CSSTC delegations was overseeing five polling stations: Escuela Municipal Juan Manuel Cajigal, Colegio Canigua, UENB La Union, Colegio Claret, and Luceo Nacional Alejo Fortique, which each had over 1,000 registered voters. The NAM CSSTC delegates noticed that the election was calm and that the rules and procedures were followed in an orderly way.

The NAM CSSTC determines the goals of the activities in each programme through consultation with the implementing partners, which is based on demand from NAM member countries. The goals are also aligned with the NAM CSSTC and implementing partners' vision, missions, and targets, and have been made more specific to correspond with the field conditions in carrying out the activities.

Chapter IV
Evalua-

Evaluation with specific goals

No.	Goals	Achievement Indicator(s)
1.	Learning about the latest development in agriculture	The increase of pre-test and post-test score; The participants were evidently able to explain the materials delivered by trainer(s)/ speaker(s).
2.	Sharing of experience through material delivery from agricultural trainer (s)/researcher(s)	Total number of participants; Time duration invested in QnA/interactive session.
3.	Understanding the issues, challenges, and opportunities on agriculture and energy	Materials' substances which highlight the issues.
4.	Expanding opportunities for agricultural and energy research collaboration	Speaker(s) and participants background diversification.
5.	Scientific publication	The number of citations received for papers presented at the conference.

Based on the aforementioned indicators, some findings of the evaluation of the NAM CSSTC activities' implementation in 2021 fiscal year are as follows:

Programme	Value
The increase of pre-test and post-test scores	
Tissue Culture – Asia-Pacific	44.81%
Hydroponic – Asia-Pacific	38.99%
Tissue Culture – Africa & America	86.13%
Hydroponic – Africa & America	40.45%
FPL – Africa & America	48%

Participants' abilities to re-explain materials delivered by trainer(s) or speaker(s)	
Tissue Culture – Asia-Pacific	✓
Hydroponic – Asia-Pacific	✓
Tissue Culture – Africa & America	✓
Hydroponic – Africa & America	✓
FPL – Africa & America	✓
CDO Training	✓

Total number of participants	
Tissue Culture- Asia-Pacific	41
IPDM-Asia-Pacific	22
Hydroponic - Asia-Pacific	30
Coconut Cultivation for Timor-Leste	15
FPL - Asia-Pacific	57
Tissue Culture – Africa & America	52
IPDM – Africa & America	53
IUU Fishing Workshop	42
Astechnova-EPIC	197
Hydroponic – Africa & America	67
FPL – Africa & America	27
CDO Training	4

Q&A time duration	
Tissue Culture- Asia-Pacific	360m
IPDM-Asia-Pacific	120m
Hydroponic - Asia-Pacific	120m
Coconut Cultivation for Timor-Leste	45m
Webinar on Coconut Husk	30m
FPL - Asia-Pacific	150m
Tissue Culture – Africa & America	180m
IPDM – Africa & America	180m
IUU Fishing Workshop	120m
Astechnova-EPIC	90m
Hydroponic – Africa & America	180m
FPL – Africa & America	240m
CDO Training	180m

Participants' background diversification	
Tissue Culture- Asia-Pacific	38.109375
IPDM-Asia-Pacific	7.6875
Hydroponic - Asia-Pacific	14.204082
FPL - Asia-Pacific	105.85938
Tissue Culture – Africa & America	16.615385
IPDM – Africa & America	3.7508651
IUU Fishing Workshop	4.2
Hydroponic – Africa & America	9.349481
FPL – Africa & America	1.6266667
CDO Training	0

Speaker(s)' background diversification	
Tissue Culture- Asia-Pacific	4 Indonesians
IPDM-Asia-Pacific	5 Indonesians, 2 Indians, 1 Holland
Hydroponic - Asia-Pacific	2 Indonesians, 1 Fijian
Coconut Cultivation for Timor-Leste	7 Indonesians
Webinar on Coconut Husk	3 Indonesians, 1 Indian,
FPL - Asia-Pacific	4 Indonesians
Tissue Culture – Africa & America	3 Indonesians
IPDM – Africa & America	3 Indonesians
IUU Fishing Workshop	2 Indonesians, 2 Australians, 1 New Zealander, 1 Thai, 2 British
Astechnova-EPIC	Bangladesh, Belgium, Germany, Indonesia, Japan, Malaysia, South Korea, United Arab Emirates and the USA.
Hydroponic – Africa & America	3 Indonesians
FPL – Africa & America	4 Indonesians, 1 British
CDO Training	27 Sri Lankans

Scopus indexed citation count	
Astechnova-EPIC	46

Based on the preceding data, it can be summarised as follows:

1. The score of participants increases by an average of 51.68% percent per programme. This demonstrates that participants' knowledge has increased when compared to their level of knowledge prior to participating in the training.
2. Participants can re-explain the material/knowledge they have acquired to others. This demonstrates that participants can already assess the needs of colleagues in the workplace who have not attended the training and understand teaching strategies that will greatly assist in transmitting and applying their knowledge to an increasing number of people in their countries.
3. The implementation of NAM CSSTC South-South cooperation programme throughout 2021 benefited a total of 607 people. This also demonstrates an average of 50 participants per programme. Five of the 12 programmes recorded had a higher-than-average number of participants.
4. The average background diversification of participants (by country) is 20.14, with the lower value indicating that the participants' backgrounds are more diverse. Eight of the ten programmes recorded have a higher level of diversification than the average.
5. Throughout 2021, experts from 17 countries shared their knowledge and experiences with participants from other countries.
6. There have been 46 citations for scientific works resulting from NAM CSSTC activity with partners. This demonstrates that the reputation of the activity carried out is growing, and the research published in these scientific journals is gaining attraction.
7. The average length of interactive sessions with participants in 153 minutes. Six of the 13 programmes have above-average interactive sessions. Aside from that, there are programmes in which participants are encouraged to be more active by giving presentations, as in the IUU Fishing Workshop programme and the Astechnova-EPIC Conference.

Contribution to achieving the Sustainable Development Goals (SDGs)

SDG 2: Zero Hunger

The majority of tissue culture for hydroponic plants training discusses how to increase the production of high-quality hydroponic plants and can be done by anyone. High production will solve at least half of the problem of insufficient fruit and vegetable consumption, which is very beneficial in increasing human micronutrients (vitamins and minerals), ultimately contributing to the achievement of SDG 2 related to Zero Hunger.

SDG 7: Affordable and Clean Energy

The Astechnova-EPIC programme brought together key stakeholders from Governments, the private sector, and civil society to engage in a dialogue that emphasised the integrated and cross-cutting nature of sustainable energy – as demonstrated by combining civil engineering related conference to the Astechnova energy conference, and the roles of both fields in supporting the achievement of SDG 7 related to Affordable and Clean Energy. It was focusing on the discussion and call for papers relating to the energy sector, particularly new and renewable energy, energy conservation and efficiency, and energy security. The programme encourages international cooperation on clean energy research.

SDG 8: Decent Work and Economic Growth

Most NAM CSSTC programme activities take the form of training, giving participants the opportunity to learn skills that will help them advance in their careers. Training costs are also borne by NAM CSSTC and partners, allowing individuals who were previously unable to pursue formal education due to financial constraints to learn the skills required to improve their qualifications. The International Certificate Course for Coconut Development Officers programme is one example. Other NAM CSSTC activities programme related to the food and agriculture sector, namely Tissue Culture, IPDM, hydroponic, coconut cultivation, and food labelling and packaging, helps beneficiaries to attain technological upgrading and innovation. These will lead to economic growth, economic productivity enhancement, and resources efficiency in accordance with Target 1 - 4 of SDG 8 related to Decent Work and Economic Growth.

SDG 13: Climate Action

Climate change is linked to the Astechnova-EPIC 2021 topic. The advanced research on clean energy will assist the mitigation of climate change mitigation and impact reduction, as stated in SDG 13 related to Climate Action.

SDG 14: Life Below Water

The IUU Fishing Workshop is aimed to enhance the understanding in the prevention and eradication of illegal, unreported, and unregulated (IUU) fishing, and to enhance the cooperation in the prevention and eradication of IUU fishing. The workshop objectives and output would eventually help the participating countries to end IUU fishing, as one of the targets of SDG 14 related to Life

SDG 12: Responsible Production and Consumption

All of the 2021 NAM CSSTC activities programme have the same goal: to achieve the sustainable management and efficient use of natural resources. Particularly in tissue culture, IPDM, hydroponic, coconut cultivation programme, those assist the achievement of Sustainable Food System on the 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP). Those activities programmes are suitable for the achievement of SDG 12 related to Responsible Production and Consumption.

SDG 17: Partnership for the Goals

All of the 2021 NAM CSSTC activities programme has encouraged and enhanced international cooperation in technology, capacity building, and systemic issues, particularly through South-South technical cooperation. The South-South technical cooperation will increase the achievement of all the SDGs. This will greatly contribute to the achievement of targets on SDG 17 related to Partnership for the Goals.

Chapter V
Conclusion

All of the NAM CSSTC programmes for 2021, as fully stated in NAM CSSTC periodic reports, have been comprehensively summarised in this annual report to provide information required by member countries, working partners, and future working partners.

NAM CSSTC always prioritize transparency and accountability in all of its activities, including in the reporting process. All of the information and data provided in this annual report is collected and analysed first-hand by reliable staffs and workers on their respective fields. In addition, we collaborated with partners to review and provide feedback for the programme evaluation. We are confident that the information and data contained in this annual report are accurate and reliable.

The report on this document demonstrates how NAM CSSTC is always eager to improve in all activities. We evaluate our programme by conducting post-event survey to our beneficiaries. In general, we were able to greatly satisfy our beneficiaries, with an overall satisfaction rate of more than 80%.

However, improvement is still required in several aspects. For example, in several activities programme, the clarity of the contents delivered and convenience in Zoom meeting arrangement aspects was assessed below 80 per cent by participants. Participants from Asia-Pacific countries expressed the lowest level of satisfaction with these two aspects (68 – 70 per cent).

Thus, in order to improve overall and individual levels of satisfaction, we recommend things as follows:

a. All programme activities in Asia-Pacific countries should have simple and comprehensive content.

b. A fixed list of participants should be obtained as soon as possible as a reference to build content that fits the participants' features and backgrounds. Furthermore, it is worth considering providing interpreter services so that participants who have difficulty learning in English can still participate in the training.

c. While training is intended to provide participants with specific knowledge and skill sets, it is important to provide introduction material to put a basic knowledge (ground concept, definitions, functions, principles, etc.) so that there is a smooth transition from the basic knowledge to the specific knowledge that is the highlighted topic for the training.

d. Case studies should comprise the majority of the content because they will help participants understand and relate to the training content.

e. Furthermore, in light of the Covid-19 situation, we recommend more on-site programme to improve programme results and the quality of interaction among NAM member countries.

Annex

No.: 62/NAMCSSTC/IV/2021

Date: 20th of April, 2021

Programme Activity Report: Online Training Course on Horticulture Seed Propagation with Tissue Culture, 22nd – 26th of March, 2021 and 1st of April, 2021

List of Trainers/Facilitators (*alphabetically sorted*):

Abd. Rohim, S.P., M.P.

Abd. Rohim has received several training sessions on the field of quality management system for training facilities and seeding. He is an Associate Expert Lecture at the Ministry of Agriculture of the Republic of Indonesia (MoA)'s Indonesian Centre Agricultural Training-Lembang. In various international activities, he has been an international speaker for the training of farmer's trainers, for the tissue cultural training, for the workshop on added value and the dispatch of experts to the Philippines, Taiwan and Uzbekistan.

Bustanul Arifin Caya

Bustanul Arifin Caya has over three years of experience in leading units in the MoA. He has development management and technology expertise. He has significant leadership experience in agricultural equipment, machinery and agriculture training. He is the Director of the Centre for Agricultural Training of Indonesia. The area of work in which he is interested is Linear Programme Engineering.

Fiadini Putri, M.Sc.

Fiadini Putri has more than ten years' experience in training and teaching human resources working in agriculture. She is an agronomist and horticultural specialist. She has extensive professional experience in horticulture, global trends, research, inorganic nutrients and secondary metabolites of plants. She trains in acclimatisation as part of tissue culture technology.

Sani Hanifah, SP., MP.

Sani Hanifah has over 15 years of experience in training and teaching agricultural human resources. She is an agronomist. She has extensive professional experience in horticulture and tissue culture. As part of tissue culture technology, she trains in tissue culture media.

List of Countries (*alphabetically sorted*):

No	Country	Number of Person(s)
1.	Bangladesh	1
2.	Fiji	5
3.	Indonesia	11
4.	Lebanon	1
5.	Nepal	1
6.	Pakistan	1
7.	Solomon Islands	19
8.	Vietnam	2
	Total	41

Distribution of Participants' Background

No	Background	Percentage
1.	Government	85.37%
2.	Higher education institution	12.20%
3.	Private sector	2.44%

Programme Activity Report

Online Training Course on Horticulture Seed Propagation with Tissue Culture, 22nd – 26th of March, 2021 and 1st of April, 2021

Background

On 22nd – 26th of March and 1st of April 2021, the Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC), in collaboration with the Directorate of Technical Cooperation of the Ministry of Foreign Affairs and the Lembang Agricultural Training Centre of the Ministry of Agriculture-Republic of Indonesia hold "Online Training Course on Horticulture Seed Propagation with Tissue Culture."

Tissue culture is a means of vegetative propagation of sterile artificial media in a controlled environment by culturing cells, organs or plant parts.

The "Online Training Course on Horticulture Seed Propagation with Tissue Culture" (the "Training") focuses on tissue culture definition, fundamental culture theory, the strengths and disadvantages of tissue culture, a tissue culture lab, phases of tissue culture, culture media, and growth.

Experts from the Training Centre in the area of tissue culture media, results of tissue culture explant management and acclimatisation were present at the virtual training. A variety of digital methods, including e-learning, video conferencing and video streaming were used to provide training.

The trainings included numbers of bureaucrats, extension workers, scientists, and agro-business actors from Bangladesh, Fiji, Indonesia, Lebanon, Nepal, Pakistan, Solomon Islands and Vietnam.

Participants are able to gain knowledge and experience in the following: i) the definition of tissue culture; ii) the theory of the basic tissue culture; iii) the explanation of pros and cons of tissue culture; iv) the description of the tissue culture laboratory; v) a description of phases of tissue culture; vi) tissue culture restrictions and problems; vii) a description of tissue culture media.

Discussion

Advantages of Tissue Culture

There are many advantages of tissue culture, particularly if the plant has mother plants' special character. It makes sure the plantation is like the mother plant of a special variety. The tissue culture is also free of bacteria and viruses. It does not depend on the season, either. A lot of seedlings can also be produced with fast time. Seedlings are cheaper and easier to transport than conventional seedlings.

It is also useful if the variety is resistant to pest and disease, because people can build the selection media. They can maneuver the media to determine which variety to survive in a drought. Secondary metabolites can also be used.

Tissue cultured plants sometimes grow faster, more quickly and fruit more quickly. For example, for bananas, normal plants need more time to produce fruits. But in tissue culture, the growth is faster because the seedlings complete all phases of their growth.

The fruit will also be exact with mother plants.

Laboratory Setting for Tissue Culture

Building infrastructure before setting up a laboratory for tissue culture is necessary and the trainers are invited to develop the technicalities required for the use of the laboratory. The trainers are involved in setting up the lab.

As people work in an aseptic condition, they must ensure the tools and personnel are in a sterile condition. They have to clean themselves and wear gloves after coming from the garden.

The incubation area in the laboratory has a high humidity. People have to ensure that bacteria or fungi do not grow from high temperature. To control humidity, they are using air conditioning.

Air conditioner is required for the tissue culture laboratory. It is difficult to replace. People have to ensure that the plant grows in an aseptic environment. They also need electricity constantly to make the air conditioner keeps operating.

However, some farmers also have a simple lab. The laminar airflow is simple, in a form of *entkas*. Farmers can grow their culture in the *entkas* made out of acrylic. This method is often used for orchid.

Types of Plants

In theory, all plants can be used in tissue culture. However, the economic value of the plants also needs to be considered. There are also differences, especially for the method of sterilisation. Explant sterilisation on banana, requires longer time, greater sterilisation material, than orchid and potato explants because explant bananas are in direct soil contact. Therefore, a lot of pollutant source.

Whereas potatoes are different because they are cleaner and grow over the ground. Some plants have not yet found the method for the tissue culture because different features are possible, for example, like forestry plants. But the tissue culture is open for development.

Tissue Culture Media

Meristem is part of plant appropriate to the tissue culture media technique. For strawberry *sapline*, the auxiliary buds are the plant part that is used.

Meristem could be treated with antiseptic or povidone iodine, especially for banana explants. People use it to prevent contamination before cutting the meristematic tissue. Explant does not need to be washed with water when it is treated with iodine.

On orchid, people just spray the sterilisation material onto the skin of orchid fruit. Iodine, bactericide or fungicide are never used. People just use 70% alcohol. The alcohol use, including in the explants, is a common sterilisation solution.

There are approximately 10 explants in the cultivation bottle, while the bottle is about 20ml in volume. But people have to take the media into account, and must re-subculture in a different bottle if it is too dense.

Media for tissue culture can be generated from instant media like *Muroshige* or Potato Dextrose Agar. The instant media allows people to purchase a single material. For an alternative of instant media, people can use macro and micro-elements. This method is cheaper than purchasing instant media.

The pH of the media is linked to the nutrient availability. Some plantlets do not have proper amount of nutrient. This is why adjusting the pH level is important. For media pH solutions, if the pH is less than 5.8 sodium hydroxide can be added. But people should add hydrochloric acid if the pH is over 5.8.

Rubber and aluminium foil can be used to cover a stock solution bottle. Aluminium protects stock from lights.

Once the whole procedures are taken, a week's wait is necessary to verify whether the media is contaminated by bacteria or fungus.

Moving the Plant to the Field

When planting, people need to be careful. They must make sure that the seedling is also clean when removed from the bottle beforehand. They must ensure that no root contaminants are present. The plants must be trained before they are moved to the field, and people must do so gradually. Fungicide is used to sterilise the plantlet to anticipate the fungal attack before planting.

If people did not succeed in the acclimatisation, they would not have seed to plant. Plants are very sensitive, and even moisture can influence their condition. The instruments must be clean and all instruments must first be sterilised.

Evaluation

By the end of the event, 21 random participants attended survey by the organisers. Survey results are as follows (*vide* Chart 1):

- 88% of respondents said the curriculum was clearly specified;
- 87% of respondents said the organisers facilitated contact between participants;
- 83.33% of respondents said the training was attentive to participants' needs;
- 88% of respondents said the training contributed to their education, professional and personal growth;
- 88% of respondents said the contents were well arranged and easy to follow;
- 87% of respondents said the training kept them engaged and interested;
- 89.29% of respondents said the trainers were familiar with the topics of training;
- 91.67% of respondents said the trainers were well prepared;
- 87% of respondents said the activities related to the goals of training;
- 78.57% of respondents said the training time allocation was enough; and
- 85.71% of respondents said the management of the Zoom Webinar was convenient.

Based on the above results, 86.69% respondents found that the training was very impressive.

Conclusion

Throughout the organisation of the training, the organisers draw these conclusions:

- Participants obtained knowledge and skills on tissue culture definition, fundamental culture theory, the strengths and disadvantages of tissue culture, design of tissue culture lab, phases of tissue culture, culture media and growth.
- Meristem or the auxiliary part of plant is appropriate to the tissue culture media technique.
- Media for tissue culture can be generated from instant media like *Muroshige* or Potato Dextrose Agar.

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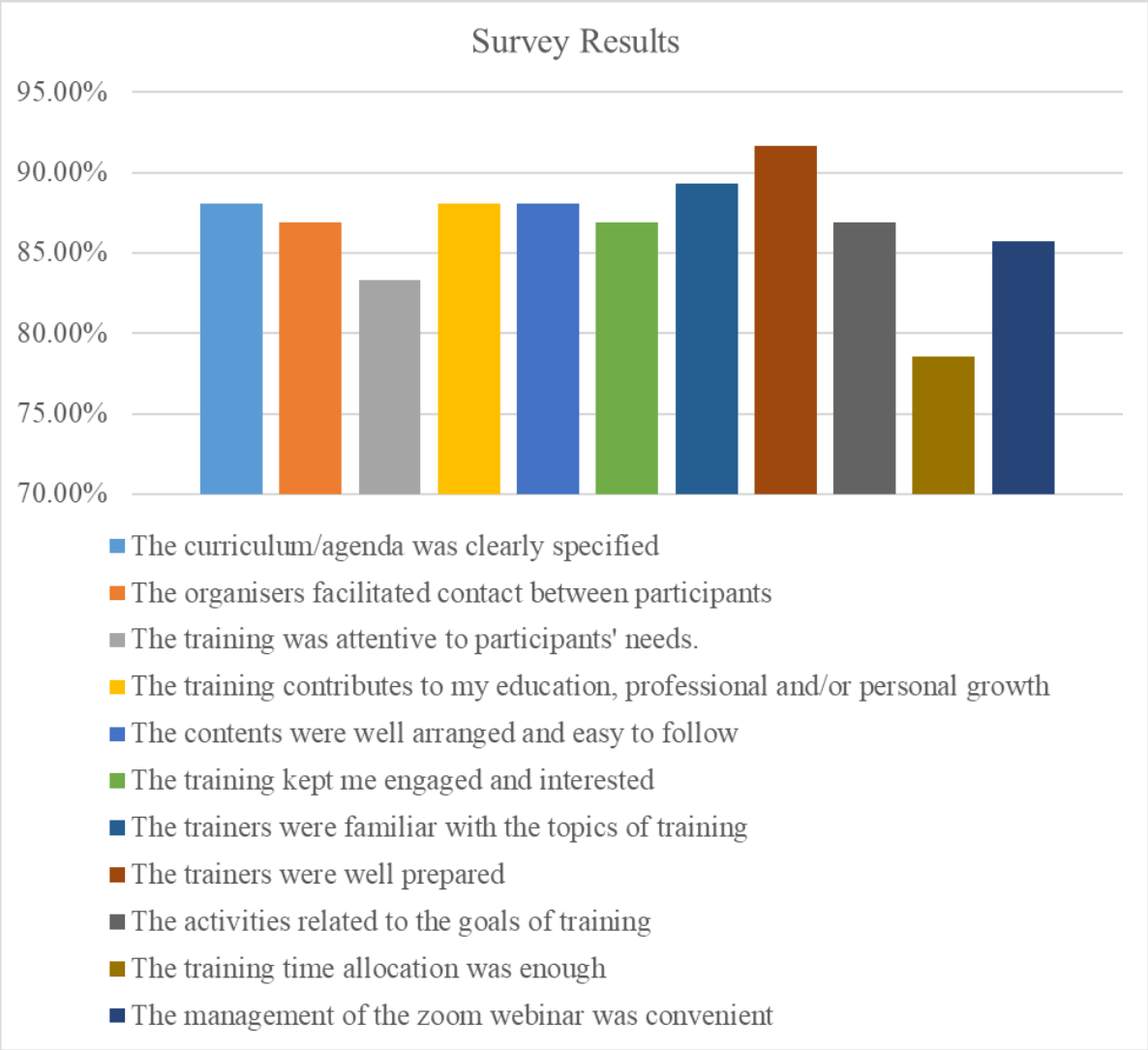
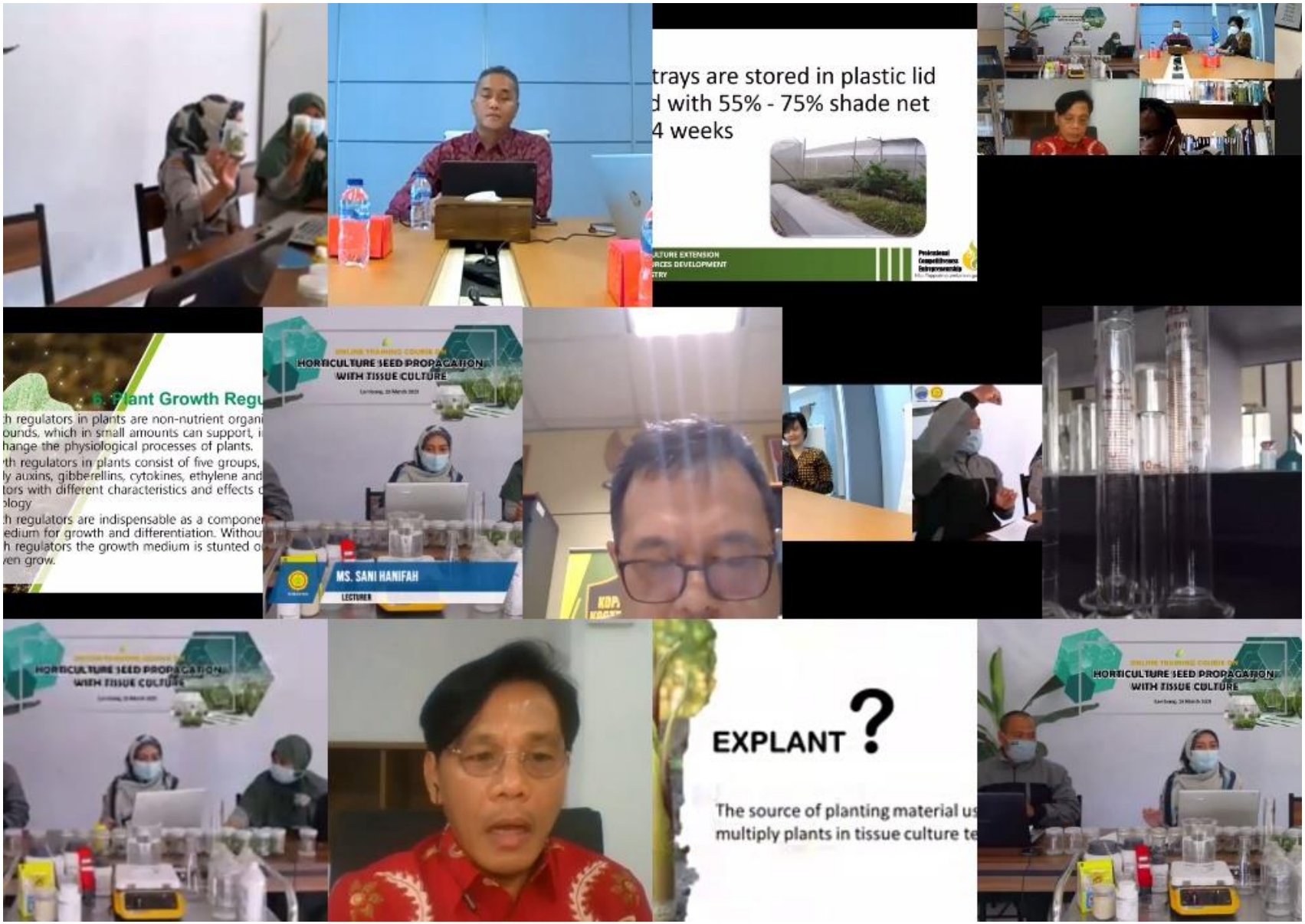


Chart 1. Survey Result


trays are stored in plastic lid
d with 55% - 75% shade net
4 weeks
HORTICULTURE SEED PROPAGATION
WITH TISSUE CULTURE
MS. SANI HANIFAH
LECTURER
EXPLANT ?
The source of planting material us
multiply plants in tissue culture te

No.: 105/NAMCSSTC/VI/2021

Date: 15th of June, 2021

Programme Activity Report: Online Training Course on Principals and Applications of Integrated Pest and Disease Management in the Tropics, 29th to 30th of April, 2021

List of Trainers/Facilitators (*alphabetically sorted*):

Dewi Melani, S.Si, MP

Mrs. Dewi Melani has four years of experience providing training on integrated pest and disease management, sustainable agriculture, and farming entomology. She holds a BA in Biology and Master's Degree in Crop Sciences/Plant Protection. She is now teaching at the Indonesian Centre for Agricultural Training of Ketindan, Ministry of Agriculture Republic of Indonesia. She is trained to cultivate soybeans and train of trainers. She published scientific journals and books on bio-pesticides, farm entomology, pest and disease management and agricultural ecology.

Dr. Juniawan, S.P., M.Si.

Dr. Juniawan has been a staff of the Ministry of Agriculture Republic of Indonesia for more than 30 years. He holds a bachelor's degree in agriculture, a master's degree in dryland agricultural systems and a PhD in plant pest and disease. He is now teaching at the Indonesian Centre for Agricultural Training of Ketindan. He has published scientific papers on clove leaf oils inhibition testing, biological fertilizer testing and fruit fly dynamics in horticultural areas.

Lutfi Tri Andriani, SP., MP.

Mrs. Lutfi Tri Andriani has 11 years of experience providing training on sustainable agriculture, plant disease, plant pathology, integrated pest and disease management agroecosystem. She holds a Master's Degree in Plant Sciences. She is now teaching at the Indonesian Centre for Agriculture Republic of Indonesia. She published scientific journals and books on ecological control of plant pest organisms and usage of plant growth promoting bacteria.

Dr. Md. Mokter Hossain

Dr. Mokter Hossain has 20 years of experience lecturing academics on high quality soil planting, stress physiology of vegetable crops, post-harvest storage technology in fruit and vegetable crops and collection, preservation and evaluation of minor fruit and

vegetables. He holds an M.A. in horticulture and a Ph.D. in agriculture. He also took a post-doctorate from Chinese University of Hong Kong. He now teaches at the Faculty of Agriculture, Bangladesh Agricultural University. He is also affiliated with several leading organisations including International Society of Minor Fruit, Medicinal Plants and Aromatic Plants and the Japanese Society for Horticultural Science. He has published more than 65 scientific journals on banana production, plant growth, and other fruit science and technology topics.

List of Countries (*alphabetically sorted*):

No	Country	Number of Person(s)
1.	Bangladesh	1
2.	Cambodia	2
3.	Fiji	2
4.	India	1
5.	Indonesia	2
6.	Malaysia	2
7.	Nepal	2
8.	Solomon Islands	10
	Total	22

Distribution of Participants' Background

No	Background	Percentage
1.	Government	63.64%
2.	Higher education institution	31.82%
3.	Private sector	4.54%

Programme Activity Report

Online Training Course on Principals and Applications of Integrated Pest and Disease Management in the Tropics, 29th to 30th of April, 2021

Background

The Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC), in collaboration with the Ministry of Agriculture – Republic of Indonesia and Bangladesh Agricultural University were holding an "Online Training Course on Principals and Applications of Integrated Pest and Disease Management in the Tropics" (the "Training") from 29th to 30th of April 2021.

Integrated Pest and Disease Management (IPDM) is a means of carefully considering all available techniques for pests and plant diseases control and of integrating suitable actions that prevent the development of pests and plant diseases and other interventions into economically justified levels and minimise risks to human health and the environment.

The Training focuses on ecologically based IPDM, integrated tactics in pest management, crop protection issues, and disease management of agriculture plants.

Experts from the governmental and higher education institutions in the field of IPDM were present at the Training. For training purposes, a wide range of digital methods were used, including e-learning, video conferencing and virtual simulations.

The Training included a number of government officers and actors involved in plant protection work from Bangladesh, Cambodia, Fiji, India, Indonesia, Malaysia, Nepal, and Solomon Islands.

Participants further improved understanding and knowledge on: i) the urgency of agro ecosystem ecology as a basic element of integrated pest management; ii) the challenges in botanical pesticide development; iii) post-disease soil rehabilitation; and iv) the application of the management of crop rotation.

Discussion

<u>How to Encounter Pest</u>

Climate crisis in general, has affected the environment, as well as insect reproduction. The insects will find the best environment they can live in. Since climate crisis can change their habitat, insects are driven to migrate to the best spot to live. So, in unusual plants or places people find some sort of unusual category of pests today.

Therefore, it is very important to encounter climate crisis and avoid more ecological challenges to crop production, like pests and diseases.

Existence of pests in plants has affected the food production. To interfere the development of populations of pests, integrated pest management could be implemented. It is also preventing harm to human health, the environment, and the economy.

A way to implement integrated pest management could be to implement the Plant Growth Promoting Bacteria (PGPB). The main function of PGPB is to prevent the attack by pest before applying pesticide. Furthermore, PGPB prevents pre-assault bacterial wilting, thus reducing the risk occurs from it.

Mostly, bamboo is the source of PGPB but *mimosa pudica* (a sensitive plant) also consists of microorganism that produces PGPB. Although this plant is classified as a susceptible crèche, the rhizosphere located in its roots can be taken as PGPB without affecting the leaves.

Promotion of the Use of Botanical Pesticide

As a result of the economic and environmental considerations, botanical pesticide have been frequently used by the farmers since 2016. We cannot however compare the action of synthetic and botanical pesticides in order to ensure its effectiveness. The mechanism of these two types of pesticides works is different.

On the basis of Indonesian Centre for Agricultural Training (ICAT) Ketindan's research there are no specific particles that are toxic to human beings in a botanical pesticide. As the particle can easily be degraded, it will not become a residue for plant and human.

Botanical pesticide supports the diversity of the soil mechanism, the use of this type of pesticide is genuinely safe and even increases the soil mechanism. It is easy to make home-made botanical pesticide so long as it has a strong aroma and bitter taste.

Awareness of farmers is the main challenge facing the development of botanical pesticides. Other efforts need to be made to socialise the importance of its use. It must be stressed that botanical pesticide costs less than the synthetic one, so as long as we have a better understanding of this natural pesticide, if we rely on the economic principle, especially for farmers, they would prefer to use it.

In order to improve plant health, antibiotics can also be used in addition to the use of botanical pesticide. Farmers can use *trichoderma* or beneficial microorganisms in the soil in order to produce special antibiotics. The plants or some of their parts can be reused for planting new plants once the antibiotics have appeared.

Protection from Post-Harvest Diseases

Both pre-harvest and post-harvest are important for crop protection management. Since pre-harvest and post-harvesting, there are some diseases which have to be prevented. It cannot be denied, moreover, that the use of chemical products is still required for certain steps, but as the IPDM is introduced, the IPDM could save more farmers.

The question of potato management dominates the session on post-harvest disease protection with numerous problems facing post-harvest phase. According to the discussion, most common insecticide use is not necessarily effective for weevil control. Weevil should be directly controlled on the ground. As Weevil lives in the plant (hidden), insecticide will not barely kill them. Crop rotation is therefore the best way to be combined with the use of healthy planting materials that are free from diseases.

Stem cuts are usually used in planting materials for planting potatoes, although it must be known that the good stem should be made from good plants.

If we keep the potato in a storage, by picking the best and most selective seeds we can protect against post-harvest diseases because some seeds are more damaging when kept in a more secluded zone.

Evaluation

By the end of the event, 6 random participants attended survey by the organisers. Survey results are as follows (*vide* Chart 1):

- 76.7% of respondents said the training comply with the country's policies;
- 90% of respondents said the training was relevant with the current's development issues;
- 93.33% of respondents said the training was significant for their works;
- 83.33% of respondents said the training met their expectation;
- 73.33% of respondents said the contents were well arranged and easy to follow;
- 73.33% of respondents said the training's curriculum were very specified;
- 86.7% of respondents said the training's goals was fulfilled;
- 86.7% of respondents said their level of knowledge were growing up;
- 90% of respondents said the trainers were keeping them engaged and interested;
- 70% of respondents said the training time allocation was enough; and
- 70% of respondents said the management of the Zoom Webinar was convenient.

Based on the above results, 81.2% respondents found that the training was very impressive.

Conclusion

The organisers draw the following conclusion across the training organisation:

- The participants have acquired knowledge on ecological IPDM, integrated control tactics for pests, protection issues in post-harvest and management of diseases in agricultural plants.
- Microorganism, as long as they are treated correctly and concisely, can help farmers with pest and other plant diseases.
- To preserve the environment and minimise the effect of climate crisis, today's farming needs to be made more green.

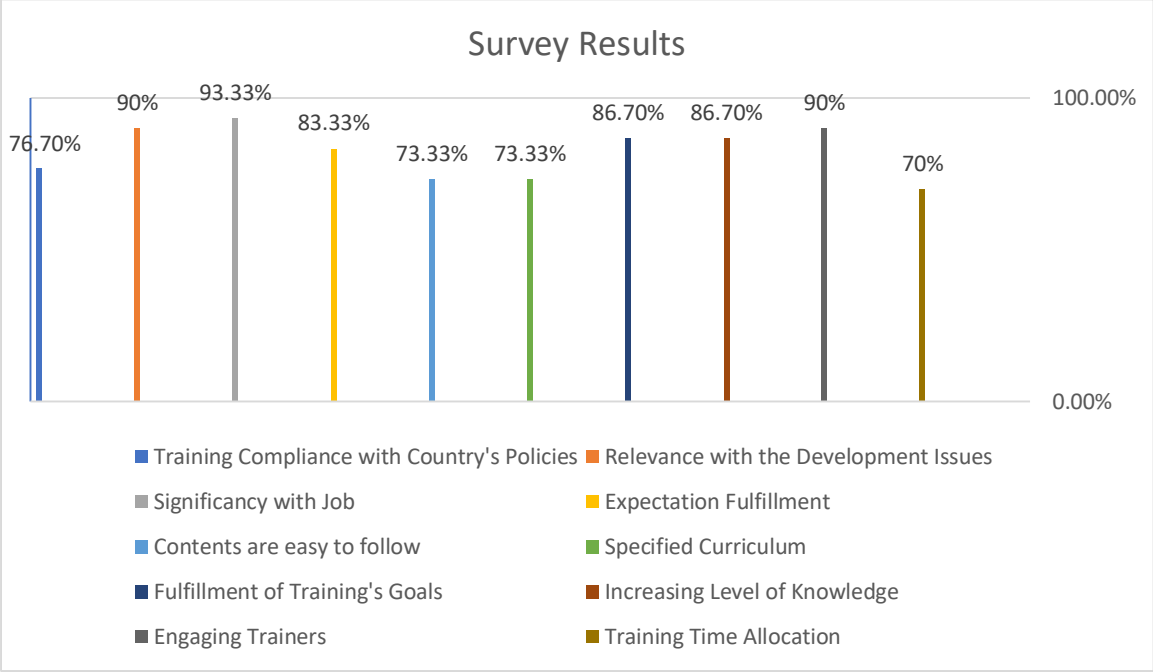


Chart 1. Survey Results

https://entomology.ca.uky.edu/

Insect Pest Characteristic

To classify insects become pest is determine by the Mouthparts:

1. Piercing sucking : a beak through which liquid food is ingested, example: hemipteran, homoptera, thrips
2. Biting/ Chewing: mandible act as jaws, example: grashoppers, beetles, termites, larval moths

BADAN PENYULUHAN DAN PENGEMBANGAN
SUMBER DAYA MANUSIA PERTANIAN
KEMENTERIAN PERTANIAN

2) Mango stone weevil
(*Cryptorhynchus mangifera*)

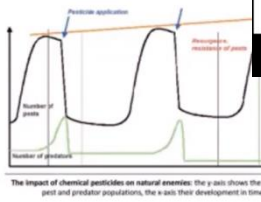
Control measures:

- Preharvest field sanitation
- Use of fruit bagging technology
- Use of pheromone traps

CHEMICAL CONTROL

Chemical control reduces a pest population through the application of pesticides.

The decision to use a pesticide as part of an IPM program should be based on a scouting program, pest identification, economic thresholds, and the crop/pest life stage. When used properly, pesticides provide effective and reliable control of most pest species. Pesticides are considered curative, and generally should be used as a last resort.



The impact of chemical pesticides on natural enemies: the y-axis shows the size of the pest and predator populations, the x-axis their development in time.

Figure 8. The impact of chemical pesticides on natural enemies
https://teca.apps.fao.org/teca/en/technologies/8372

BADAN PENYULUHAN DAN PENGEMBANGAN
SUMBER DAYA MANUSIA PERTANIAN
KEMENTERIAN PERTANIAN

No.: 130/NAMCSSTC/VII/2021

Date: 26th of July, 2021

Programme Activity Report: Online Training Course on Hydroponic Technology of Vegetable Cultivation, 27th until 28th of May, 2021

List of Trainers/Facilitators (*alphabetically sorted*):

Fiadini Putri

Fiadini Putri has more than 10 years' experience in training and teaching human resources working in agriculture. She is an agronomist and horticultural specialist. She has extensive professional experience in horticulture, global trends, research, inorganic nutrients and secondary metabolites of plants. Currently she works at the Lembang Agricultural Training Centre, the Ministry of Agriculture of the Republic of Indonesia as Lecturer. Fiadini is currently completing PhD in agronomy and horticulture at the Bogor Agricultural Institute.

Sani Hanifah, SP., MP

Sani Hanifah has over 15 years of experience in training and teaching agricultural human resources. She is an agronomist. She has extensive professional experience in horticulture. She is now working as Lecturer, in the Lembang Agricultural Training Centre – the Ministry of Agriculture of the Republic of Indonesia. Sani holds a Masters in Agronomy from the University of Sebelas Maret

Shalendra Prasad

Shalendra Prasad has more than 25 years' experience in researching commercial horticultural crop varieties. He specialises in fruit and vegetable production, food security and quality assurance. He has been involved extensively in development partners' projects, such as AusAid, USAID, Market Development Fund and ACIAR. He trains in "Increasing Household Vegetable Production" as part of vegetable cultivation. He currently works at the Ministry of Agriculture of Fiji as Head of Agriculture Research. Shalendra holds a Master in Horticultural Science at Maejo University, Thailand, and is completing a PhD at the University of the Sunshine Coast, Australia.

List of Countries (*alphabetically sorted*):

No	Country	Number of Person(s)
1.	Bangladesh	1
2.	Cambodia	12

No	Country	Number of Person(s)
3.	Fiji	2
4.	India	2
5.	Indonesia	1
6.	Nepal	5
7.	Solomon Islands	7
	Total	30

Distribution of Participants' Background

No	Background	Percentage
1.	Government	36.67%
2.	Higher education institution	56.67%
3.	Private sector	6.6%

Programme Activity Report

Online Training Course on Hydroponic Technology of Vegetable Cultivation

27th - 28th of May, 2021

Background

On 27th - 28th of May 2021, in collaboration with the Ministry of Agriculture of the Government of Fiji and the Ministry of Agriculture of the Republic of Indonesia, the Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC), hosted "Online Training Course on Hydroponic Technology of Vegetable Cultivation".

Hydroponics is a way of cultivating plants that provide mechanical support for nutrient solutions, with or without an inert substrate, such as soil. For farmers to produce food everywhere without being dependent on season and numerous resources, hydroponics is an efficient alternative. Nowadays, hydroponics on vegetable cultivation have been employed to prevent seasonal issues.

Experts from the Ministry of Agriculture of the Government of Fiji and the Ministry of Agriculture of the Republic of Indonesia attended the virtual training session to present. Discussion sessions proceeded.

Numerous government officers, academics and corporate sectors from certain countries attended this training course.

In the following subjects of discussion participants obtained a better understanding and experience: 1) Improved Vegetable Production Efficiency; 2) Maximised Production for the Economy of Fiji for Vegetable; 3) Reduced Hydroponic Installation System Costs; 4) Growing Hydroponic System; and 5) Effective Selection of Hydroponics.

Discussion

<u>Use of Technology for Efficiency</u>

As time as the people decide to use hydroponics, numerous approaches and methods can be enhanced. For plants classified as short-term plants, technology must be used to monitor crops and improve the varietal and agriculture system. This can be done, not just at the country level, but also society with its little output. The improvised farming technique will demonstrate that the farm's situation in each country/location is well irrigated and adaptive. The employment of technology and the development of variation can also boost farm productivity and efficiency.

For some people, it may be expensive to design their own hydroponic system. However, farmers/growers are advised to consider using an expensive system. The method tends to be employed in the long run, in addition to being more efficient than low-priced. For some (more) cost effective systems, farmers/growers have to regularly alter certain materials/aspects to preserve efficiency.

Hydroponic Systems for Places Which Suffer from Water Limitation

Hydroponic systems offer an easier approach to benefit, especially with regard to fertilisers, the existing resources. Hydroponic can serve as an efficient alternative to maintain vegetable/agricultural products for places which suffer from water limitation.

The aeroponic system is one of the latest systems in hydroponics which does not take a great deal of water. It can not only be used on potatoes, but other vegetable types as well. The formation of fundamental roots and structural strength should one thing be taken into account by the use of aeroponics.

Drip irrigation is also part of hydroponics, although this approach uses a natural substate (soil-less) medium, particularly for the root, only to maintain the plant. Drip irrigation can be used efficiently, especially in areas of water deficit.

Nutrients for Hydroponic Crops

First of all, the hydroponic water must be clean, which means that no dangerous or harmful minerals should be found in it. The pH, must also be 7 (not more or less).

The chemical or plant-producing hydroponic nutrients such as urene fertiliser (in Indonesia), potassium Chloride or the basic SP-36 fertiliser may be used in certain places where supporting nutrients do not have been developed by hydroponic crops. Such material has its own content or percentage use, i.e. only 46% (maximum) of the whole chemical is being used.

Fiji Government Policy on Vegetable Production

Fiji is trying to keep its economy through the export of veggies/agriculture products in the period of the COVID-19 pandemic. Hydroponics, which mainly employed in small farming production, is one of the projects being supported by Fiji's Government.

Most people in Fiji are beginning to realise how important healthy living is for the cultivation. The Fiji government supports the domestic farm mechanisms and the process of production for this beneficial trend.

The government considers that agriculture is a business, hence every farmer/grower has a personal judgement on the value for money. But since Fiji also imports the hybrid seeds, the Government of Fiji is so cognizant of the risk of seeds of their local vegetables that it could one day disappear.

Thus, Fiji's government has established a large production association to ensure that its supply is kept full by hybrid seeds and its indigenous production seeds are analysed and developed for sustainable production.

Evaluation

By the end of the event, 12 random participants attended survey by the organisers. Survey results are as follows (*vide* Chart 1):

- 76% of respondents said the training comply with the country's policies;
- 76% of respondents said the training was relevant with the current's development issues;
- 83.34% of respondents said the training was significant for their works;
- 88% of respondents said the training met their expectation;
- 68% of respondents said the contents were well arranged and easy to follow;
- 97.5% of respondents said the training was interesting.
- 85% of respondents said the training's goals was fulfilled;
- 90% of respondents said their level of knowledge were growing up;
- 88% of respondents said the trainers were keeping them engaged and interested;
- 78% of respondents said the training time allocation was enough; and
- 70% of respondents said the management of the Zoom Webinar was convenient.

Based on the above results, 80% respondents found that the training was very impressive.

Conclusion

Throughout the training organisation, organisers draw the following conclusions:

- The participants have learned how to improve the efficiency of production of vegetables, to reduce the cost of the hydroponic system, to grow the hydroponic system in the crisis region and to make an effective choice of hydroponic material.
- As a country producer of vegetables, the Fiji is recommended to use the off-season production and small-scale hydroponics production to ensure consistency of the supply chain of vegetables.

- The exact number of fertiliser substances needed in the growing hydroponics system, notably nutrients, should be observed. The materials should not be very expensive, however the expenses can be decreased by using the materials supplied in every location.

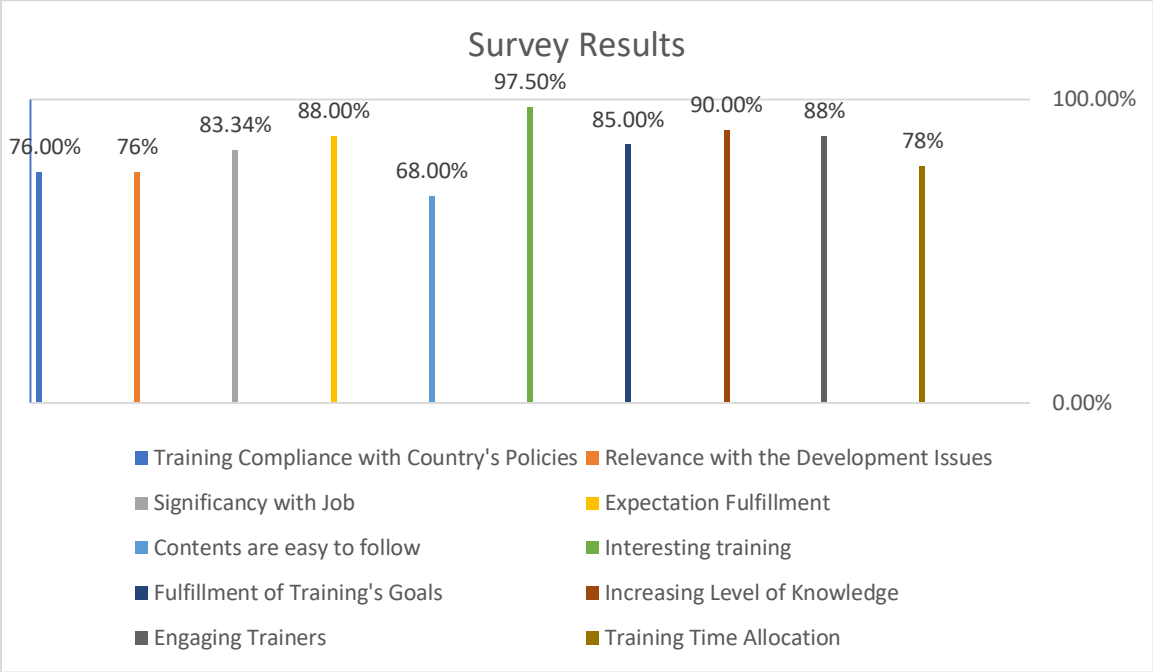


Chart 1. Survey Results

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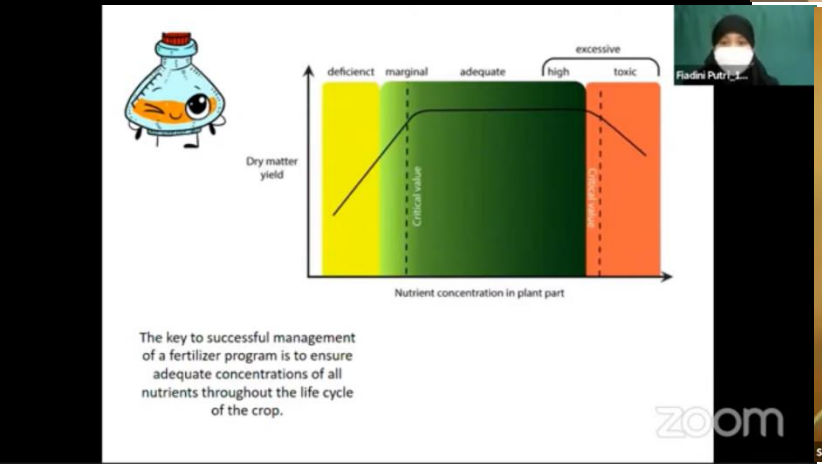

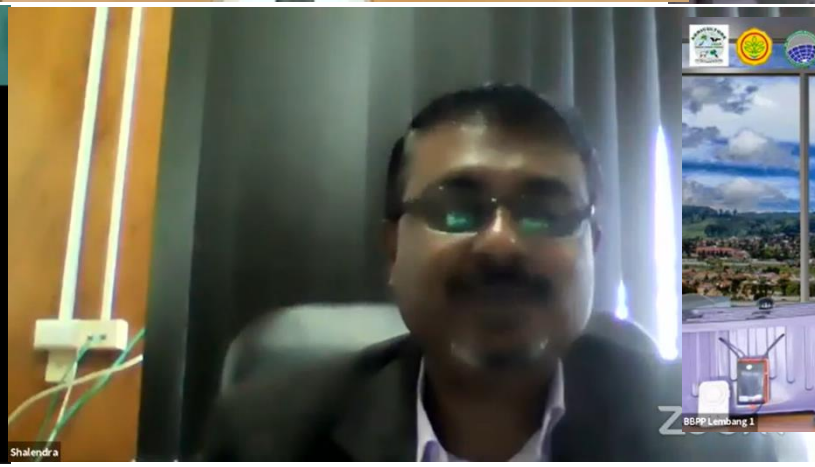

No.: 120/NAMCSSTC/VII/2021

Date: 14th of July, 2021

Programme Activity Report: Coconut Cultivation Online Training, 31st of May, 2021

List of Indonesian Palmae Crops Research Institute Trainers/Facilitators (*sort alphabetically*):

Prof. Dr. Hengky Novarinto

Dr. Ismail Maskromo

Prof. Dr. Meldy L. A. Hosang

Muh. Nur

Rahma, SP., M.Si

Yulianus R. Matana, SP. M. Si

Beneficiary Country:

Timor-Leste.

Distribution of Participants' Background

No	Background	Percentage
1.	Government	31.25%
2.	Farmers	31.25%
3.	Entrepreneurs	37.5%

Programme Activity Report

Coconut Cultivation Online Training, 31st of May, 2021

Background

On 31st of May 2021, in cooperation with Indonesian Palmae Crops Research Institute (IPCRI) as part of the Ministry of Agriculture of the Republic of Indonesia, the Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC) held the "Coconut Cultivation Online Training" (the Training).

The training discussed all aspects of coconut cultivation which are not limited to superior coconut seed, coconut plantings, technology and improvements, coconut pest management and coconut diseases, but also coconut products diversification and commercialisation, especially in Timor-Leste.

At the virtual training, experts from IPCRI were present. A range of digital techniques have been employed, including interactive communication with the trainers, e-learning and video materials.

A number of governmental officers and entrepreneurs as well as Timor-Leste coconut producers attended the programme.

Topics of the discussion were: 1) The selection and seeding of good coconuts seeds; 2) the treatment of coconut pests and diseases; and 3) the maximisation of the diversification of products and marketing of coconuts in Timor-Leste.

Discussion

<u>Figuring Out what Coconuts Being Developed</u>

The best technique to discover the most yielding and climate-adaptive seeds are to select the best coconut seeds. Despite the weather or various habitats, especially in Timor-Leste, outstanding seeds and potential for cultivation are always present. Furthermore, farmers can count the exact amount of seeds per hectare when applying a diagonal and triangle or rectangle shape.

If farmers are difficult to figure out what coconuts are now being developed, farmers can focus exclusively on the qualities (the size, length, etc.). In addition, farmers need to concentrate on growing the possible coconut variety, because not all seeds can grow well their regions. The coconut seeds should be incised before they are sowed to ensure that the coconuts well thrive. This method is necessary to make it easier to water sprouted grains from the coconut seeds.

Normal and abnormal sprouts can be simply identified. Leaves with spotted or pest-cut leaves are plainly noticeable morphologically. The seed is not good to continue cultivation or does not generate even large and good coconuts if this signal is observed.

Treatment for Diseases

Since coconut is mainly grown in the lower lands in the mountains, humidity is a significant component in coconut disease. High moisture will promote the development of diseases. One of the often-occurring diseases are "urine" diseases (a disease that rapidly multiplies in unhygienic sites, such as animal stalk, wood cutting, or dead plants). Dead coconut plants usually contain a lot of pests or diseases because dead trees affect healthy trees.

Farmers should therefore ensure that their garden is clear of dead or sick plants.

Coconut disease treatment can be performed in various methods. Cutting old stems is a strategy for farmers to prevent coconut disease. Furthermore, pruning old stems offers a perfect breeding site for young coconut trees. Physical treatment for diseases in coconut plants is also the cutting or removal of dead coconuts. In addition, the use of various forms of *Trichoderma* to combat coconut diseases through carbonic changes/biological control. Then, the last method many farmers utilise is chemical treatment, i.e. systemic fungicides.

Opportunity for Bilateral Cooperation

Apart from coconut products generally, shell coconut carbon and coir utilisation in coco peat and coco fiber are capable of meeting global requirements. Indonesian and Timor-Leste coconut charcoal meets over 700,000 tonnes, and coconut goods also meet 3 percent of the global need. The figure is significantly greater than other exporters of coconut, such as Sri Lanka. As a marketing strategy, Timor-Leste also enriched its coconut marketing by expanding the potential of human resources (young, millennial and old farmers).

Evaluation

By the end of the event, 16 random participants attended survey by the organisers. Survey results are as follows (*vide* Chart 1):

- 96.25% of respondents said the training comply with the country's policies;
- 93.75% of respondents said the training was relevant with the current's development issues;
- 95% of respondents said the training was significant for their works;
- 91.25% of respondents said the training met their expectation;
- 77.5% of respondents said the contents were well arranged and easy to follow;
- 97.5% of respondents said the training was interesting.

- 96.25% of respondents said the training's goals was fulfilled;
- 93.75% of respondents said their level of knowledge were growing up;
- 90% of respondents said the trainers were keeping them engaged and interested;
- 95% of respondents said the training time allocation was enough; and
- 70% of respondents said the management of the Zoom Webinar was convenient.

Based on the above results, 90% respondents found that the training was very impressive.

Conclusion

The organisers make the following findings throughout the training organisation:

- Participants acquired knowledge and skills in selection and sowing of good coconut seeds; in coconut disease and pest treatment; in Timor-Leste product diversification and marketing.
- The coconut seeds, independent of their location on lowland or highland, can be distinguished through their exceptional high yields and weather-adaptive seeds.
- The physical, chemical or specific combination of bacteria can be processed to treat problems in coconut plants.
- The coconuts of Timor-Leste could be exported to such regions, in particular Australia and New Zealand. It is necessary to build capacity to ensure the quality of human resources and the good products.

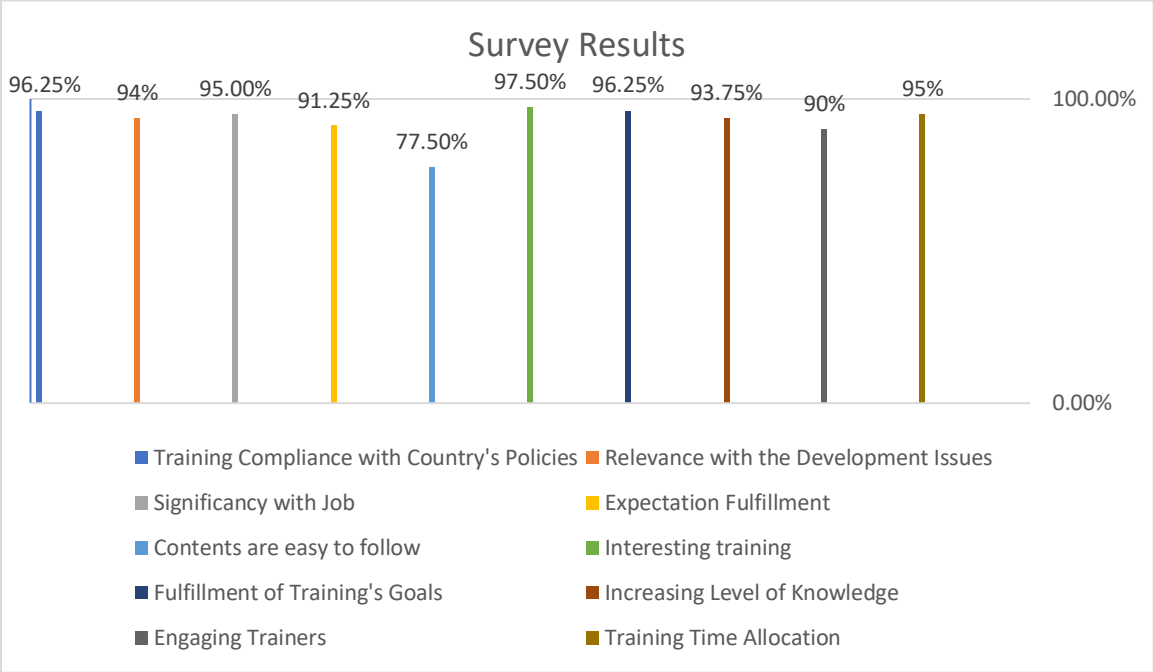

Chart 1. Survey Results

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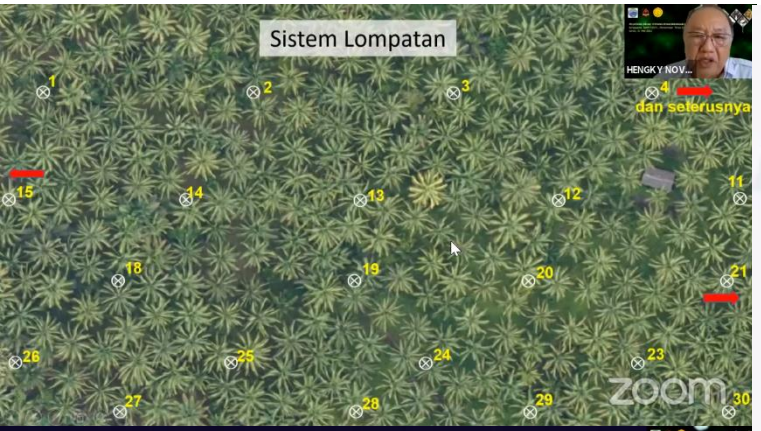
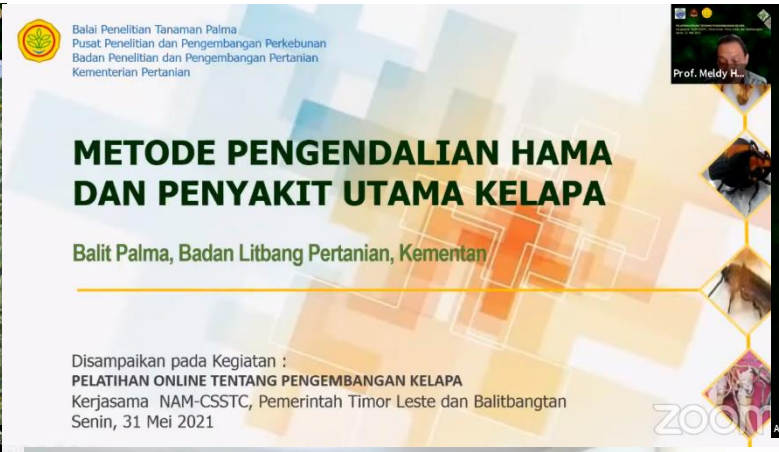




REPORT ON WEBINAR ON DEVELOPMENT OF COCONUT HUSK-BASED PRODUCTS TO INCREASE ADDED VALUE IN THE ERA OF VUCA: BEST PRACTICES FOR COCONUT HUSK PRODUCT

Co-organised by International Coconut Community and Non-Aligned Movement Centre for South-South Technical Cooperation on 8th of June, 2021

No.: 131/NAMCSSTC/VII/2021

Dated 26th of July, 2021

RESOURCE SPEAKERS

1. H.E. Mahendra Siregar, Vice-Minister for Foreign Affairs of the Republic of Indonesia
2. Dr. Jelfina C. Alouw, Executive Director for International Coconut Community (ICC)
3. Amb. Diar Nurbintoro, Acting Director for Non-Aligned Movement Centre for South-South Technical Cooperation
4. A. Radhakrishnan, Assistant Director for National Coir Training and Design Centre of India
5. Silvia Ten Houten, Founder of GoodHout
6. Galih Batara Muda, Founder of Roemah Kelapa Indonesia
7. Febiola Efriani, Vice President for Mahligai Indococo Fiber, PT
8. S. K. Gowthaman, Consultant and Exporter of Coir Based Products

MODERATOR

Dr. Dedie Tooy, Member of ICC Technical Working Group/Head of Agricultural Technology Department, Faculty of Agriculture, Sam Ratulangi University.

PARTICIPANTS, FROM:

Fiji, Ghana, India, Indonesia, Kenya, Malaysia, Micronesia, Netherlands, Philippines, Solomon Islands, Sri Lanka, Switzerland, Thailand, the United Kingdom, and the United States.

1. Introduction

Background and objectives

Due to its many uses, such as the food and non-food goods, coconut (*Cocos nucifera L.*) is quite rightly referred to as the Tree of Life. Coconut is cultivated in more than 90 countries. The overall coconut export value is almost USD 11.3 billion in 2020.

Different items from the flesh, water and shell are produced, leaving the not well utilised coconut husk behind them. Coconut husk can actually be converted into several items, such as coconut coir, coconut yarn, coconut peat and mattress. If we made coir into dust or other products, we may receive 25 million MT annually for a value of USD 2.7 to 5.3 billion.

On 8th of June, 2021, International Coconut Community (ICC) and Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC) organised **WEBINAR ON DEVELOPMENT OF COCONUT HUSK-BASED PRODUCTS TO INCREASE ADDED VALUE IN THE ERA OF VUCA: BEST PRACTICES FOR COCONUT HUSK PRODUCT** to further increase knowledge on processing of coconut husk. The general objective of the webinar is to create partnership to support the achievement of sustainable coconut development goals in coconut producing countries & development of coconut products to increase added value in the era of volatility, uncertainty, complexity and ambiguity (VUCA).

The specific objectives of the webinar are to:

a. Disseminate information and technologies to improve the value added of coconut products;

b. Encourage farmers to increase production and income from coconut;

c. Work with stakeholders in the coconut sector;

d. Invite the participants in Capacity Building programmes, from both ICC and NAM CSSTC member countries; and

e. Establish coconut stakeholders' networking.

During the webinar, we present speakers from governmental and private sectors from various countries including India, Indonesia and the Netherlands to impart their experiences in processing coconut husk into various products.

Scope of coconut husk-based products development and link to Sustainable Development Goals

Webinar sub-topics include:

a. Economic and environmental impacts of processing of coconut husk-based products;

b. Processing and development of coconut husk-based products;

c. Manufacture and export of coir and coir-based products hydroponic; and

d. Marketing scope of coconut husk-based products.

The key aspects for this webinar that are related to the Sustainable Development Goals (SDGs) are the following:

a. Coconut husk can provide a cost-effective supply of high-quality board materials in construction. As a result, it is possible that this will make housing more affordable in the future (SDG 11);

b. Coconut husk may be used to prevent coconut waste being produced in different manufacturing places. Losses and waste of agricultural activities will therefore be decreased, that are closely related to the target of SDG 12;

c. Coconut husk may become an ingredient for technique for purifying water and reducing pollutants. The utilisation of coconut husk can thus help to make clean water and sanitation available, strongly linked to SDG 6;

d. The use of coconut husk in agricultural potting processes can boost the yield of hydroponic plants. This enables us to address, directly related to SDG 2, the problem of under production in the agricultural sector.

Methods

The speakers gave their presentation in 10-15 minutes, while being moderated by a moderator. The moderator enabled the participants ask questions after all presenters had finished their presentation. The participants have two options: Either by turning their microphone on or by putting questions in the chat box. It took approximately 20 minutes for the Q&A session.

Results

The discussion held during the Webinar led in the following key points:

a. Stakeholders concerned with the development of coil board seek means of solving material science testing, scale-up and providing adequate engineering in order to assure long-term high-speed manufacturing.

b. In Indonesia, development of coil products can be supported by PT Mahligai Indococo, from the beginning to the end processing steps. The interested person may contact the company to help the machine work.

c. India has also carried out a feasibility study in the development of coconut husk-based cottages and geotextiles. SK Gowthaman from India was exploring a follow-up plan for the feasibility study with the UNDP Solomon Islands.

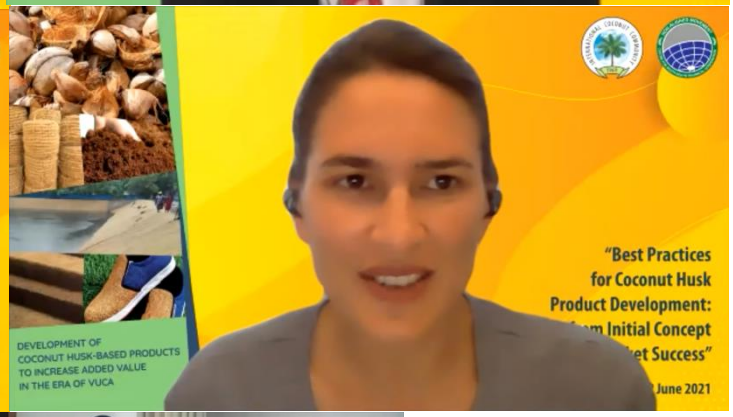
d. People can ask a Scientific Research Centre or government to provide clear instructions on coconut dust use, considering husk's development are now being developed by launching a joint venture or granting licenses to local governments.

Conclusion

The event introduced numerous things for the development of coconut husk products. This event is essential, as it connects the link between SDGs and the development of coconut. In recent years, negative coconut campaigns have increasingly influenced and have had a substantial impact on the growth of agriculture products. This event nonetheless made the participants understand that efforts have been made to develop coconut products, in particular in technological advancement. The coconut husk can in particular be an alternative to replacing the materials from wood panels.

In addition, coconut husk is environmentally friendly, in addition to its role in enhancing agricultural productivity. It can prevent water pollution and be employed in goods packaging and distribution systems by businesses.

PHOTO DOCUMENTATION



No.: 129/NAMCSSTC/VII/2021

Date: 26th of July, 2021

Programme Activity Report: Online Training Course on Food Labelling and Food Packaging, 29th until 30th of June, 2021

List of the Indonesian Centre for Agricultural Training of Lembang Trainers/Facilitators (*sort alphabetically*):

Estu Hariyani

E-mail: haryaniestu@gmail.com

Estu has more than 10 years of experience on delivering agricultural training for related human resources. She specialises in food labelling, especially in food labelling requirements. She holds a Master of Food Science and Technology from Brawijaya University. She is currently a lecturer in the Indonesian Centre for Agricultural Training of Lembang – the Ministry of Agriculture of the Republic of Indonesia.

Fiadini Putri, M.Sc

E-mail: fiadini83@gmail.com

Fiadini Putri has more than 10 years' experience in training and teaching human resources working in agriculture. She is an agronomist and horticultural specialist. She has extensive professional experience in horticulture, global trends, research, inorganic nutrients and secondary metabolites of plants. She also trains, as part of food labelling and food packaging training, in the overview of food labelling. Currently she works at the Indonesian Centre for Agricultural Training of Lembang, the Ministry of Agriculture of the Republic of Indonesia as Lecturer. Fiadini is currently completing PhD in agronomy and horticulture at the Bogor Agricultural Institute.

Dr. Ir. Leli Nuryati, M.Sc

Leli is the Director for Indonesia Center for Agricultural Training, Ministry of Agriculture of the Republic of Indonesia. She has expertise in developing human resources and building capacity, based on her formal education with a Ph.D. in Management. She has also completed a training on advocacy for agricultural and rural statistics from the SIAP headquarters in Japan. Leli coordinates dozens of training centres in agriculture in Indonesia, including one in horticultural crops.

Ir. Saptoningsih, M.P.

E-mail: saptoningsih1966@gmail.com

Saptoningsih has more than 30 years of experience in training human resources in agriculture. She is specialised in food packaging, particularly in packaging types and designs. She has a Master's Degree in Nutrition from Gadjah Mada University. She currently works as a training on food processing at the Indonesian Centre for Agricultural Training – the Ministry of Agriculture of the Republic of Indonesia.

List of Countries (*Alphabetically sorted*):

No	Country	Number of Person(s)
1.	Cambodia	6
2.	Fiji	2
3.	India	2
4.	Indonesia	2
5.	Nepal	3
6.	Pakistan	2
7.	Solomon Islands	6
8.	Timor-Leste	34
	Total	57

Distribution of Participants' Background

No	Background	Percentage
1.	Academics	22.8%
2.	Entrepreneur	43.9%
3.	Government	33.3%

Programme Activity Report

Online Training Course on Food Labelling and Food Packaging, 29th until 30th of June, 2021

Background

"Online Training Course on Food Labelling and Food Packaging" (the Training) was held from 29th to 30th of June, 2021, in partnership with the Indonesian Centre for Agricultural Training (ICAT) of Lembang, Ministry of Agriculture of the Republic of Indonesia.

There was a discussion on all aspects of food labelling, including packaging, labelling standards and prerequisites for food labelling. A comparison of food labelling laws in some of the participating countries was also reviewed by the group.

Experts from ICAT were present for the virtual training session. In addition to interactive engagement with trainers, e-learning and video resources were used.

There were a large number of academics, government officers and entrepreneurs from 8 different countries that attended.

Edible plastic as food-safe packaging; durability of wax coating for horticulture items; barcode use in food labelling, and food labelling mechanism were among the topics of discussion.

Discussion

Halal Certification

There is a specific authority in the United Kingdom that oversees halal certification for exports of food and packaging. Applicants can submit their applications for packaging certification online by visiting the Halal Food Authority's official website, at www.halalfoodauthority.com. In Saudi Arabia and other Middle Eastern countries, which make up the majority of halal food consumers, this authority has direct contacts with the halal officials.

Halal certification does not apply to only food, but also to the types and materials used in food packaging, according to a recent study. As a result of this legislation, exporting products are required to display the halal mark on all materials related to them.

Wax Coating

There are several food manufacturers and wholesalers in the horticultural business that opt to package their products with wax coatings. However, one of the downsides of wax coating is

its short-term durability, which makes it difficult to ensure that the food will remain fresh when it arrives.

Due to its short shelf life (1-3 months), it must be kept at a constant temperature during the distribution process.

It is also important for producers and distributors to incorporate a refrigerator or a truck that can transport coolers in order to assure the freshness of horticultural products, although it costs a lot of money.

Food Labelling Requirement

In Indonesia, especially for small-scale industries, there is no unique rule that regulates their obligation to post nutrition information labels or special barcodes. Medium-sized enterprises have started to implement it, but not barcodes that are in fact formal results of submissions to state-level institutions.

For enterprises who would like to include dietary data, it must be included on food labels, according to international recommendations published by the World Health Organisation (WHO). In addition, enterprises should comply with the laws and regulations of countries they export their products.

Every country has its unique rules for labelling food products. Anyone who produces or sell can create their own label. In Indonesia's case, most Indonesian enterprises have their own nutritionist or are partnering with such a nutritionist/health laboratory to verify that the nutrition facts label is legitimate and reliable. For halal label, as far as Indonesia is concerned, only specified foods that require halal certification must be processed at the national/respective institution.

While in Timor-Leste, every product must be labelled by the relevant government.

Evaluation

By the end of the event, 34 random participants attended survey by the organisers. Survey results are as follows (*vide* Chart 1):

- 82.2% of respondents said the training comply with the country's policies;
- 87% of respondents said the training was relevant with the current's development issues;
- 88% of respondents said the training was significant for their works;
- 87.6% of respondents said the training met their expectation;
- 73.4% of respondents said the contents were well arranged and easy to follow;
- 73.4% of respondents said the training was interesting.
- 88.2% of respondents said the training's goals was fulfilled;

- 87.6% of respondents said their level of knowledge were growing up;
- 89.4% of respondents said the trainers were keeping them engaged and interested;
- 86.4% of respondents said the training time allocation was enough; and
- 73.4% of respondents said the management of the Zoom Webinar was convenient.

Based on the above results, 88% respondents found that the training was very impressive.

Conclusion

The organisers make the following findings throughout the training organisation:

- Participants acquired knowledge and skills in understanding the various kinds of food packaging, alternative ways of packaging the food, regulation comparison in food labelling, as well as gaining possible network to discuss and consult regarding the lack of technology in food labelling and packaging.
- Types of food packaging may be classified based on their frequency of use (disposable packaging, multi-trip packaging, semi-disposable packaging), structure (primary, secondary and tertiary) and stiffness (flexible packaging, rigid packaging, semi-rigid packaging).
- Any form of food must be tested or screened by the proper government to guarantee it is safe for people/human to consume.
- Labelling is not restricted to nutrition facts or dietary information that most people need, but includes a wide variety of information.
- In any scale of industry, from little to large, food labelling and packaging is possible. As a result of technology, traders/producers can now create their own labels and target their own markets. Canva, for example, may be used to create a product label.

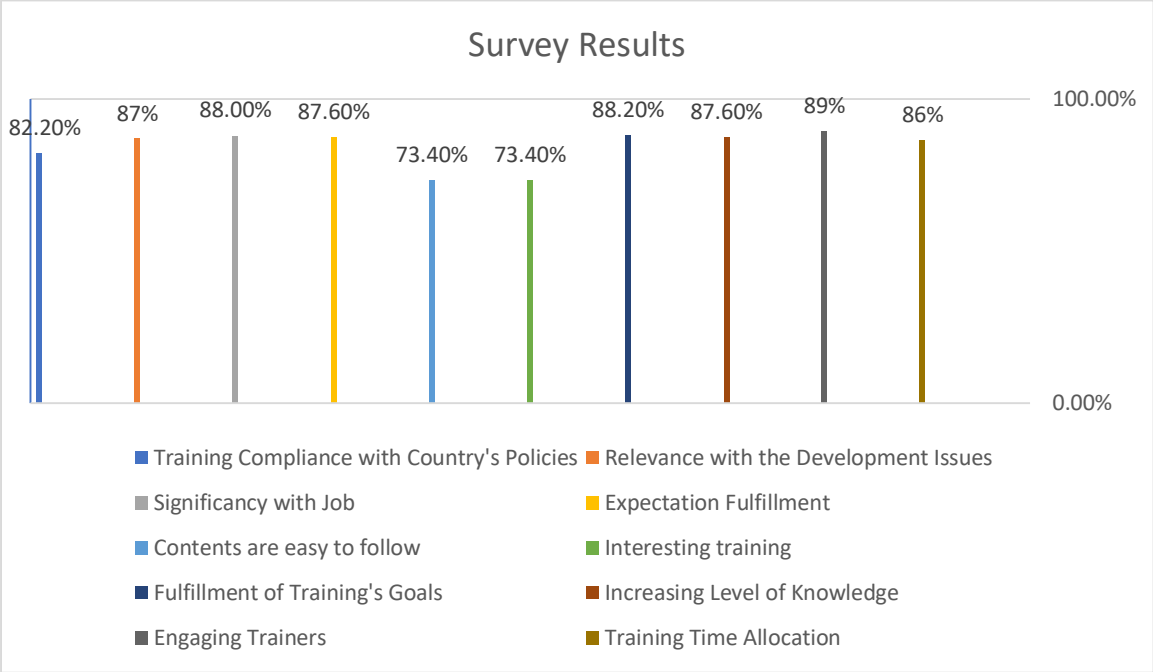
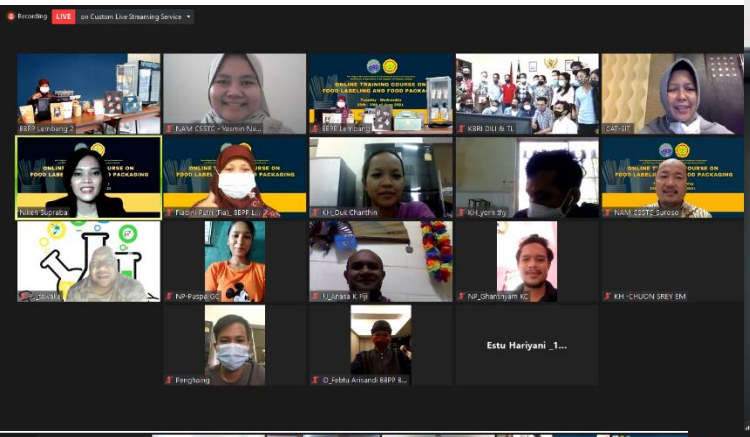
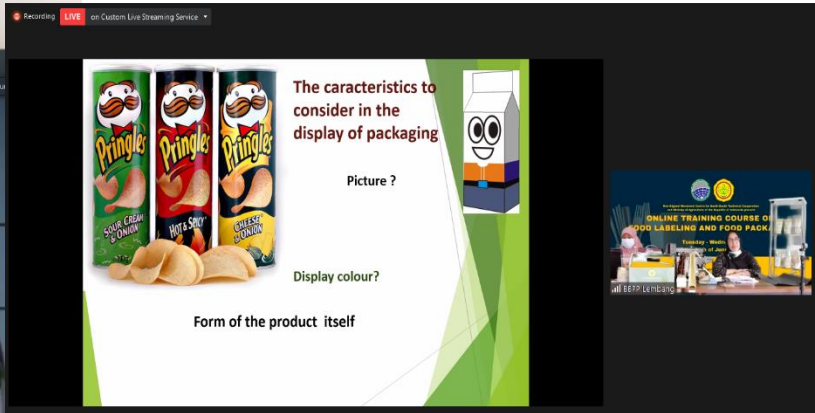
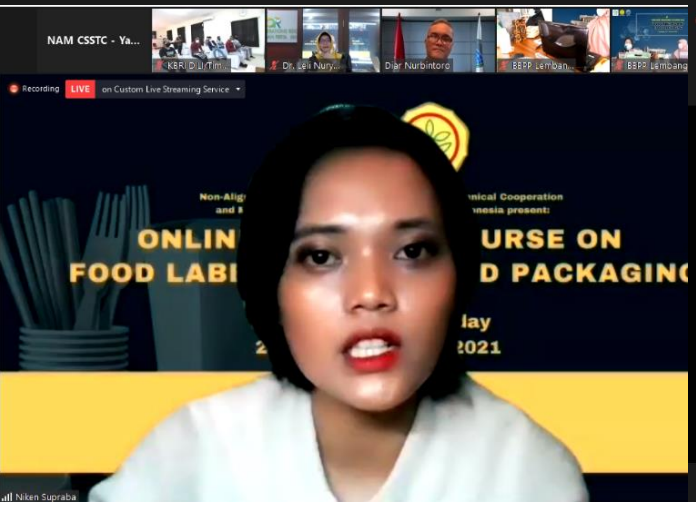


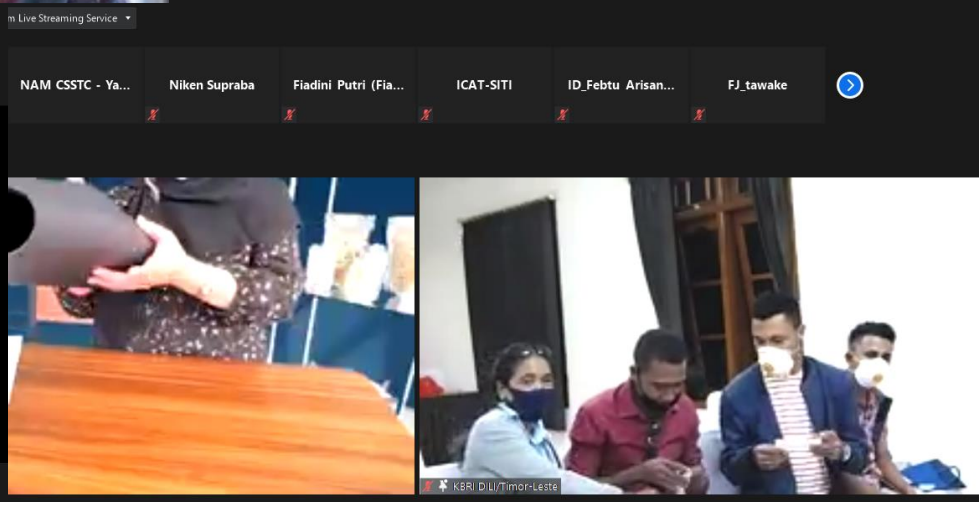
Chart 1. Survey Results

PHOTO DOCUMENTATION









No.:182/NAMCSSTC/IX/2021

Date: 7th of September, 2021

Programme Activity Report: Online Training Course on Horticulture Seed Propagation with Tissue Culture for African, Caribbean and Latin American Countries on 30th of July to 7th of August, 2021

List of Trainers/Facilitators (*alphabetically sorted*):

Abd. Rohim, S.P., M.P.

Abd. Rohim has received several training sessions in the field of quality management systems for training facilities and seeding. He is an Associate Expert Lecturer at the Ministry of Agriculture of the Republic of Indonesia (MoA)'s Indonesian Centre Agricultural Training-Lembang. In various international activities, he has been an international speaker for the training of farmer's trainers, for the tissue cultural training, for the workshop on added value and the dispatch of experts to the Philippines, Taiwan and Uzbekistan.

Fiadini Putri, M.Sc.

Fiadini Putri has more than ten years' experience in training and teaching human resources working in agriculture. She is an agronomist and horticultural specialist. She has extensive professional experience in horticulture, global trends, research, inorganic nutrients and secondary metabolites of plants. She trains in acclimatisation as part of tissue culture technology.

Sani Hanifah, SP., MP.

Sani Hanifah has over 15 years of experience in training and teaching agricultural human resources. She is an agronomist. She has extensive professional experience in horticulture and tissue culture. As part of tissue culture technology, she trains in tissue culture media.

List of Countries (*alphabetically sorted*):

No	Country	Number of Person(s)
1.	Barbados	4
2.	Belize	5
3.	Colombia	17
4.	Costa Rica	1
5.	Ecuador	6
6.	Ethiopia	1
7.	Guatemala	2
8.	Guyana	1
9.	Madagascar	3
10.	Namibia	2
11.	Panama	5
12.	Senegal	3
13.	South Africa	2
	Total	52

Distribution of Participants' Background

No	Background	Percentage
1.	Government	61.53%
2.	Higher education institution	13.47%
3.	Private sector	25%

Programme Activity Report

Online Training Course on Horticulture Seed Propagation with Tissue Culture for African, Caribbean and Latin American Countries

30th of July to 7th of August, 2021

Background

The demand for crop seed is increasing in the exportation of agricultural goods, while crop seeds produced by the higher variations are quite limited. In addition, the distribution of excellent plant seeds is a contributing aspect to the success of future agricultural development. The technology utilised in culture of tissue can also be used to respond to these issues.

In view of this, the Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC) and the Directorate of Technical Cooperation of the Ministry of Foreign Affairs in cooperation with the Indonesian Centre for Agricultural Training (ICAT) of Lembang of the Ministry of Agriculture-Republic of Indonesia has organised an online training course entitled "Online Training Course on Horticulture Seed Propagation with Tissue Culture". The course is divided into two regional batches. The training sessions were held on 30th of July for African countries till 4th of August, 2021 and on 4th - 7th of August, 2021 for Caribbean and Latin American countries.

The course is based on the definition of tissue culture and media, and result of the management and acclimatisation of tissue culture. For the virtual training session, experts from the ICAT of Lembang were present. E-learning and video materials were employed in addition to interactive engagement with trainers.

Numerous government agencies, academia and business sectors were trained in the following countries: Barbados, Belize, Colombia, Costa Rica, Ecuador, Ethiopia, Guatemala, Guyana, Madagascar, Namibia, Panama, Senegal and South Africa.

Participants could acquire knowledge and experience as follows: i) the diversity of horticulture plant cultivation; ii) tissue culture techniques in crop production; iii) horticultural culture features.

Discussion

Tissue Culture Medium

Only an adequately artificially created nutrient medium, known as the culture medium, can grow excised tissues and organic plants in vitro. Media used in culture of plant tissue contain nutrient elements that are vital to tissue growth and development. The success of the culture of tissue depends greatly on the culture media employed.

The culture medium is composed of distilled water and macro and micro-nutrients, vitamins, sugar, agar, organic compounds regulators of plant growth. The investigator must comprehend the difference between plant hormone and plant growth regulator in the application of plant tissue culture procedures. Only compounds that exist naturally in plants that can be regarded as hormones of plants. Instead, only synthetic components with a hormonal activity, e,g, auxin, ethylene, abscisic acid, gibberellins and cytokine were indicated by plant growth regulators.

For maximum growth and development of crops, plant cells and tissues require pH 5.0 to 6.0. The storage of culture media is also discussed. Room temperature in the dark should be used and the plant tissue packed into a plastic bag to avoid drying.

One of the Madagascar participants questioned about the length of media storage during the discussion. The cooler may last up to 3 months, but if contamination occurs before 3 months the medium cannot be used. Periodic inspections are required once a week to prevent this. Other participants from Namibia also addressed the sorts of tissue culture media used to produce phenolics. For this purpose, active charcoal can be employed.

Elements for Sterilising Explants

Explant is the source of seed material utilised in tissue culture technique to reproduce plants. Explant condition, sterilisation material, steriliser concentration, and sterilisation period are four crucial elements which need to be considered for sterilising explants.

Eliminating the source of pollutants is the fundamental principles of explant sterilisation. Contaminants are usually sources from inside explants of *indophytic* microorganism. By applying antiseptic substances, pollutants can be sterilised by taking into account the features of explants.

Cultured explants contain bactericides, detergents and chloric. It was highlighted during discussion that light requirements for plants varies. LEDs still require light in the explant procedure as a dark environment leads to aberrant growth for potatoes, bananas and orchids. While it is better to cover some plants with a dark cloth or fibres that require darkness for optimal growth.

Acclimatisation

Acclimatisation is the adjustment process of plants from internal environments to external environments, so called uncontrolled environments. Acclimatisation aims at maximising the photosynthesis process, making a facility more adaptable, and enhancing the root function of soil absorption nutrients.

The acclimatised plant must have root, stem and entire leaf. The sand and compost with a ratio of 3:4 constituted the acclimatisation medium. The media have to be autoclaved for an hour. Some of the acclimatised plants are bananas, tomatoes, hot pepper and potatoes.

The plant will be transported to the polybag media after the acclimatisation process with a 4:1 ratio of the mix of soil and husk charcoal. That is what transplantation is called. Plants are very sensitive, and hence all materials and tools used must be clean and sterilised.

It is known in the discussion that supplements such as compost should not be used during the acclimatisation phase. The only suggested nutrients for usage to limit all types of contamination are hydroponics. One of the Madagascar participants was also queried about the composition of the hydroponic nutrition AB solution. AB is a micronutrient and macronutrient combination. A and B is separated because some nutrients such as calcium and phosphate cannot be blended.

Evaluation

At the end of the event, the organisers conducted a survey with 20 random participants. The results of the survey are:

- 92% of respondents said the topic and content of training comply with participant's country policies;
- 91% of respondents said the contents of training were relevant to participant's country;
- 96% of respondents said the training contributed to their education, professional and personal growth;
- 72% of respondents said the agenda was clearly specified;
- 72% of respondents said the contents were well arranged and easy to follow;
- 93% of respondents said the training kept them engaged and interested;
- 96% of respondents said the trainers were familiar with the topics of training;
- 93% of respondents said the trainers were well prepared;
- 90% of respondents said the activities related to the goals of training;
- 90% of respondents said the training time allocation was enough; and
- 76% of respondents said the management of the Zoom Webinar was convenient.

Based on the above results, 87% respondents found that the training was very impressive.

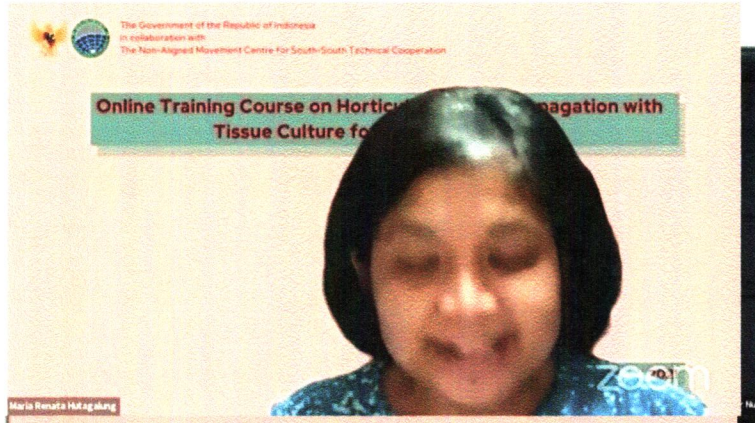
Conclusion

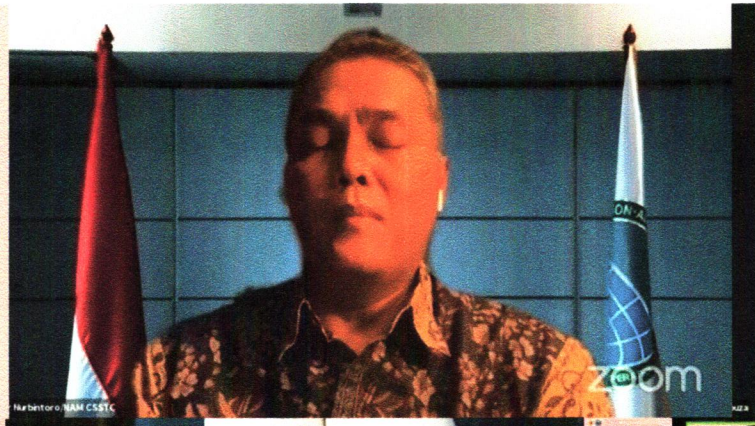
Throughout the organisation of the training, the organisers draw these conclusions:

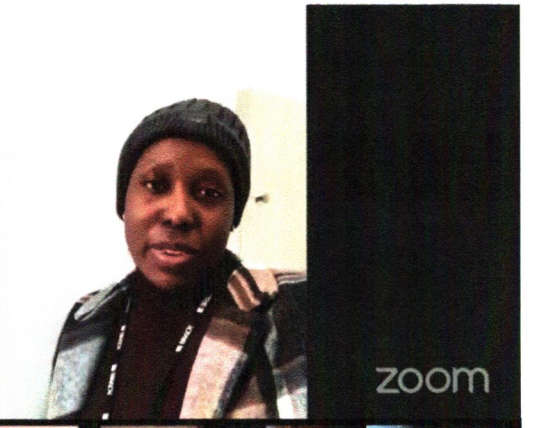
- Participants have acquired knowledge and skills on the tissue culture, in particular on the variety of the horticulture crop, the tissue culture techniques in crop growing and production and the characteristics of crop cultivation.
- The tissue culture training will be carried out by the participant in their projects and vocations;
- Two thirds of the respondents came from agricultural countries. Training enhances the quality of the seeds and increases production, therefore increasing the household's income.

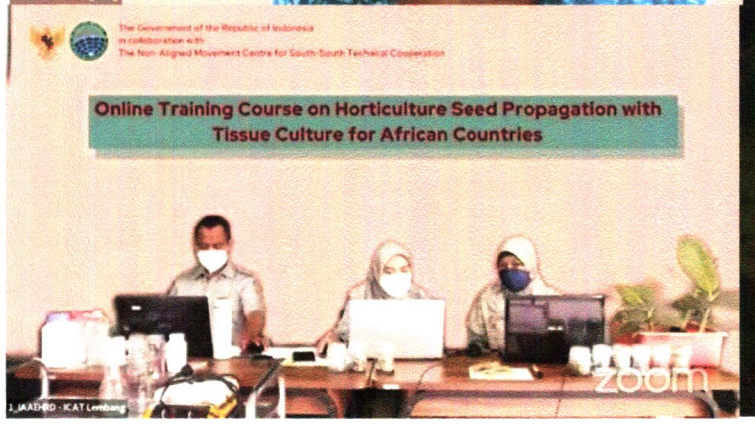
PHOTO DOCUMENTATION

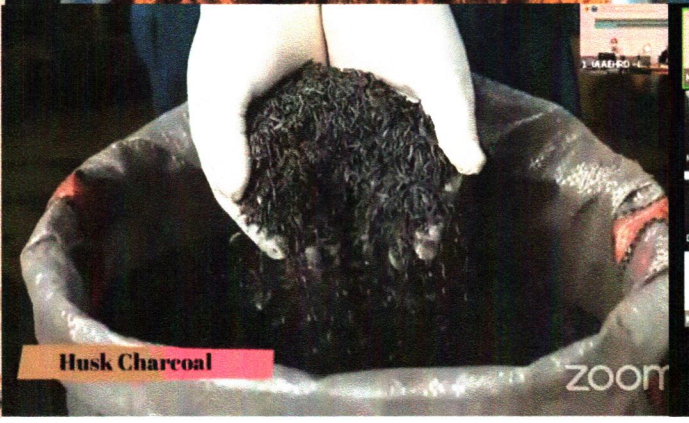
African Countries (30th of July to 4th of August, 2021)

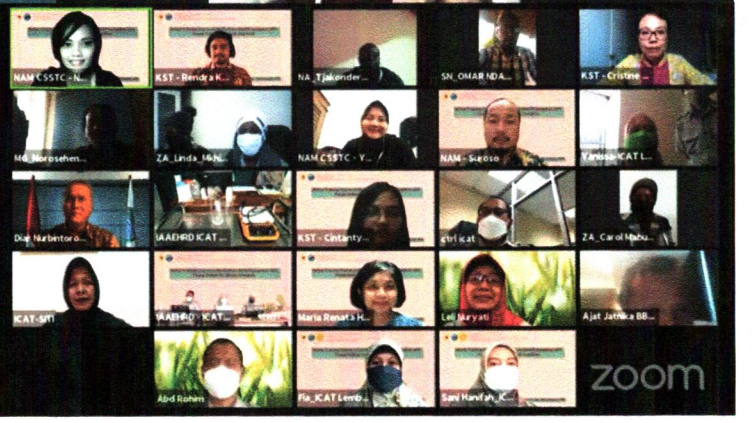




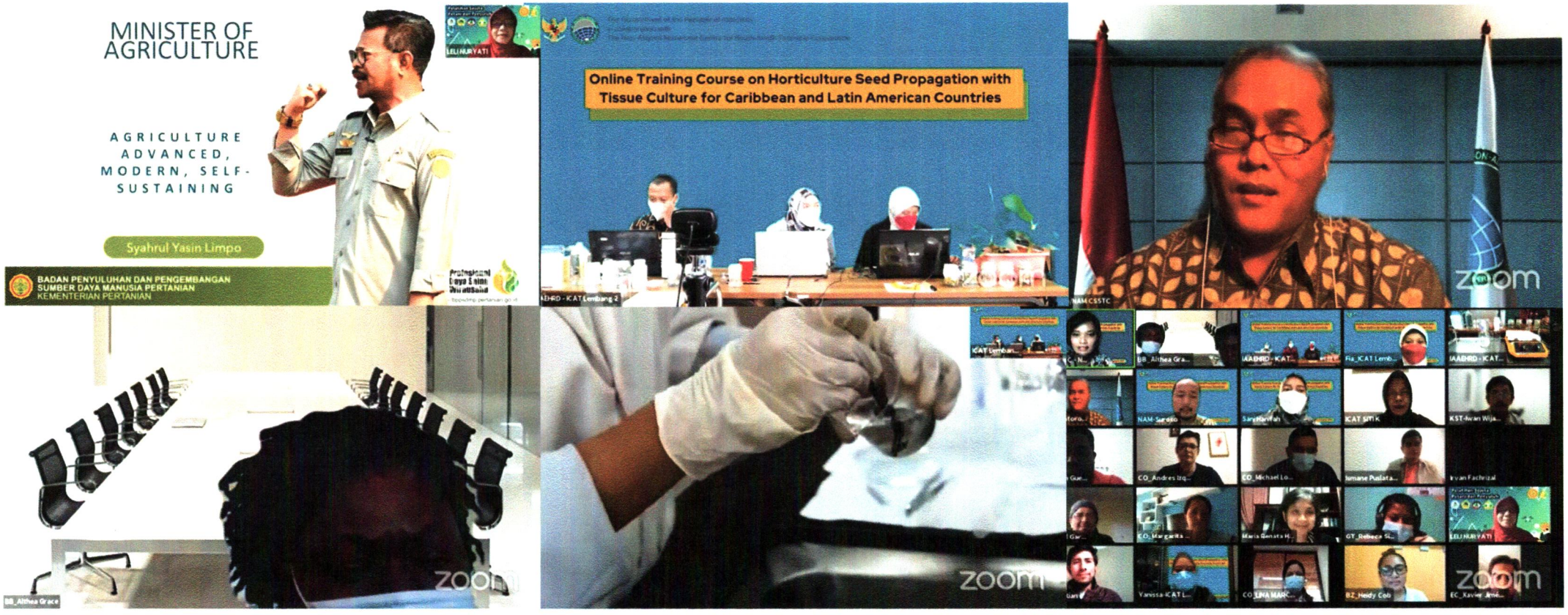








Caribbean and Latin American Countries (4th to 7th of August 2021)



SSTC 2021

REPORT OF INTERNATIONAL WORKSHOP ON ERADICATION OF IUU FISHING

FOR REGIONAL PLAN OF ACTION TO PROMOTE RESPONSIBLE FISHING PRACTICES INCLUDING COMBATING IUU FISHING IN THE REGION (RPOA-IUU) PARTICIPATING COUNTRIES AND PACIFIC COUNTRIES

9-11 AUGUST 2021

REPORT OF INTERNATIONAL WORKSHOP ON ERADICATION OF IUU FISHING

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Secretariat of Directorate General of Marine and Fisheries Resources Surveillance

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PRAKATA

Preface

AGUNG TRI PRASETYO

Head of Bureau of Public Relation and Foreign Cooperation,
Ministry of Marine Affairs and Fisheries

Puji dan syukur senantiasa kita panjatkan kehadirat Allah SWT, Tuhan Yang Maha Esa karena atas limpahan rahmat dan hidayah-Nya sehingga Laporan Pelaksanaan Kegiatan *International Workshop on Eradication of IUU Fishing for Regional Plan of Action to Promote Responsible Fishing Practice inclucing Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries* yang dilaksanakan secara virtual pada tanggal 9-11 Agustus 2021 dalam kerangka Kerja Sama Selatan-Selatan dan Triangular (KSST) dapat diselesaikan.

All praise and gratitude are always be uttered to Allah SWT, The God Almighty for countless blessing and guidance so that we can complete the Report of the International Workshop on Eradication of IUU Fishing for Regional Plan of Action to Promote Responsible Fishing Practice including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries, which was virtually held on 9-11 August 2021 in the framework of South-South Cooperation and Triangular (SSCT).

IUU Fishing tidak dapat dipungkiri telah menghalangi upaya dunia internasional untuk memastikan keberlanjutan sektor perikanan yang memiliki peran penting dalam pencapaian ketahanan pangan. Kerusakan lingkungan, penurunan sumber daya ikan, dan menurunnya kesejahteraan nelayan hanyalah sebagian kecil dari dampak nyata dari praktik *IUU Fishing*.

IUU Fishing certainly has hindered international efforts to ensure the sustainability of fisheries sector which is important in achieving food security. Environmental damage, the depletion of fish resources, and the decline of the fishermen welfare are only a small number of destructive impact from IUU Fishing practices.

Oleh karena itu, Indonesia telah bekerja sama dengan negara-negara lain melalui forum bilateral, regional dan multilateral dalam memperkuat kolaborasi, pelaksanaan dan pengawasan yang bertujuan untuk mendeteksi, mencegah, dan memerangi *IUU Fishing*.

Therefore, Indonesia has been collaborating with other countries through bilateral, regional, and multilateral forum in strengthening collaboration, enforcement, and surveillance aimed at detecting, deterring and eradicating IUU Fishing.

Pelaksanaan *Workshop* ini merupakan bukti nyata kontribusi Indonesia dalam membantu mengatasi permasalahan *IUU Fishing* di kawasan regional, melalui dukungan kegiatan peningkatan kapasitas yang menyediakan informasi dan pengetahuan untuk mengatasi *IUU Fishing* dan mempromosikan praktik perikanan yang berkelanjutan, terutama di masa pandemi Covid-19.

This Workshop is one of the concrete actions of Indonesian contribution in solving IUU Fishing issues in the region by supporting capacity building program which provides information and knowledge to combat IUU Fishing and promote sustainable fisheries practices, especially in the midst of Covid-19 pandemic.

Laporan pelaksanaan ini memuat data terkait kegiatan *International Workshop* dengan harapan dapat dijadikan bahan evaluasi untuk perbaikan dan penyempurnaan pada kegiatan *capacity building* di waktu yang akan datang.

The report contains data of the activities conducted in the International Workshop, which hopefully can be used as an evaluation for improvement and refinement of capacity building activities in the future.

Pada kesempatan ini saya ingin menyampaikan ucapan terima kasih dan penghargaan kepada semua pihak yang telah berkontribusi dan terlibat dalam penyelenggaraan *workshop* dan penyusunan laporan ini. Semoga Laporan ini dapat memberikan manfaat seperti yang diharapkan.

I would like to take this opportunity to express our gratefulness and appreciation to all parties who have contributed and involved in organizing the workshop and the preparation of this report. May the report deliver their expectation to the fullest.

KATA PENGANTAR

Foreword

MARIA RENATA HUTAGALUNG

Director for Technical Cooperation,
Ministry of Foreign Affairs

Kerja sama pembangunan internasional menjadi aspek penting dan integral dari kebijakan luar negeri Indonesia. Indonesia berkomitmen untuk memajukan kerja sama yang konkrit dan berkontribusi terhadap tujuan pembangunan berkelanjutan, baik di tingkat regional maupun global, di berbagai bidang.

International development cooperation has always been an important and integral aspect of Indonesia's foreign policy. Indonesia is committed to advance concrete cooperation and contribute towards regional and global goals of sustainable development in various sectors.

Sebagai negara kepulauan terbesar di dunia, Indonesia memahami pentingnya sektor kelautan dan perikanan dalam aspek ekonomi dan sosial budaya di masyarakat. Sektor perikanan tidak saja berperan penting dalam mendukung penghidupan masyarakat pesisir tetapi juga dalam upaya mewujudkan ketahanan pangan nasional dan global.

As the largest archipelagic nation in the world, Indonesia acknowledges the importance of marine and fisheries sector both in economic and social-cultural aspect. Not only does fisheries sector provide local coastal communities a livelihood but it also plays an important role in attaining national and global food security.

Illegal, unreported and unregulated (IUU) fishing merupakan ancaman serius bagi upaya tersebut. Hal ini dikarenakan *IUU Fishing* dan kejahatan global terorganisir di industri perikanan dapat melemahkan upaya-upaya pelestarian dan pengelolaan perikanan berkelanjutan dan bertanggung jawab di tingkatan nasional maupun kawasan dalam jangka panjang.

Illegal, unreported and unregulated (IUU) fishing poses a threat to this goal as it undermines national and regional efforts to conserve and manage fisheries products and hampers the progress in achieving long-term sustainable and responsible fisheries sector.

Menyadari pentingnya isu *IUU Fishing*, Pemerintah Republik Indonesia memberikan perhatian penuh pada pemberantasan *IUU Fishing*. Upaya ini telah dilakukan, antara lain, melalui penguatan implementasi peraturan nasional dan koordinasi erat antar Kementerian dan Lembaga terkait. Namun, kerja sama yang kuat antar negara melalui skema bilateral, regional dan multilateral juga terus ditingkatkan mengingat praktik *IUU Fishing* terjadimelampaui batas laut yang melintasi kawasan teritorial satu negara. Upaya kolaboratif antar negara menjadi kunci dalam menanggulangi isu *IUU Fishing* di kawasan.

Dalam kaitan itu, Pemerintah Republik Indonesia berkomitmen untuk terus meningkatkan kerja sama internasional untuk memberantas *IUU Fishing* dan mewujudkan industri dan produk perikanan yang berkelanjutan.

Noting its importance, combating IUU fishing has been a priority concern of the Government of the Republic of Indonesia. A number of measures has been taken by the Indonesian Government to strengthen national efforts through assertive implementation and close inter-institution coordination. The fight against IUU fishing however also requires strong cooperation between countries through bilateral, regional and multilateral schemes, as IUU fishing practices extend beyond sea boundaries and national borders. Collaborative efforts between countries is key to combat IUU fishing practices in the region.

In that regard, the Government of Indonesia is committed to strengthening international cooperation in combating IUU Fishing in the region and developing sustainable fisheries industries and products.

Kegiatan lokakarya bertajuk "*International Workshop on Eradication of Illegal, Unreported and Unregulated Fishing for RPOA-IUU Participating Countries and the Pacific Region Countries*" yang telah berlangsung pada 9-11 Agustus 2021 merupakan salah satu wujud komitmen Pemerintah Indonesia memajukan kerja sama mengatasi *IUU Fishing*.Lokakarya ini berlangsung atas kerja sama Kementerian Kelautan dan Perikanan dan Kementerian Luar Negeri Republik Indonesia dengan *Non-Aligned Movement Center on South-South and Triangular Cooperation* (NAM-CSSTC) dan *Regional Plan of Action on IUU Fishing Secretariat* (RPOA-IUU).

The holding of the Intenational Workshop on Eradication of Illegal, Unreported and Unregulated Fishing for RPOA-IUU Participating Countries and the Pacific Region Countries on 9-11 August 2021 is a reflection of Indonesia's commitment to eradication of IUU fishing. This Workshop has been conducted by the Government of the Republic Indonesia, thorugh the Ministry of Marine and Fisheries and Ministry of Foreign Affairs, in coordination with the Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC), and Regional Plan of Action on IUU Fishing Secretariat (RPOA-IUUF).

Lokakarya ini telah menggarisbawahi, antara lain, dua aspek penting yang perlu diperkuat dalam menanggulangi *IUU Fishing*, yakni perlunya upaya kolaborasi serta peningkatan kapasitas untuk mendeteksi dan menanggulangi *IUU Fishing*. Pemerintah Republik Indonesia berharap lokakarya ini telah membantu memfasilitasi koordinasi antar negara peserta dalam upaya penanggulangan *IUU Fishing* di kawasan, mengidentifikasi sumber daya yang tersedia dan dapat dimanfaatkan bersama, seperti keahlian, *best practices*, kerangka kemitraan dan program pengembangan kapasitas, dan pada gilirannya mendorong rencana konkret bersama dalam memperkuat kapasitas negara-negara peserta dalam penanggulangan isu *IUU Fishing*.

Among the key points discussed in the Workshop were the importance of developing collaboration and the capacity to detect and enforce anti-IUU fishing regulations. It is hope that the Workshop has facilitated better coordination between countries in the effort to tackle IUU fishing in the region, identification of available resources, including expertise, best practices, partnership framework, and capacity building programs, which in in turn enable concrete action plan in eradicating IUU fishing.

Sebagai penutup, Pemerintah Republik Indonesia akan terus mendukung dan membuka peluang kerja sama lain di masa depan dalam mendukung peningkatan kapasitas dalam hal penanggulangan *IUU Fishing* guna membantu dan memberikan solusi yang nyata untuk mencapai tujuan pembangunan berkelanjutan.

In conclusion, the Government of the Republic of Indonesia is committed to explore and support future cooperation with participating countries in addressing IUU fishing in order to assist and provide workable solutions in achieving sustainable development goals.

KATA PENGANTAR

Foreword

IR. SUHARTA, MSI

RPOA-IUU Secretariat Coordinator

Pandemi COVID-19 telah mengakibatkan perubahan signifikan dalam setiap aspek kehidupan di seluruh dunia. Bukan hanya menghadirkan permasalahan di bidang kesehatan, Covid-19 juga memberikan tantangan tersendiri bagi pengelolaan perikanan dan penegakan hukum, termasuk dalam pelaksanaan *monitoring, surveillance, and control* (MCS). Hal tersebut memunculkan kekhawatiran akan meningkatkan terjadinya praktik *Illegal, Unreported and Unregulated* (IUU) *Fishing*. Oleh sebab itu, kerja sama antar negara mutlak diperlukan sebagai langkah strategis dan operasional dalam penguatan pemberantasan *IUU Fishing* di Kawasan, khususnya di masa pandemi ini.

Bertitik tolak dari hal tersebut di atas, RPOA-IUU sebagai sebuah inisiasi regional yang mempromosikan tata kelola perikanan berkelanjutan termasuk diantaranya pemberantasan *IUU Fishing*, menyambut baik uluran kerja sama dari Pemerintah Republik Indonesia dan Non-Blok *Movement Center for South-South Technical Cooperation* (NAM CSSTC) untuk menyelenggarakan

The COVID-19 pandemic has caused significant changes in every aspect of life worldwide. It is not solely presenting problems in the health sector, but COVID-19 also bring their own challenges on fisheries management and law enforcement, including the implementation of monitoring, control, and surveillance (MCS). It raises concerns on the increased number of Illegal, Unreported, and Unregulated (IUU) fishing practices. Therefore, the cooperation between countries is absolutely required as a strategical and operational action in strengthening the eradication of IUU fishing in the region, particularly during the pandemic.

Based on the aforementioned, RPOA-IUU, a regional initiative that promotes sustainable fisheries management, including combating IUU fishing, welcomed the cooperation offer from The Government of The Republic of Indonesia and The Non-Aligned Movement Center for South-South Technical Cooperation (NAM CSSTC) to conduct

The International Workshop on Eradication of IUU Fishing pada 9-11 Agustus 2021 secara virtual. *Workshop* ini merupakan momen yang baik bagi negara-negara di Kawasan untuk saling bertukar pemikiran, ide dan gagasan termasuk aksi yang perlu dilakukan dalam memerangi *IUU Fishing*.

The International Workshop on Eradication of IUU Fishing on 9-11 August 2021 virtually. The workshop was aimed to be a forum for countries in the region to share their thoughts, ideas, and notions, including necessary prioritized action plan to combat IUU Fishing.

Terima kasih dan apresiasi kepada *Coordination Committee Meeting* dari negara-negara anggota RPOA-IUU: Australia, Brunei Darussalam, Kamboja, Indonesia, Malaysia, Papua Nugini, Filipina, Thailand, Timor-Leste, dan Vietnam yang telah hadir dan berpartisipasi aktif dalam kegiatan ini. Ini tentu menjadi hal yang positif dalam upaya mendorong kerja sama dalam mempromosikan tata kelola perikanan yang berkelanjutan termasuk pemberantasan *IUU Fishing*. Harapan kami dari Sekretariat RPOA-IUU tentu agar ke depan kerja sama ini semakin baik dan ditingkatkan.

Our appreciation and gratefulness are given to the Coordination Committee Meeting from RPOA-IUU participating countries; Australia, Brunei Darussalam, Cambodia, Indonesia, Malaysia, Papua New Guinea, Philippines, Singapore, Thailand, Timor-Leste, and Viet Nam who were able to attend and actively participate in the workshop. The workshop was certainly a positive effort to encourage cooperation in promoting sustainable fisheries management, including combating IUU fishing. As the RPOA-IUU Secretariat, we are expecting that this cooperation will achieve better and improve in the future.

Demikian yang bisa kami sampaikan sebagai kata pengantar dalam laporan pelaksanaan *The International Workshop on Eradication of IUUF*. Semoga bermanfaat dan memperkuat upaya kita semua dalam upaya pencegahan dan pemberantasan *IUU Fishing*.

Hereby we deliver the foreword for the activity report of The International Workshop on Eradication on IUUF. Hopefully, it will be useful and strengthen all of our effort to prevent and eradicate IUU Fishing.

KATA PENGANTAR

Foreword

DIAR NURBINTORO

Acting Director of Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC)

Memerangi *IUU Fishing* membutuhkan kerjasama dan koordinasi antar negara yang kuat melalui kerjasama bilateral, regional dan multilateral. Negara-negara telah menyiapkan berbagai inisiatif untuk memfasilitasi kerja sama dan koordinasi dalam memerangi *IUU Fishing*. Namun, pandemi Covid-19 telah mengganggu operasi, upaya dan kapasitas pemantauan. Sebagai akibat dari seringnya pembatasan operasi di atas kapal, inspeksi di pelabuhan dan di pantai, tingkat *IUU Fishing* masih melonjak.

Oleh karena itu, pertukaran pengetahuan tentang cara mengatasi isu *IUU Fishing* di tengah pandemi Covid-19 dengan mengadakan lokakarya virtual dapat menjadi langkah strategis untuk meningkatkan kapasitas pemberantasan *IUU Fishing*, seperti yang dilakukan oleh Pemerintah Republik Indonesia, *Non-Aligned Movement Centre for South-South Technical Cooperation* (NAM CSSTC) dan *Regional Plan of Action to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU)* dari tanggal 9 hingga 11 Agustus 2021.

Combating IUU fishing requires strong cooperation and coordination between countries through bilateral, regional and multilateral cooperation. Countries set up numerous initiatives to facilitate cooperation and coordination in the fight against IUU fishing. The Covid-19 pandemic has, however, interrupted monitoring capacity operations and efforts. As a result of the restriction on frequent on-board operation, in-port and at-shore inspections, the extent of IUU fishing is still being enlarged.

The exchange of knowledge on how to tackle the issues of the IUU fishing in the midst of the Covid-19 pandemic by holding a virtual workshop could therefore be a strategic measure for increasing the IUU fishing eradication's capacity, as conducted by the Government of the Republic of Indonesia, Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC) and Regional Plan of Action to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) from 9th to 11th of August 2021.

Laporan ini disusun berdasarkan lokakarya berjudul: *'Pemberantasan Illegal, Unreported and Unregulated Fishing untuk Negara Peserta Regional Plan of Action to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) dan Negara Pasifik.'* Sekitar 40 delegasi dari negara peserta RPOA-IUU dan negara Pasifik berpartisipasi.

This report was drawn up based on a workshop entitled: 'Eradication of Illegal, Unreported and Unregulated Fishing for Regional Plan of Action to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries.' Some 40 participants from RPOA-IUU participating countries and Pacific countries participated.

Lokakarya ini bertujuan untuk lebih meningkatkan saling pengertian dalam pencegahan dan pemberantasan *IUU Fishing* serta penguatan kerjasama pencegahan dan pemberantasan *IUU fishing* antara negara peserta RPOA-IUU dengan negara-negara Pasifik.

The objective for the workshop was the further improvement of mutual understanding in respect of the prevention and eradication of IUU fishing and the reinforcement of cooperation in prevention and eradication of IUU fishing between the RPOA-IUU participating countries and Pacific countries.

Hasil yang diharapkan adalah untuk berbagi informasi dan pengetahuan tentang dampak *IUU Fishing* di seluruh dunia dari perspektif ekonomi dan lingkungan, dan untuk meningkatkan kesadaran tentang perlunya meningkatkan koordinasi di antara negara-negara peserta RPOA-IUU dalam perjuangan melawan *IUU Fishing*. Alhasil, lokakarya ini memberikan peluang besar tidak hanya untuk meningkatkan pemahaman bersama tentang faktor-faktor yang terkait dengan pencegahan dan pemberantasan *IUU Fishing*, tetapi juga untuk meningkatkan kesadaran tentang dampak ekonomi dan ekologis dari *IUU Fishing* di dunia.

The expected outcome was to share information and knowledge on the worldwide impact of the IUU fishing from an economic and environmental perspective, and to raise the awareness about the need to improve coordination among the RPOA-IUU participating countries in the struggle against IUU fishing. As a result, the workshop provided a great opportunity not only to increase mutual understanding on factors related to IUU fishing prevention and eradication, but also to enhance awareness about the economic and ecological impact of IUU fishing on the world.

Laporan ini mencerminkan semangat diskusi para peserta. Konsep-konsep yang disebutkan dalam lokakarya disertakan. Diharapkan laporan ini dapat dipertimbangkan untuk digunakan pada lokakarya *IUU Fishing* lainnya.

The present report reflects the participants' spirit of discussion. The concepts mentioned in the workshop are included. It is hoped that some of these materials may be considered appropriate for use on other IUU fishing workshops.

Laporan ini berupaya memberikan wawasan praktis dan teori kepada pejabat pemerintah tentang masalah yang mereka hadapi dalam memberantas *IUU Fishing*.

The report seeks to give government officers practical and theory insights into the issues they confront in eradicating IUU fishing.

SAMBUTAN

Welcoming Remarks

ANTAM NOVAMBAR

SECRETARY GENERAL OF
MINISTRY OF MARINE AFFAIRS AND FISHERIES

IUU Fishing merupakan suatu fenomena global yang berdampak pada kerusakan lingkungan dan sosial ekonomi. Sampai saat ini, *IUU Fishing* masih menjadi salah satu ancaman terbesar bagi ekosistem laut, terutama bagi kelestarian sumber daya ikan dan keanekaragaman hayati laut. Tidak hanya itu, penurunan stok ikan yang diakibatkan oleh tindakan *IUU Fishing* juga secara langsung memengaruhi jumlah tangkapan nelayan lokal yang menggantungkan hidupnya pada perikanan tangkap skala kecil. Untuk itu, sebagai upaya untuk menghentikan praktik *IUU Fishing*, kerja sama dan koordinasi yang baik antar negara-negara melalui kerja sama bilateral, regional dan multilateral sangatlah diperlukan.

IUU fishing is a global phenomenon which causes environmental and socio-economic damage. Until now, IUU Fishing remains one of the greatest threats to marine ecosystem, especially for the preservation of fish resources and marine biodiversity. Adding to that matter, the depletion in fish stocks caused by IUU Fishing also directly affects the total catch of local fishermen who depend their livelihoods on small-scale fishing. In order to put a stop on IUU Fishing practices, solid cooperation and coordination between countries through bilateral, regional and multilateral cooperation are most needed.

Berbagai upaya telah dilakukan dan inisiasi telah dibentuk oleh negara-negara, baik melalui forum bilateral, regional dan multilateral, guna meningkatkan koordinasi dan memperkuat kolaborasi dalam memerangi *IUU Fishing*.

Numerous efforts have been made, and initiatives have been formed by countries though bilateral, regional, and multilateral forum in order to improve coordination and strengthen collaboration in combating IUU Fishing.

Namun demikian, adanya pandemi Covid-19 semakin menambah tantangan dalam memerangi *IUU Fishing*, dimana keterbatasan operasional dalam pemantauan dan pengawasan di masa pandemi menyebabkan meningkatnya praktik *IUU Fishing*.

However, the Covid-19 pandemic has added one more challenge in fighting against IUU Fishing, in which operational limitations in monitoring and surveillance during the pandemic have led to the increased number of IUU fishing practices.

Oleh karena itu, program peningkatan kapasitas bagi para praktisi melalui pertukaran informasi terkait praktik terbaik dalam penanggulangan *IUU Fishing* di tengah pandemi Covid-19 oleh negara-negara dapat menjadi langkah strategis guna menemukan metode terbaik.

Therefore, the capacity building program for practitioners through the exchange of information related to best practice in handling IUU Fishing in the midst of the Covid-19 pandemic by countries can be a strategic measure to find the best method.

Melalui *workshop 'Eradication of Illegal, Unreported and Unregulated Fishing for Regional Plan of Action to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries.'* yang diselenggarakan secara virtual pada 9-11 Agustus 2021, diharapkan dapat dibangun pemahaman bersama terkait aspek-aspek dalam pemberantasan *IUU Fishing* dan kolaborasi antar negara dapat meningkat untuk mencegah dan memerangi praktik *IUU Fishing*.

Through the International Workshop on Eradication of Illegal, Unreported and Unregulated Fishing for Regional Plans of Action to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries.' which was held virtually on 9-11 August 2021, it is hoped that a mutual understanding regarding aspects in eradication of IUU Fishing can be formed and collaboration between countries can be strenghtened to prevent and combat the practice of IUU Fishing.

Daftar Isi

Table of Content

1.
Pendahuluan

Introduction

LATAR BELAKANG
Background

IUU Fishing adalah fenomena global dengan konsekuensi lingkungan dan sosial ekonomi yang menghancurkan.[1] Lautan dunia dalam bahaya dan populasi ikan global mengalami penurunan yang serius. Laporan *UN FAO State of World Fisheries and Aquaculture* (SOFIA) 2014 menemukan bahwa 90,1% dari stok ikan dunia telah dieksploitasi secara penuh atau dieksploitasi secara berlebihan. *IUU Fishing* menyumbang 20% (11 hingga 25 juta metrik ton ikan) dari tangkapan global[2]. *IUU Fishing* mengancam 260 juta pekerjaan global yang bergantung pada perikanan laut dan merupakan ancaman besar bagi lautan, konsumen, dan bisnis makanan laut di seluruh dunia.[3]

IUU Fishing is a global phenomenon with devastating environmental and socio-economic consequences.[1] The world's ocean is in peril and global fish populations are in serious decline. The UN FAO State of World Fisheries and Aquaculture (SOFIA) 2014 report found that 90.1% of the world's fish stocks were fully exploited or over-exploited. IUU Fishing accounts for 20% (11 to 25 million metric tons of fish) of the global catch[2]. IUU Fishing threatens the 260 million global jobs that are dependent on marine fisheries and is a major threat to the oceans, consumers and seafood businesses around the world.[3]

1. Damanaki, Maria, dan Lubchenco, Jane. (2011). Joint Statement between the European Commission and the United States Government on Efforts to Combat Illegal, Unreported and Unregulated (IUU) Fishing.
2. Oceana. (2013). Oceana Report released in Managing Our Nation's Fisheries Conference in Washington, D.C. in 2013.
3. International Organization for Migration (IOM) Indonesia. (2016). Laporan mengenai perdagangan orang, pekerja paksa, dan kejahatan perikanan dalam industri perikanan Indonesia

IUU Fishing juga berdampak besar pada aspek sosial dan meningkatnya potensi konflik akibat meningkatnya persaingan di wilayah penangkapan ikan. Selain itu, penurunan stok ikan juga mengakibatkan peningkatan pengangguran dari sektor perikanan karena perusahaan harus mengurangi jumlah awak kapal penangkap ikan.[4]

IUU Fishing also causes great impact on social aspect and the increase in the potential of conflict due to the increased competition in fishing areas. Moreover, the decline in fish stocks also results in an increase in unemployment from the fisheries sector since companies should reduce the number of fishing boat crews.[4]

Praktik *IUU Fishing* seringkali melibatkan jaringan lintas batas dan tidak hanya terkait dengan kegiatan *illegal fishing*, tetapi juga sering dikaitkan dengan pelanggaran hukum berat lainnya seperti pemalsuan dokumen, penyuapan, penyelundupan, perdagangan manusia, serta kerja paksa. seperti kejahatan keuangan seperti penipuan asuransi, penggelapan, pajak dan pencucian uang.

The practice of IUU Fishing often involves cross-border network and not only it is related with illegal fishing activities, but it is also often linked to other serious law violations such as falsification of documents, bribery, smuggling, human trafficking, forced labor as well as financial crimes such as insurance fraud, embezzlement, taxes and money laundering.

4. Sunyowati, Dina. (2014). "Dampak Kegiatan IUU-Fishing di Indonesia" (makalah disampaikan pada Seminar Nasional "Peran dan Upaya Penegak Hukum dan Pemangku Kepentingan Dalam Penanganan dan Pemberantasan IUU Fishing di Wilayah Perbatasan Indonesia", kerjasama Kementerian Luar Negeri Republik Indonesia dengan Universitas Airlangga Surabaya, 22 September 2014)

Sejumlah wilayah perairan dunia memiliki tingkat kerawanan dan sering menjadi sasaran para pelaku *IUU Fishing,* seperti di Teluk Thailand, Laut Cina Selatan, dan Sulu Sulawesi, Laut Arafura dan Timor, Laut Karibia, Laut Pasifik Selatan, dan Laut Afrika Barat.[5] Mengingat sifatnya yang umumnya tersembunyi, sulit untuk mengukur secara tepat, tetapi perkiraan saat ini menunjukkan kerugian ekonomi global dari penangkapan ikan ilegal menelan biaya hingga $23,5 miliar per tahun.[6]

A number of world territorial waters possess a vulnerability level and are often being targeted by IUU Fishing perpetrators, such as in the Gulf of Thailand, South China Sea, and Sulu Sulawesi, Arafura and Timor Seas, the Caribbean Sea, the South Pacific Sea, and the West African Sea.[5] Given its generally concealed nature, it is difficult to precisely quantify, but the current estimates suggest the global economic losses of illegal fishing cost up to $23.5 billion annually. [6]

5. Wilcox, C., Mann, V., Cannard, T., Ford, J., Hoshino, E. and Pascoe, S.,(2021). A review of illegal, unreported and unregulated fishing issues and progress in the Asia-Pacific Fishery Commission region. Bangkok, FAO and Hobart, CSIRO. https://doi.org/10.4060/cb2640en

6. OECD-FAO-UNODC. (2016). Conference and Workshop on Improving Co-operation in the fight against fish crime, 13-14 October 2016

Sebagai pengganti kejahatan perikanan yang bersifat global dan kompleks, pemberantasan *IUU fishing* menuntut kerjasama dan koordinasi yang baik antar negara melalui kerjasama bilateral, regional dan multilateral. Berbagai inisiasi didirikan oleh negara-negara untuk memudahkan kolaborasi dan koordinasi dalam memerangi *IUU Fishing*. Namun, pandemi Covid-19 telah mengganggu operasional dan upaya kapasitas pemantauan dan pengawasan. Akibatnya, ruang lingkup *IUU Fishing* tetap meningkat karena keterbatasan operasi reguler di atas kapal dan inspeksi di pelabuhan dan di laut.

In lieu of the global and complex nature of fisheries crime, combating IUU fishing demands excellent collaboration and coordination between countries through bilateral, regional and multilateral cooperation. Numerous initiations were established by countries to ease collaboration and coordination in combating IUU fishing. However, the covid-19 pandemic has disrupted the operations and efforts of monitoring and surveillance capacity. Consequently, the scope of IUU fishing remains increased due to limitations of regular on-board operations and in-port and at-sea inspections.

Oleh karena itu, bertukar dan berbagi informasi tentang cara mengatasi tantangan penanggulangan *IUU Fishing* di tengah pandemi Covid-19 melalui pelaksanaan *Workshop* virtual dapat menjadi langkah strategis untuk meningkatkan kapasitas para praktisi IUU fishing.

Therefore, exchanging and sharing information on how to overcome the challenges of tackling IUUF in the midst of the Covid-19 pandemic through conducting virtual Workshop can be a strategical action to elevate the capacity of IUU fishing practitioners.

Tujuan & *Output*

Objectives & Output

Tujuan:

- Meningkatkan saling pengertian mengenai aspek pencegahan dan pemberantasan *IUU Fishing;*
- Memperkuat kerja sama antar negara peserta dalam pencegahan dan pemberantasan *IUU Fishing;* dan
- Memperkuat kerja sama antara negara-negara Peserta RPOA-IUU dan Negara-negara Pasifik dalam pencegahan dan pemberantasan *IUU Fishing.*

Objectives:

- *To increase mutual understanding regarding aspects in the prevention and eradication of IUU Fishing;*
- *To strengthen cooperation amongst participating countries in the prevention and eradication of IUU Fishing; and*
- *To strengthen cooperation amongst RPOA-IUU Participating countries and Pacific Countries in the prevention and eradication of IUU Fishing.*

Output:

- Berbagi pengetahuan dan informasi tentang dampak global IUU Fishing dari sudut pandang ekonomi dan ekologi;
- Kesadaran akan perlunya peningkatan koordinasi di antara negara-negara peserta untuk memerangi IUU Fishing; dan
- Peluang kolaborasi di masa depan antara negara-negara peserta RPOA-IUU dan Negara-negara Pasifik dalam memerangi IUU Fishing.

Output:

- *Sharing knowledge and information of global impact of IUUF from economic and ecological view;*
- *Awareness of the need for increasing coordination amongst the participating countries to combat IUUF; and*
- *Opportunity of future collaboration amongst the RPOA-IUU participating countries and Pacific Countries in combating IUUF.*

PENDANAAN */Funding*

Sumber dana kegiatan *International Workshop om Eradication of IUU Fishing for Regional Plan of Action to Promote Responsible Fishing Practice inclucing Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries* yang dilaksanakan secara virtual pada tanggal 9-11 Agustus 2021, berasal dari *Non-Aligned Movement Centre for South-South Technical Cooperation* (NAM-CSSTC) sebagai mitra penyelenggara.

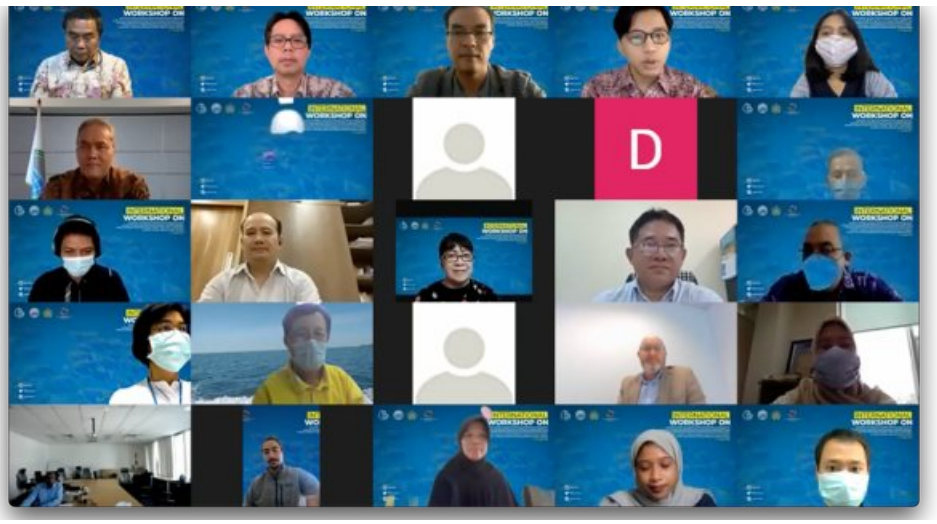
Source of funding for the International Workshop on Combating IUU Fishing for Regional Action Plans to Promote Responsible Fishing Practices including the Eradication of IUU Fishing in the Territories (RPOA-IUU) of Participating States and Pacific States virtually held on 9-11 August 2021, comes from the Non-Aligned Movement Centre for South-South Technical Cooperation (NAM-CSSTC) as the organizing partner.


HIU 02
04

2.
Penyelenggaraan

Workshop Description


KAPAL PENGAWAS PERIKANAN
6004
2802



Waktu Pelaksanaan

Time

Kegiatan *International Workshop on Eradication of Illegal, Unreported and Unregulated (IUU) Fishing to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries* diselenggarakan atas kerja sama Pemerintah Republik Indonesia c.q. Kementerian Kelautan dan Perikanan dengan *Non-Aligned Movement Center for South-South Technical Cooperation* (NAM-CSSTC) dan Kementerian Luar Negeri pada tanggal 9-11 Agustus 2021 secara virtual. Kegiatan dilaksanakan dalam kerangka program Kerja Sama Selatan-Selatan dan Triangular (KSST) tahun 2021.

The International Workshop on Eradication of Illegal, Unreported and Unregulated (IUU) Fishing to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries was virtually held on 9-11 August 2021, in collaboration between the Government of the Republic of Indonesia c.q. The Ministry of Marine Affairs and Fisheries with the Non-Aligned Movement Center for South-South Technical Cooperation (NAM-CSSTC) and the Ministry of Foreign Affairs . The activity is carried out under the framework of the 2021 South-South and Triangular Cooperation (SSTC) program.

Workshop diikuti oleh 40 (empat puluh) peserta dari 10 negara RPOA-IUU (Australia, Brunei Darussalam, Kamboja, Indonesia, Malaysia, Papua Nugini, Piilipina, Thailand, Timor-Leste dan Viet Nam) serta dihadiri sejumlah pakar dan praktisi perikanan dunia yang berasal dari *University of Indonesia, Australian National Centre for Ocean Resources and Security (ANCORS) of Wollongong University, FAO - Regional Asia Pacific (RAP), Marine Stewardship Council, INTERPOL,* dan *SEAFDEC.*

Kegiatan International Workshop dibuka bersama oleh Menteri Kelautan dan Perikanan, RPOA-IUU Secretariat Coordinator dan Plt. Dlrektur NAM CSSTC pada tanggal 9 Agustus 2021.

The workshop was attended by 40 (forty) participants from 10 RPOA-IUU Participating Countries (Australia, Brunei Darussalam, Cambodia, Indonesia, Malaysia, Papua New Guinea, Philippines, Thailand, Timor-Leste and Viet Nam) and numbers of world fisheries experts and practitioners namely from the University of Indonesia, Australian National Center for Ocean Resources and Security (ANCORS) of Wollongong University, FAO - Regional Asia Pacific (RAP), Marine Stewardship Council, INTERPOL, and SEAFDEC.

The International Workshop was jointly opened by the Minister of Marine Affairs and Fisheries, RPOA-IUU Secretariat Coordinator and Acting Director of NAM CSSTC on 9 August 2021.

MKP dalam pidatonya menyampaikan apresiasi dan terima kasih atas kerja sama yang terjalin antara KKP dengan NAM CSSTC dan Sekretariat *the Regional Plan of Action to Promote Responsible Fishing Practices including Combating IUU Fishing* (RPOA-IUU) sehingga penyelenggaraan *workshop* dapat terlaksana dengan baik. Penyelenggaraan *workshop* ini sendiri merupakan bentuk komitmen untuk terus mendorong kerja sama dengan negara-negara di Kawasan dalam pemberantasan *IUU Fishing*.

MKP menegaskan bahwa memerangi *IUU Fishing* dalam berbagai keadaan bukan hanya menjadi tanggung jawab satu negara. Kerja sama antar negara merupakan aspek penting dalam pemberantasan *IUU Fishing* yang perlu dijaga dan diperkuat.

In his remarks, The Minister of Marine Affairs and Fisheries expressed his appreciation and gratitude upon the solid cooperation between MMAF, NAM CSSTC and the Secretariat of the Regional Plan of Action to Promote Responsible Fishing Practices including Combating IUU Fishing (RPOA-IUU) for a proper and well-organized workshop. The workshop implementation was a form of commitment in continuously promoting the cooperation on eradication of IUU Fishing with countries in the region.

The Minister emphasized that combating IUU fishing in various circumstances is not only the responsibility of one country. It is the cooperation between countries that is important in eradicating IUU fishing which needs to be maintained and strengthened.

"Dalam perspektif kerja sama pemberantasan *IUU Fishing*, Indonesia memiliki komitmen yang jelas dan kuat. Komitmen tersebut salah satunya telah ditunjukkan melalui 14 tahun perannya sebagai Sekretariat RPOA-IUU", ujar MKP.

"Within the perspective of cooperation to eradicate IUU Fishing, Indonesia has a clear and strong commitment. One of the commitments has been shown through its 14-year role as the Secretariat of the RPOA-IUU", said the Minister.

Kerjasama regional ini diharapkan dapat memperkuat kebijakan yang diterapkan oleh KKP dan berprinsip pada keberlanjutan ekologis yang ada di laut.

This regional cooperation is expected to strengthen the policies implemented by the MMAF and based on the principles of sustainable ecology in the sea.

RPOA-IUU Secretariat Coordinator dalam sambutan menyampaikan bahwa Indonesia sebagai Sekretariat RPOA-IUU telah bekerja bersama dengan 11 negara anggota dan beberapa organisasi mitra dalam memperkuat kerja sama dan menjaga semangat kebersamaan dalam memberantas *IUU Fishing*.

Workshop ini diharapkan dapat meningkatkan pemahaman bersama terkait aspek-aspek dalam pemberantasan *IUU Fishing* dan memperkuat kerja sama antar negara, khususnya negara peserta RPOA-IUU dan negara di kawasan Pasifik untuk mencegah dan memerangi praktik *IUU Fishing*.

Dengan adanya kesamaan pemahaman dan semangat kerja sama ini, diharapkan akan semakin memperkuat upaya pemberantasan *IUU Fishing*.

The RPOA-IUU Secretariat Coordinator in his speech conveyed that Indonesia as the RPOA-IUU Secretariat has worked together with 11 member countries and several partner organizations in strengthening the cooperation and maintaining the spirit of togetherness in eradicating IUU Fishing.

The workshop was aimed to increase mutual understanding regarding aspects of IUU Fishing and to strengthen cooperation amongst participating countries especially amongst RPOA-IUU Participating countries and Pacific Countries in the prevention and eradication of IUU Fishing

With this common understanding and spirit of cooperation, it is wished that the efforts to eradicate IUU Fishing will be strenghtened.

Sementara itu, Plt. Direktur NAM CSSTC pada sambutannya menyampaikan bahwa tujuan NAM CSSTC adalah untuk membantu negara-negara berkembang meningkatkan kapasitas nasional dan kemandirian kolektif mereka. Di antara elemen peningkatan kapasitas nasional, NAM CSSTC memprioritaskan peningkatan kapasitas dan sumber daya untuk pemantauan, pengendalian, dan pengawasan yang efektif terhadap IUU Fishing.

Meanwhile, the Acting Director of NAM CSSTC mentioned that the NAM CSSTC's objective is to help developing countries enhance their national capacities and collective self-reliance. Among the elements of enhancing national capacities, NAM CSSTC prioritize in increasing the capacity and resources for effective monitoring, control, and surveillance on IUU fishing.

Peserta */Participants*

Kegiatan *International Workshop on Eradication of Illegal, Unreported and Unregulated (IUU) Fishing to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries*, diikuti oleh 40 (empat puluh) peserta dari 10 (sepuluh) negara RPOA-IUU (Australia, Brunei Darussalam, Kamboja, Indonesia, Malaysia, Papua Nugini, Piilipina, Thailand, Timor-Leste dan Viet Nam). Rekapitulasi peserta seperti pada lampiran.

The International Workshop on Eradication of Illegal, Unreported and Unregulated (IUU) Fishing to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Territories (RPOA-IUU) of Participating Countries and Pacific Countries was attended by 40 (forty) participants from 10 (ten) RPOA-IUU Participating Countries (Australia, Brunei Darussalam, Cambodia, Indonesia, Malaysia, Papua New Guinea, Philippines, Thailand, Timor-Leste and Viet Nam). The recapitulation of participants as in the appendix.

Narasumber

Speakers

Narasumber *International Workshop on Eradication of Illegal, Unreported and Unregulated (IUU) Fishing to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries* berjumlah 8 (delapan) orang yang berasal dari *University of Indonesia, Australian National Centre for Ocean Resources and Security* (ANCORS) *of Wollongong University, FAO - Regional Asia Pacific* (RAP), *Marine Stewardship Council*, INTERPOL, SEAFDEC dan Sekretariat RPOA-IUU. Rekapitulasi Biodata Narasumber seperti pada lampiran.

The Speakers for the International Workshop on Eradication of Illegal, Unreported and Unregulated (IUU) Fishing to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries comprised of 8 experts from the University of Indonesia, Australian National Center for Ocean Resources and Security (ANCORS) of Wollongong University, FAO - Regional Asia Pacific (RAP), Marine Stewardship Council, INTERPOL, SEAFDEC and the RPOA-IUU Secretariat. The data of Speakers' Professional Background as in the Appendix.

Sarana dan Prasarana

Facilities and Infrastructure

Sarana dan prasarana yang digunakan untuk mendukung efektifitas kegiatan *workshop* meliputi: laptop, LCD Proyektor, adapter, dan jaringan kabel LAN.

The facilities and infrastructure used to support the workshop include: laptops, LCD projectors, adapter, and LAN cable networks.

Metode Workshop

Workshop Methods

Metode *workshop* yang digunakan dalam proses kegiatan terdiri dari:

- Paparan narasumber
- Paparan perwakilan negara peserta
- Tanya – Jawab

The workshop method used consisting of:

- *Presentation of Speakers*
- *Presentation of Country Representatives*
- *Question and Answer*

Proses Kegiatan

/Activities

Day 1

9 August 2021

1. *A Study of Global Loss of IUU Fishing by Dr. Arie Afriansyah, Head of Center for Sustainable Ocean Policy, Faculty of Law, University of Indonesia*

2. *Implementation of Monitoring, Control, and Surveillance by Prof. Alistair Mcilgorm, Capacity Development Leader, Australian National Centre for Ocean Resources and Security* (ANCORS)

Q & A Session

3. *Implementation of Port States Measures by Simon FungeSmith, Senior Fishery Office, FAO-RAP*

4. *Enhancement of Capacity to Improve Flag State Performance by Dr. Camille Goodman, Australian National Centre for Ocean Resources and Security* (ANCORS)

Q & A Session

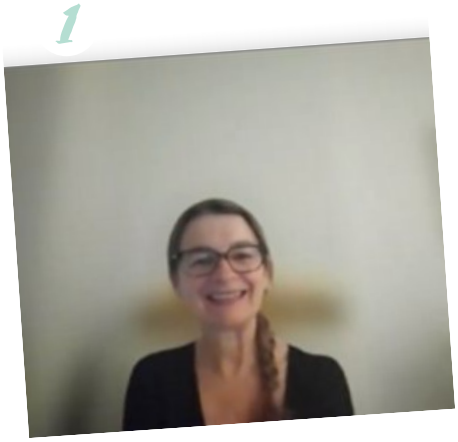
Proses Kegiatan

/Activities

Day 2

10 August 2021

1 *Traceability of Fisheries Product and Market Measure to Combat IUU Fishing by Ms. Susan Lockhart, Supply Chain Standards Director, Marine Stewardship Council*



2 *Modus Operandi IUU Fishing Fisheries Related Crime by Mr. Stuart Beban, Criminal Intelligence Analyst*, INTERPOL

Q & A Session

3 *Regional Capacity Building to Combat IUU Fishing by Mr. Kongpathai Saraphaivanich, Head of Training and Information Section,* SEAFDEC

4 *Lesson Learned of Regional Effort to Combat IUU Fishing in the South-East Asia: RPOA-IUU by Matheus Eko Rudianto, RPOA-IUU Secretariat*

Q & A Session

Proses Kegiatan

/Activities

Day 3

11 August 2021

Para perwakilan negara menyampaikan paparan terkait *Best Practice in Handling IUU Fishing* di negara masing-masing. Melalui sesi ini para peserta saling bertukar informasi terkait upaya-upaya terbaik yang telah dilakukan negara peserta untuk memerangi penangkapan ikan ilegal.

The country representatives delivered presentations related to Best Practice in Handling IUU Fishing in their respective countries. Through this session, participants exchanged information regarding the best efforts of participating countries to combat illegal fishing.

Selain itu, para peserta juga saling bertukar pandang terkait upaya terbaik untuk memerangi *IUU Fishing* selama masa pandemi Covid-19 seperti melakukan digitalisasi dalam penerbitan izin atau sertfikat. Melalui sesi *Sharing Best Practice* ini ditemukan pandangan yang sama dari para peserta akan pentingnya peningkatan kerja sama antar negara untuk melawan *IUU Fishing*, baik melalui kerja sama bilateral atau multilateral. Salah satunya memperkuat kerja sama di forum regional seperti RPOA IUU atau forum lainnya.

In addition, the participants also exchanged views on the best efforts to eradicate IUU Fishing in the midst of Covid-19 pandemic, such as digitalization of the issuance of permits or certificates. Through this Sharing Best Practice session, the participants shared the same view on the importance of strengthening cooperation between countries to combat IUU Fishing through bilateral or multilateral cooperation. One of the ways is to strengthen cooperation in regional forum such as the RPOA IUU or other forums.

3.
Penutup

Conclusion

Kesimpulan

Conclusion

International Workshop on Eradication of Illegal, Unreported and Unregulated (IUU) Fishing to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries telah diselenggarakan oleh Pemerintah Republik Indonesia c.q. Kementerian Kelautan dan Perikanan bekerja sama dengan *Non-Aligned Movement Center for South-South Technical Cooperation* (NAM-CSSTC) dan Kementerian Luar Negeri dalam kerangka pelaksanaan program Kerja Sama Selatan-Selatan dan Triangular (KSST) tahun 2021.

The International Workshop on Eradication of Illegal, Unreported and Unregulated (IUU) Fishing to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries was held by the Government of the Republic of Indonesia c.q. The Ministry of Marine Affairs and Fisheries collaborated with the Non-Aligned Movement Center for South-South Technical Cooperation (NAM-CSSTC) and the Ministry of Foreign Affairs in the framework of South-South and Triangular Cooperation (SSTC) 2021 program.

Workshop ini diharapkan dapat semakin memperkuat kerja sama diantara negara-negara RPOA-IUU, meningkatkan pemahaman bersama terkait aspek-aspek dalam pemberantasan *IUU Fishing* serta kolaborasi antar negara dalam upaya pencegahan dan penanggulangan praktik *IUU Fishing*.

The workshop is expected to further strengthen cooperation between RPOA-IUU Participating Countries, increase mutual understanding regarding aspects in eradication of IUU Fishing and collaboration between countries in efforts to prevent and handle IUU fishing practices.

Terdapat beberapa kesimpulan mencakup aspek pendanaan dan evaluasi kegiatan.

a. Aspek pendanaan
- Pendanaan kegiatan workshop untuk negara RPOA-IUU dan Asia Pasifik sepenuhnya bersumber dari anggaran NAM-CSSTC, dan KKP bertindak selalu pelaksana teknis kegiatan.
- Pendanaan kegiatan KSS ke depan, yang sebelumnya tersebar di berbagai Kementerian/Lembaga menjadi terpusat dengan mekanisme *pooling fund* yang dikelola oleh Kementerian Keuangan dimana pelaksana program/kegiatan KSS adalah Kementerian/Lembaga, atau kegiatan KSS dapat didanai oleh pihak Ketiga.

There are several conclusions covering aspects of funding and workshop evaluation.

a. Funding
- *The international workshop for RPOA-IUU Participating Countries and Asia Pacific Countries is fully funded by the NAM-CSSTC, and the MMAF acts as the technical implementer.*
- *The budget for future SSC activities, which was previously owned by Ministries/Institutions, will be consolidated under a pooling fund mechanism managed by the Ministry of Finance in which the SSC program/activities implementer are the Ministries/Institutions, or the SSC can also be funded by a third party.*

b. Aspek evaluasi pelaksanaan kegiatan

- Evaluasi pelaksanaan *workshop* dilakukan melalui penyampaian kuesioner evaluasi pelaksanaan kegiatan yang disampaikan kepada peserta melalui link yang diberikan pada saat hari ketiga pelaksanaan kegiatan.
- Dari hasil kuesioner diperoleh data

1. Secara keseluruhan kegiatan *workshop* memberikan manfaat untuk meningkatkan pengetahuan peserta yang berguna dalam pelaksanaan pekerjaan dan menjadi referensi dalam penyusunan kebijakan.
2. Kegiatan diharapkan dapat dijadwalkan secara berkala atau penyelenggaraan *workshop*/peningkatan kapasitas lainnya yang dapat melibatkan pemangku kepentingan dari sisi industri/pengguna hasil perikanan.

b. Workshop evaluation

- *The workshop evaluation is carried out through the online evaluation questionnaire which is filled out by the participants via the link provided on the third day of the workshop.*
- *From the questionnaire, the obtained data were as follows:*

1. *Overall, the workshop has further improved participants' capacity by increasing the knowledge which can be useful in managing the work task, and the gained knowledge can also be used as a reference in policy making preparation.*
2. *The workshop or any other form of capacity building program is highly suggested to be carried out periodically and involve wide range of stakeholders from the industrial sector/the consumer of fishery products.*

Lampiran

Appendix

Agenda

Day 1

Time (GMT +7)	Agenda	Speakers
08.00-08.10 am	Introduction	MC
08.10-08.20 am	Opening Session • Welcoming Remarks: Overview and Introduction of RPOA-IUU (5`)	RPOA-IUU Secretariat Coordinator/ Executive Secretary of Directorate General of Surveillance for Marine and Fisheries Resource
	• Opening Remarks: Overview and Introduction of International Work Shop (5`)	Acting Director for Non-Aligned Movement Center for South-South Technical Cooperation (NAM CSSTC)
08.20-08.30 am	Keynote Speech	Minister for Marine Affairs and Fisheries of the Republic of Indonesia
Session 1 **Moderator: Silvia Juliana Malau** **Diplomat, Directorate for Technical Cooperation MOFA**		
08.30 – 09.00 am	A Study of Global Loss of IUU Fishing	Dr. Arie Afriansyah, Head of Center for Sustainable Ocean Policy, Faculty of Law, University of Indonesia
09.00– 09.30 am	Implementation of Monitoring, Control, and Surveillance	Prof. Alistair Mcilgorm, Capacity Development Leader, Australian National Centre for Ocean Resources and Security (ANCORS)
09.30 – 10.00 am	Q&A	Moderator: Silvia Juliana Malau. Directorate for Technical Cooperation MOFA
10.00 – 10. 10 am		Break
Session 2 **Moderator: Silvia Juliana Malau** **Diplomat, Directorate for Technical Cooperation MOFA**		
10.10 – 10.40 am	Implementation of Port States Measures	Simon FungeSmith, Senior Fishery Office, FAO-RAP
10.40 – 11.10 am	Enhancement of Capacity to Improve Flag State Performance	Dr. Camille Goodman Australian National Centre for Ocean Resources and Security (ANCORS)
11.10 – 11.40 am	Q&A	Moderator: Silvia Juliana Malau, Diplomat, Directorate for Technical Cooperation MOFA
11.40 – 11.50 am	Wrap Up	Moderator: Silvia Juliana Malau, Diplomat, Directorate for Technical Cooperation MOFA
11.50-11.55	Closing	MC

Agenda

Day 2

Time (GMT +7)	Agenda	Speakers
08.00-08.10 am	Opening	MC
Session 1 **Moderator: Aulia Riza Farhan, S.T., M.Sci.Tech., Ph. D** **Deputy Director of Monitoring and Operational Patrol Vessels**		
08.10 – 08.40 am	Traceability of Fisheries Product and Market Measures to combat IUU Fishing	Ms. Susan Lockhart, Supply Chain Standards Director, Marine Stewardship Council
08.40 – 09.10 am	Modus Operandi IUU Fishing Fisheries Related Crime	Mr. Stuart Beban, Criminal Intelligence Analyst, INTERPOL
09.10 - 09.40 am	Q&A	Aulia Riza Farhan, S.T., M.Sci.Tech., Ph. D Deputy Director of Monitoring and Operational Patrol Vessels
09.50 -10.00 am		Break
Session 2 **Moderator: Aulia Riza Farhan, S.T., M.Sci.Tech., Ph. D** **Deputy Director of Monitoring and Operational Patrol Vessels**		
10.00– 10.30 am	Regional Capacity Building Combat IUU Fishing	Mr. Kongpathai Saraphaivanich, Head of Training and Information Section, SEAFDEC
10.30 – 11.00 am	Lesson learned of Regional Effort to combat IUUF in the South-East Asia: RPOA-IUU	Matheus Eko Rudianto, M.Bus.IT-RPOA-IUU ɛtariat
11.00 - 11.30 am	Q&A	Aulia Riza Farhan, S.T., M.Sci.Tech., Ph. D Deputy Director of Monitoring and Operational Patrol Vessels
11.30 - 11.40 am	Wrap Up	Aulia Riza Farhan, S.T., M.Sci.Tech., Ph. D Deputy Director of Monitoring and Operational Patrol Vessels
11.45-11.50 am	Closing	MC

Agenda

Day 3

Time (GMT +7)	Agenda	Speakers
08.00 – 08.10 am	Opening	MC
Session1. Best Practice in Handling IUUF: Lesson Learned from Participating Countries **Moderator: Arif Hidayatulloh** **Head of Legal, Organization, and Public Relation Division, Secretariat of Directorate General of Surveillance for Marine and Fisheries Resource**		
08.10 – 08.35 am	Australia, Brunei Darussalam, Cambodia, Indonesia, Malaysia	Country Participant
08.35 – 09.00 am	Q&A	Moderator: Arif Hidayatulloh Head of Legal, Organization, and Public Relation Division, Secretariat of Directorate General of Surveillance for Marine and Fisheries Resource
Session 2. Best Practice in Handling IUUF: Lesson Learned from Participating Countries **Moderator: Arif Hidayatulloh** **Head of Legal, Organization, and Public Relation Division, Secretariat of Directorate General of Surveillance for Marine and Fisheries Resource**		
09.00 – 09.25 am	Philippines, Papua New Guinea, Thailand, Timor-Leste, Viet Nam	Country Participant
09.25 – 09.50 am	Q&A	Moderator: Arif Hidayatulloh Head of Legal, Organization, and Public Relation Division, Secretariat of Directorate General of Surveillance for Marine and Fisheries Resource
09.50-10.00 am	Wrap Up	Moderator: Arif Hidayatulloh Head of Legal, Organization, and Public Relation Division, Secretariat of Directorate General of Surveillance for Marine and Fisheries Resource
10.00-10.05 am	Closing	MC

Narasumber */Speakers*

ARIE AFRIANSYAH

HEAD OF CENTRE FOR SUSTAINABLE OCEAN POLICY, FACULTY OF LAW, UNIVERSITY OF INDONESIA

Arie Afriansyah is an Associate Professor at the Faculty of Law Universitas Indonesia. Besides teaching duties, currently he is also the Chairman of Center for Sustainable Ocean Policy Faculty of Law Universitas Indonesia; the Editor in Chief of Indonesian Journal of International Law (IJIL); the Editor in Chief of Indonesia Yearbook of International Law (IndoYBIL); and Editor of ASEAN Journal of Community Engagement (AJCE). He is also the President of Indonesian Society of International Law Lecturers (ISILL) and Executive Council Member of the Asian Society of International Law (AsianSIL

PROF. ALISTAIR MCLLGORM

CAPACITY DEVELOPMENT LEADER, AUSTRALIAN NATIONAL CENTRE FOR OCEAN RESOURCES AND SECURITY (ANCORS)

Alistair McIlgorm is a full time Professor at Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong, Australia specialising marine and fisheries economics, management and capacity development. He has a BSc Fishery Science (Plymouth), MSc Sea-Use Law, Economics and Policy (LSE) and PhD Economics (Queensland).
His career in fisheries has been with the Australian Maritime College (AMC 1987-1997), principal fishery economic consultant and managing Director of Dominion Consulting Pty Ltd (1997 to 2004) and formerly Professor and Director of the National Marine Science Centre (2005-2010), Coffs Harbour, NSW

SIMON FUNGESMITH

SENIOR FISHERY OFFICE, FAO-RAP

Simon Funge-Smith's professional career spans both fisheries and aquaculture development, with 27 years of experience working in Asia. This work has covered marine and inland fisheries development, extensive and intensive aquaculture, rural development and their associated livelihoods. His work also covers emergency response and rehabilitation to natural and complex disasters. His work in the regional policy environment complemented this, as secretary of a regional fishery body (the Asia-Pacific Fishery Commission) and over 16 years of active experience of working with intergovernmental organizations (APFIC, FAO, UNEP, UNDP, NACA, SEAFDEC, BOBP-IGO, INFOFISH, MRC, ASEAN).

DR. CAMILLE GOODMAN

AUSTRALIAN NATIONAL CENTRE FOR OCEAN RESOURCES AND SECURITY (ANCORS)

Dr Camille Goodman joined the Australian National Centre for Ocean Resources and Security (ANCORS) at the University of Wollongong as a Senior Lecturer in March 2021. She is also a Visiting Fellow at the ANU College of Law, where she completed her PhD in 2019. From 2005 to 2020, Camille worked at the Commonwealth Attorney-General's Department, primarily in the Office of International Law, where she provided legal and policy advice to the Australian Government on a wide range of public international law issues, with a particular focus on law of the sea and international fisheries law.

SUSAN LOCKHART

SUPPLY CHAIN STANDARDS DIRECTOR,
MARINE STEWARDSHIP COUNCIL

She has a BSc in Food Science and over 30 years' experience in the food industry, working with and across complex supply chains in food manufacturing, retail, and supply chain standards development.

Sue's career to date has been marked by a natural curiosity about how our food is produced and a passion to provide consumers with safe, nutritious, and tasty food and drink that is sustainably sourced.

STUART BEBAN

CRIMINAL INTELLIGENCE ANALYST,
INTERPOL

Mr. Beban is a criminal intelligence analyst in Environmental Security at the INTERPOL office in Singapore. He has been in this role for three and a half years mainly looking at transnational crimes related to forestry and fisheries. Prior to joining INTERPOL, he worked for seven years as a law enforcement officer at the Ministry for Primary Industries in New Zealand where he specialized in complex fraud and black market crimes.

KONGPATHAI SARAPHAIVANICH

HEAD OF TRAINING AND
INFORMATION SECTION, SEAFDEC

Mr.Kongpathai Saraphaivanich graduated from Faculty of Fisheries, Kasetsart University, Thailand. He joined with the Southeast Asian Fisheries Development Center (SEAFDEC), Training Department since 1999. He had experiences on fishing gear technology, fishery management and fishery information.
Presently, he is Head of Training and Information Section and also project manager of "Strengthening Regional Cooperation and Enhancing National Capacities to Eliminate IUU Fishing in Southeast Asia" which implement three main activities such as Regional Fishing Vessels Record, electronic Catch ASEAN Documentation Scheme, and Regional Cooperation to Support Implementation of Port State Measures.

MATHEUS EKO RUDIANTO, MBUS.IT

RPOA IUU SECRETARIAT

He has been working in the Ministry of Marine Affairs and Fisheries for over 26 years. He is graduated from Master Degree from Royal Institute of Technology, Melbourne and Master Science in Information System and also expert in the field of information system

Moderator

SILVIA JULIANA MALAU

DIPLOMAT, DIRECTORATE OF TECHNICAL COOPERATION, MINISTRY OF FOREIGN AFFAIRS OF THE REPUBLIC OF INDONESIA

AULIA RIZA FARHAN, S.T., M.SCI.TECH., PH.D

DEPUTY DIRECTOR OF MONITORING AND OPERATIONAL PATROL VESSELS,MINISTRY OF MARINE AFFAIRS AND FISHERIES

ARIP HIDAYATULLOH

HEAD OF LEGAL, ORGANIZATION, AND PUBLIC RELATION DIVISION SECRETARIAT OF DIRECTORATE GENERAL OF SURVEILLANCE FOR MARINE AND FISHERIES RESOURCE MINISTRY OF MARINE AFFAIRS AND FISHERIES, REPUBLIC OF INDONESIA AS ALTERNATE RPOA-IUU SECRETARIAT COORDINATOR

Peserta /*Participants*

No	Negara/ Countries	Nama / Name	Kementerian / Ministry
1	Timor Leste (3)	Ms. Maria Sarmento Tae	General Directorate of Fisheries, Aquaculture and Marine Resources
		Mr. Vasco Freitas	General Directorate of Inspection for Fisheries and Aquatic Resources
		Mr. Pedro Rodrigues	General Directorate of Fisheries, Aquaculture and Marine Resources
2	Malaysia (3)	Ms. Nur Fadhlina Chan, Mahadie Chan	Department of Fisheries
		Mr. Mohamad Nur Hakim Abdullah	Department of Fisheries
		Ms. Uraini Ujang	Department of Fisheries
3	Australia (4)	Duane Bridger	Department of Agriculture, Water and the Environment
		Adam Camilleri	Department of Agriculture, Water and the Environment
		Jaidan Stevens	Department of Foreign Affairs and Trade
		Ms. Kerry Smith	Australian Fisheries Management Authority
4	Kamboia (1)	Mr. Roitana Buoy	Deputy Director General and IUUF Team Leader, Fisheries Administration
5	Viet Nam (5)	Mrs Nguyen Thi Trang Nhung,	Department of Science Technology and International Cooperation, Directorate of Fisheries (DFISH)
		Mr Vu Duyen Hai, Deputy	Director of Department of Capture Fisheries, DFISH
		Mr. Nguyen Phu Quoc	Deputy Director of Department of Fisheries Resources Surveillance, DFSIH
		Mr Ha Le	Deputy Director of Center for Fisheries Information, DIFISH
		Ms Nguyen Mai Huong	Official of Department of Science Technology and International Cooperation, DFISH

Peserta /*Participants*

6	Filipina (3)	Mr. Crejay Lacena	Bureau of Fisheries and Aquatic Resources
		Mr. Michael Andayog	Bureau of Fisheries and Aquatic Resources
		Ms. Sandra Victoria Arcamo	Bureau of Fisheries and Aquatic Resources
7	Thailand (4)	Ms. Weeraya Wongkarasin	Department of Fisheries
		Ms. Jitpisut Sanboopeng	Department of Fisheries
		Mr. Nitipol Boonniti	Department of Fisheries
		Mr. Kamonpan Awaiwanont	Marine and Fisheries Research and Development Division (MFRDD)-Department of Fisheries (DOF)
8	Brunei Darussalam (8)	Mr. Irwan Haji Mohammad Noor	Department of Fisheries, Ministry of Primary Resources and Tourism
		Mr. Sheikh Al Idrus Sheikh Haji Nikman	Department of Fisheries, Ministry of Primary Resources and Tourism
		Ms. Amela Ayu Ashikin Haji Osman	Department of Fisheries, Ministry of Primary Resources and Tourism
		Mr. Raihan Haji Marsidi	Department of Fisheries, Ministry of Primary Resources and Tourism
		Mr. Khairul Abidin Ahmad	Department of Fisheries, Ministry of Primary Resources and Tourism
		Mr. Haji Muhammad Faisal Haji Adam	Department of Fisheries, Ministry of Primary Resources and Tourism
		Mr. Pangiran Mohammad Hafiz Redzuan Pangeran Jamaluddin	Department of Fisheries, Ministry of Primary Resources and Tourism
		Mr. Aisham Haji Awang Besar	Department of Fisheries, Ministry of Primary Resources and Tourism
9	PNG (2)	Mr. Mark B. Bangkoma	National Fisheries Authority
		Mr. Charlie Jhon	National Fisheries Authority
10	Indonesia (7)	Mr. Sherief Maroinie	Ministry of Marine Affairs of Fisheries
		Mr. Sahono Budianto	Ministry of Marine Affairs of Fisheries

Peserta /*Participants*

		Ms. Purihitajati Widodo	Ministry of Marine Affairs of Fisheries
		Mr. Saiful Bahri	Ministry of Marine Affairs of Fisheries
		Ms. Yeni Maryani	Ministry of Marine Affairs of Fisheries
		Ms. Hedhi Sugrito Kuncoro	Ministry of Marine Affairs of Fisheries
		Mr. Hendri Kurniawan	Ministry of Marine Affairs of Fisheries

Materi Narasumber

CSOP

Center for Sustainable Ocean Policy
Law | Universitas Indonesia

ATSEA-2

Baseline Estimates of RPOA-IUU Participating Countries

Report for the Arafura–Timor Seas Ecosystem Action Program Phase 2 (ATSEA–2)

Dr Arie Afriansyah

Contents

ACKNOWLEDGEMENT

PROJECT LEADER

Dr Arie Afriansyah

- **Director Executive of CSOP**
- **Assoc. Prof – Faculty of Law Universitas Indonesia**

RESEARCH TEAM

Akhmad Solihin, Ph.D (cand.)

Jeremia H Prasetya

Amira Bilqis

1 in 4

Focused on the study of estimating illegal fishing at sea at Arafura and Timor Seas and other RPOA-IUU Participating Countries

Arie Afriansyah, Akhmad Solihin, Amira Bilqis, Jeremia Humolong Prasetya, (2021). Baseline Estimates of RPOA-IUU Participating Countries. Report to the Arafura and Timor Seas Ecosystem Action Phase 2 (ATSEA-2) Project, Bali, Indonesia. 72p

RPOA-IUU and ATS

Australia
Brunei Darussalam
Cambodia
Indonesia
Malaysia
Philippines
Singapore
Thailand
Timor Leste
Vietnam

Australia
Indonesia
PNG
Timor Leste

Indonesia, Timor Leste, and Papua New Guinea

Long Coastline

Small-Scale Fisheries

Tourism

The three countries shared the same interest to protect the natural resources due to the heavy reliance on the ocean wealth for many economic activities to sustain the livelihoods.

Importance of Combatting IUU Fishing - Impacts

Environment

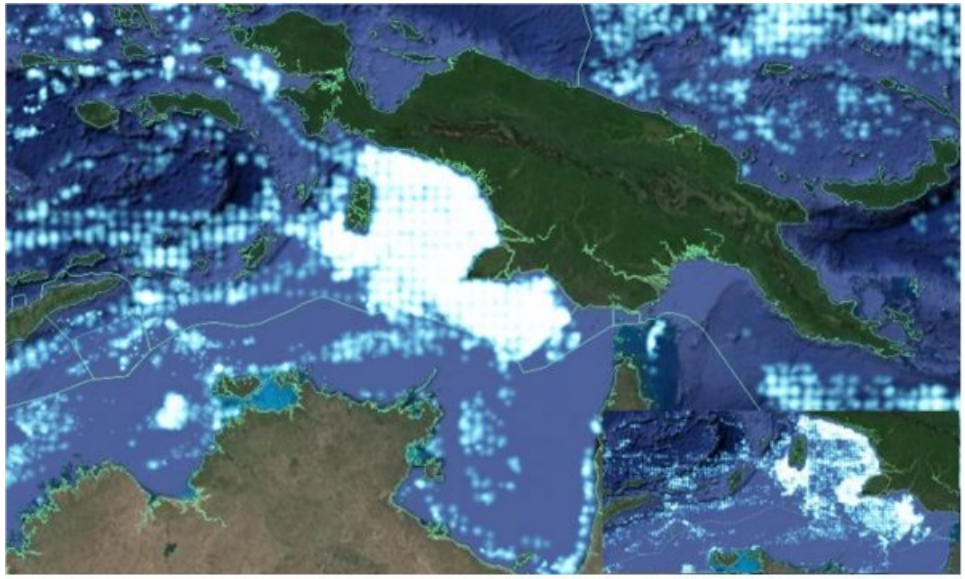
- FAO through the 2018 report stated that **33.1 percent** of the assessed fish stocks had been **over-exploited globally** in which previously reached 90.1 percent.
- Significant **damage to the reproduction cycle and physically destroyed the coral reef** and other vulnerable marine ecosystems where it is breeding and feeding grounds which lead to decreased the viability of fish stock
- In the longer-term, not only are fish scarce due to the depletion of fish stocks, but also marine ecosystems **can no longer compromise typical ecosystem functioning for fish to reproduce**

Social

- Around **59.7 million people** were engaged in the primary sector of capture fisheries.
- the impacts were directed to many people due to the decrease in the number of small-scale and artisanal fishers whose livelihoods relied heavily on the natural resources offshore.
- undermines efforts from the legitimate fishermen which will promote irresponsible extraction of fishery resources
- impede sea safety while promoting criminal actions and the abuse of human rights

Economic

- An estimate by UNEP in 2014 suggested that IUU fishing results in **lost annual revenues of between USD 11 and USD 30 billion globally**.
- Countries with a high level of IUU fishing will most likely experience trade sanctions.
- indirect impacts by reducing income and employment both from the fishing and its associated industries such as food processing and packaging
- depleted biodiversity and destroyed marine ecosystems due to IUU fishing will also negatively impact the tourism sector, which relied by smaller island countries



11 RPOA-IUU COUNTRIES

The study offers a unique approach to quantifying law enforcement ability by **calculating loss avoided** from respective law enforcement through vessels apprehension, both domestic and foreign vessels. These data of vessels apprehension (either proceed to the court or later released) are within the RPOA-IUU participating countries between the last **five years.**

2015
–
2019

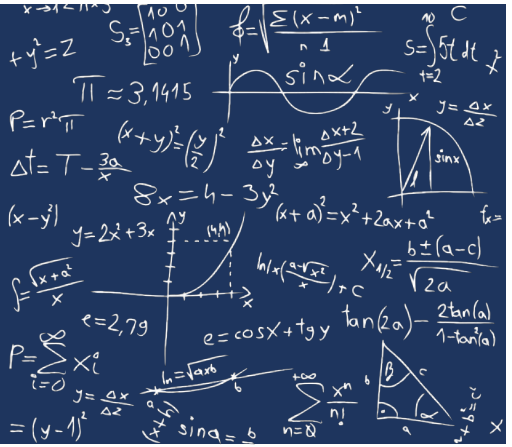
DATA-DRIVEN POLICY REMAINS IMPORTANT

- The **lack of data** hinders the policymakers from enacting effective regulations and policies is one of the main contributing factors to the thriving IUU activities.

- Despite the scarcity and the unavailability of the data from several countries, estimates were made in this study for volume and value loss.

- It shall be highlighted that there is a **critical** need to complete the existing data gaps for more evidence-based regulations and policies for RPOA-IUU participating countries.

METHODOLOGY



FISH WEIGHT EQUIVALENT X NUMBER OF FISHING VESSELS APPREHENDED FOR IUU FISHING X VESSEL TRIPS X FISH PRICE/TONNES*

0,2 x Average GT/year

USD $2/kgs
=
USD $2000/tonne

Correspond to
the average GT
>= 30 GT -> 3 trips

>= 30
GT

Mahabror and Hidayat (2018)

*For volume, omit the fish price variable

178.580

tonnes

Total volume loss avoided by RPOA-IUU Participating Countries between 2015-2019

HIGHEST VALUE LOSS AVOIDED PER COUNTRY

US$ 206.064.000

The calculation includes inland waters apprehended vessels
Division of data is needed

US$ 70.258.776

- Ministry of Marine Affairs and Fisheries (MMAF)
- Badan Keamanan Laut/ Indonesian Coast Guard (BAKAMLA)
- Indonesian Navy
- Indonesian Marine Police

US$ 70.150.800

CASE: PAPUA NEW GUINEA

133 apprehended vessels
equivalent to US$ 8.458.800

The highest surge of apprehension in 2018-2019

total in 5 (five) years
US$ 8.776.800
=
4388 tonnes

/ **138** vessels

VALUE LOSS AVOIDED PER COUNTRY

US$ 508.800
254 tonnes
8 vessels

US$ 127.200
64 tonnes
2 vessels

US$ 63.600
32 tonnes
1 vessels

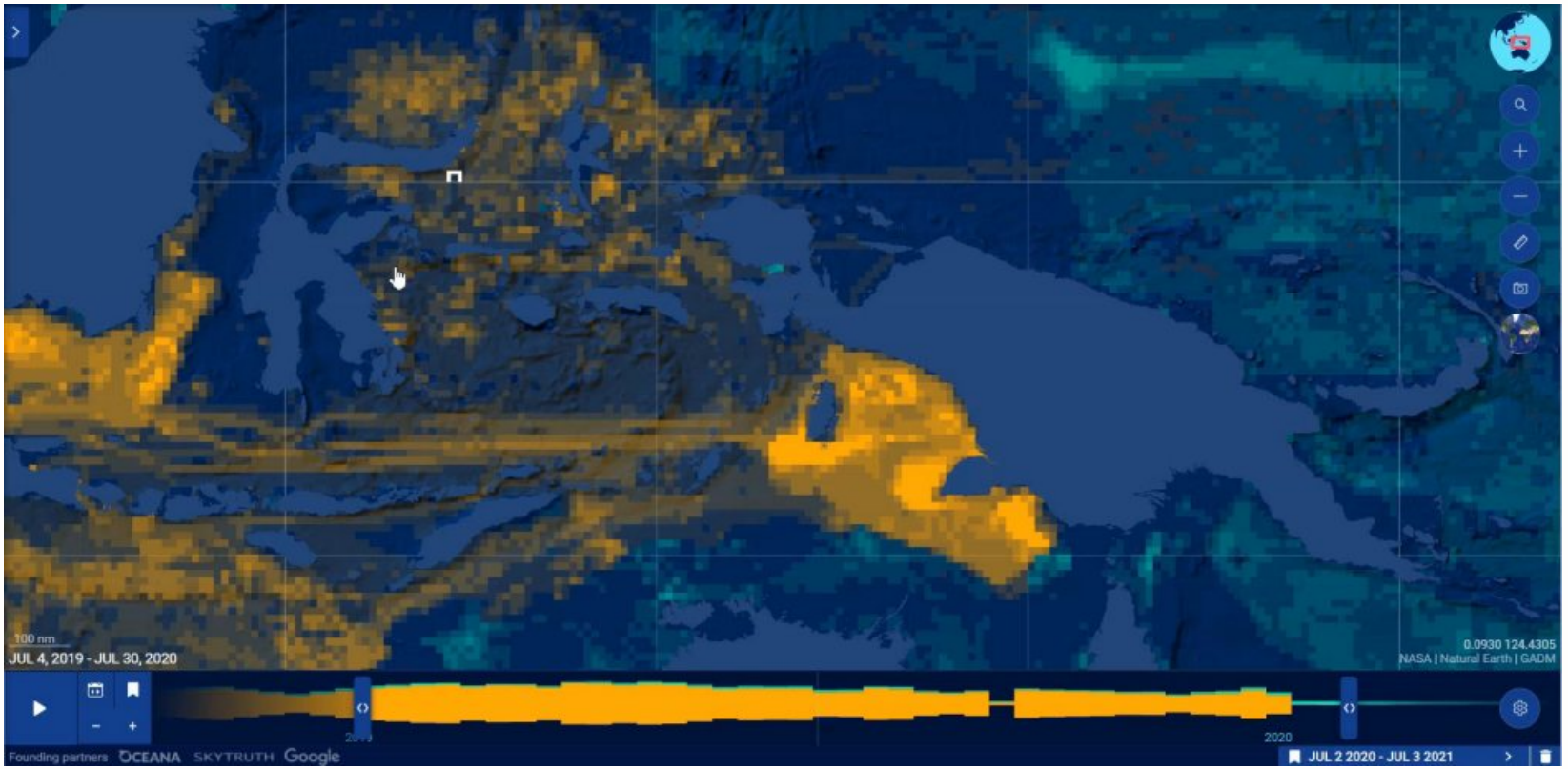
N/A

N/A

N/A

Data mostly acquired from the annual CCM report to the RPOA-IUU Secretariat within the year of 2015-2019

VESSELS TRAFFIC 2019 - 2020



AIS

VMS

https://globalfishingwatch.org/map

DETAILS OF FINDINGS (1)

Country	Year	Fish Weight Equivalent		Trip	Price/tonne	Apprehended Vessels /year	Value Loss (tonnes) (US$)	Volume Loss (tonnes)
Australia	2015	53	0.2	3	2000		USD 0	0
	2016-2017	53	0.2	3	2000	13	USD 826.800	413
	2018-2019	53	0.2	3	2000	5	USD 318.000	159
	TOTAL						**USD 1.144.800**	**572**
Country	Year	Fish Weight Equivalent		Trip	Price/tonne	Apprehended Vessels /year	Value Loss (tonnes) (US$)	Volume Loss (tonnes)
Brunei	2014	53	0.2	3	2000	2	USD 127.200	64
	2015	53	0.2	3	2000	1	USD 63.600	32
	2016	53	0.2	3	2000		USD 0	0
	2018	53	0,2	3	2000	3	USD 190.800	95
	2019	53	0,2	3	2000	2	USD 127.200	64
	TOTAL						**USD 508.800**	**254**
Country	Year	Fish Weight Equivalent		Trip	Price/tonne	Apprehended Vessels /year	Value Loss (tonnes) (US$)	Volume Loss (tonnes)
Cambodia	2015	53	0.2	3	2000		USD 0	0
	2016	53	0.2	3	2000		USD 0	0
	2017	53	0.2	3	2000		USD 0	0
	2018	53	0.2	3	2000	3.240	USD 206.064.000	103032
	2019	53	0,2	3	2000		USD 0	0
	TOTAL						**USD 206.064.000**	**103032**
Country	Year	Fish Weight Equivalent		Trip	Price/tonne	Apprehended Vessels /year	Value Loss (tonnes) (US$)	Volume Loss (tonnes)
Indonesia	2015	53.28	0.2	3	2000	172	USD 10.799.280	5400
	2016	50.84	0.2	3	2000	316	USD 20.527.704	10264
	2017	51.98	0.2	3	2000	271	USD 17.925.312	8963
	2018	58,25	0,2	3	2000	170	USD 11.134.800	5567
	2019	57,8	0,2	3	2000	159	USD 9.871.680	4936
	TOTAL						**USD 70.258.776**	**35130**
Country	Year	Fish Weight Equivalent		Trip	Price/tonne	Apprehended Vessels /year	Value Loss (tonnes) (US$)	Volume Loss (tonnes)
Malaysia	2015	53	0.2	3	2000	2	USD 127.200	64
	2016	53	0.2	3	2000		USD 0	0
	2017	53	0.2	3	2000		USD 0	0
	2018	53	0.2	3	2000		USD 0	0
	2019	53	0,2	3	2000		USD 0	0
	TOTAL						**USD 127.200**	**64**

DETAILS OF FINDINGS (2)

Country	Year	Fish Weight Equivalent		Trip	Price/tonne	Apprehended Vessels /year	Value Loss (tonnes) (US$)	Volume Loss (tonnes)
Papua New Guinea	2015	53	0,2	3	2000		USD 0	0
	2016	53	0,2	3	2000	6	USD 381.600	191
	2017	53	0,2	3	2000		USD 0	0
	2018-2019	53	0,2	3	2000	133	USD 8.458.800	4229
	TOTAL						**USD 8.840.400**	**4420**
Country	Year	Fish Weight Equivalent		Trip	Price/tonne	Apprehended Vessels /year	Value Loss (tonnes) (US$)	Volume Loss (tonnes)
Philippines	2015	53	0,2	3	2000		USD 0	0
	2016-2019	53	0,2	3	2000	1.103	USD 70.150.800	35075
	TOTAL						**USD 70.150.800**	**35075**
Country	Year	Fish Weight Equivalent		Trip	Price/tonne	Apprehended Vessels /year	Value Loss (tonnes) (US$)	Volume Loss (tonnes)
Singapore	2015-2019	53	0,2	3	2000		USD 0	0
	TOTAL						**USD 0**	**0**
Country	Year	Fish Weight Equivalent		Trip	Price/tonne	Apprehended Vessels /year	Value Loss (tonnes) (US$)	Volume Loss (tonnes)
Thailand	2015-2019	53	0,2	3	2000		USD 0	0
	TOTAL						**USD 0**	**0**
Country	Year	Fish Weight Equivalent		Trip	Price/tonne	Apprehended Vessels /year	Value Loss (tonnes) (US$)	Volume Loss (tonnes)
Timor Leste	2015	53	0,2	3	2000		USD 0	0
	2016	53	0,2	3	2000		USD 0	0
	2017	53	0,2	3	2000	1	USD 63.600	32
	2018	53	0,2	3	2000		USD 0	0
	2019	53	0,2	3	2000		USD 0	0
	TOTAL						**USD 63.600**	**32**
Country	Year	Fish Weight Equivalent		Trip	Price/tonne	Apprehended Vessels /year	Value Loss (tonnes) (US$)	Volume Loss (tonnes)
Vietnam	2015-2019	53	0,2	3	2000		USD 0	0
	TOTAL						**USD 0**	**0**
GRAND TOTAL							**USD 357.158.376**	**178580**

CONCLUSION

1. There are no standardized global or country level formula to estimates value and volume of IUU fishing

2. Unreported and unregulated fishing are lack of tangible data and basis lead to complicated to calculation (further field obtained data and close collaboration with NCU/Gov't are needed).

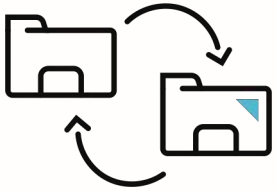
3. Only 4 (four) vessels apprehended on the WPP-718, which part of ATS region, within the last 5 year with estimated prevented economic loss at US$ 685.200 or equivalent to the 343 tonnes.

4.
   - Three highest number of detained vessels are coming from Cambodia, Indonesia, and Philippines with US$ 206.064.000 or equivalent to 103.032 tonnes, US$ 70.258.776 or equivalent to 35.130 tonnes, and US$ 70.150.800 or equivalent to 35.075 tonnes.
   - **The lowest catch from Timor Leste with an estimation of US$ 63.600 or equivalent 32 tonnes.**
   - **Meanwhile, there is no data available for Singapore, Thailand, and Vietnam.**
   - **Total of all countries is estimated to be US$ 357.158.376 or equivalent to 178.580 tonnes.**

WAY FORWARD

01

Stronger cooperation of legal enforcement



02

Exchange data (incl. surveilance data/information)

03

Finalisation delimited maritime areas (Indonesia - Timor Leste)

Contact:
arie.afriansyah@ui.ac.id

THANK YOU!!!

[redacted]

International Workshop on Eradication of Illegal, Unreported and Unregulated Fishing for Regional Plan of Action to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries
9-11 August 2021 [Virtual]

Implementation of Port States Measures

Simon Funge-Smith
FAO Regional Office for Asia and the Pacific

What is the FAO Port State Measures Agreement?

The United Nations Food and Agriculture Organization Agreement on Port State Measures to Prevent, Deter, and Eliminate Illegal, Unreported, and Unregulated Fishing

Agreed in 2009 and entered into force on **5 June 2016**

An international agreement that seeks to prevent IUU fishing through the adoption and implementation of effective port state measures as a means of ensuring the long-term conservation and sustainable use of living marine resources.

The intention is that the Agreement will be applied widely and effectively by countries, in their capacities as port States, to foreign-flagged vessels seeking entry to, or are in, a country's ports.

Status of the PSMA

Total of 69 Parties

6 RPOA members have **ratified or acceded**

Disclaimer: *The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement*

Timeline of International fisheries instruments and tools to combat IUU fishing

Binding UNCLOS — 1982 — 168 parties

Binding Compliance Agreement — 1993 — 42 parties

Binding UN Fish Stocks Agreement; CCRF — 1995 — 91 parties

IPOA-IUU — 2001

Rome Declaration — 2005

Binding Port State Measures Agreement PSMA — 2009 — 69 parties

VG-Flag State Performance — 2014

SDGs SDG 14 — 2015

Global Record; VG-Catch Documentation Schemes — 2017

VG- Marking of Fishing gear — 2018

Respectively instruments outline Flag State, Port State, Coastal State, Market State responsibilities

The UN Sustainable Development Goals link to combatting IUU

Adopted in 2015

SDG14 specifically indicates targets to commit to combat IUU fishing and its drivers

Implementation of international fisheries instruments, mechanisms and tools directly contribute to achieving both of these SDG 14 Targets

Target 14.4

By 2020, effectively regulate harvesting, and end overfishing, illegal, unreported and unregulated (IUU) fishing and destructive fishing practices (…) to restore fish stocks (…) to levels that can produce maximum sustainable yield (…)

Target 14.6

By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated (IUU) fishing (…)

There is political will for implementing the PSMA

4th Meeting of the Parties (MOP) to the PSMA (Bali, Indonesia, 8-12 May 2023)

3rd meeting PSMA Open-Ended Technical Working Group on Information Exchange (Tentatively June 2022)

PSMA Part 6 Working Group – Requirements of Developing States

New PSMA Strategy Working Group (Tentatively November 2022)

Also, PSMA Regional Coordination Meetings
Asia: 4-8 April 2022 & Pacific: 9-13 May 2022 (TBC)

Combatting IUU Fishing is not just about the PSMA

A lot of the IUU fishing in the RPOA region is domestic or conducted by neighbouring countries, unrelated to RFMO CMMs

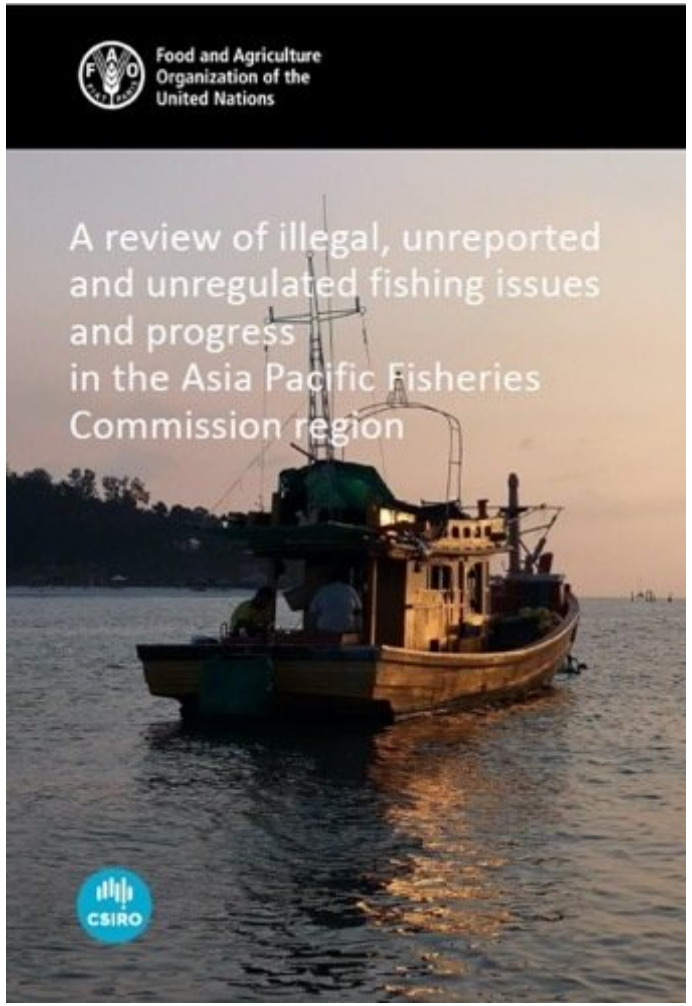
The various international fisheries instruments and tools to combat IUU fishing **outline Flag State, Port State, Coastal State, Market State responsibilities**

Implementing these can do much to combat all forms of IUU fishing and requires actions by

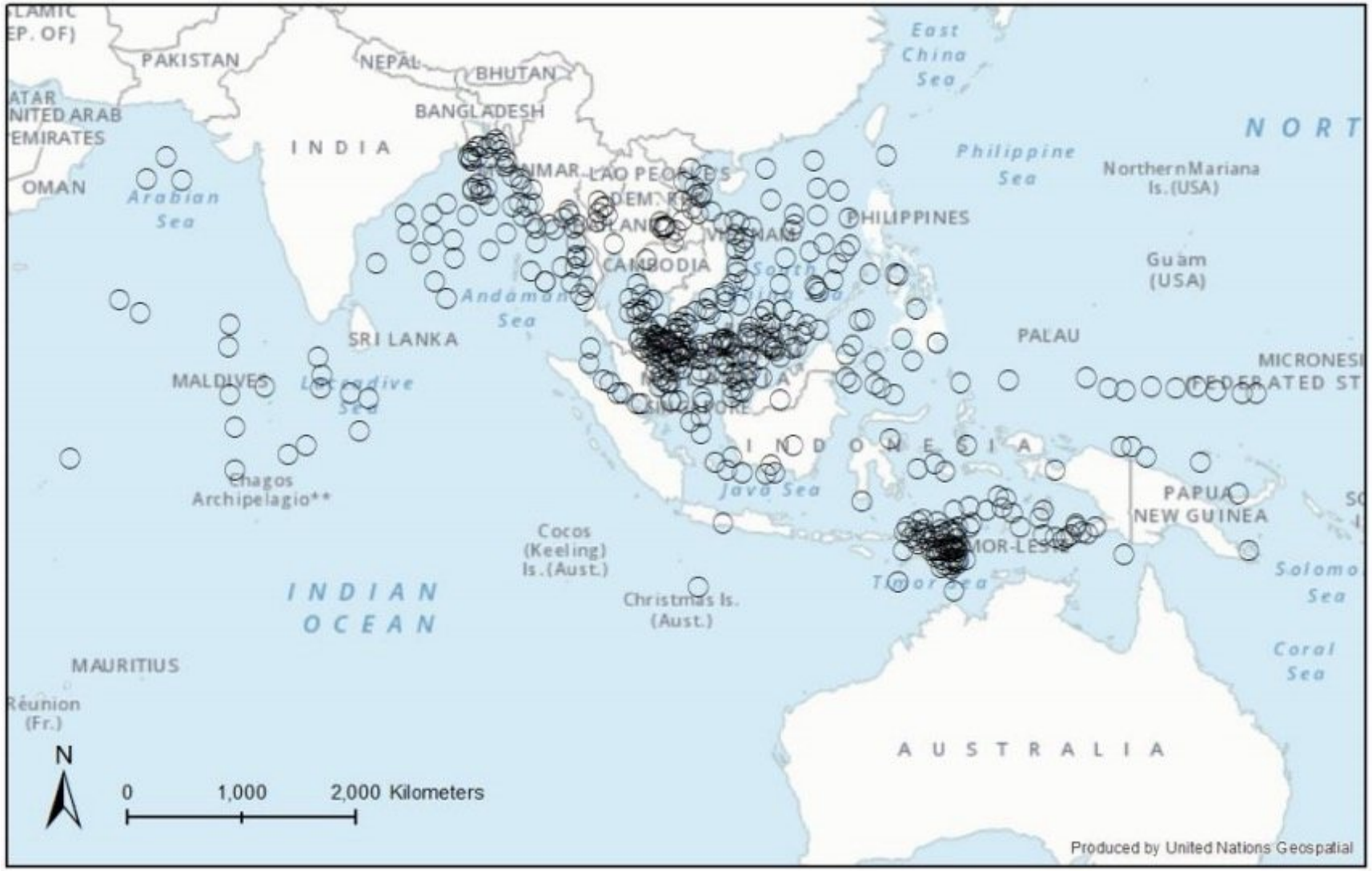
- Flag States, Port States, Coastal States, Market States

Requires agreement and commitment to coordinate and share information

IUU Hotspots identified in the RPOA region and adjoining areas



http://www.fao.org/3/cb2640en/cb2640en.pdf



FAO capacity development to support implementation of the PSMA

Successfully implementing the PSMA and combatting IUU Fishing requires capacity and resources

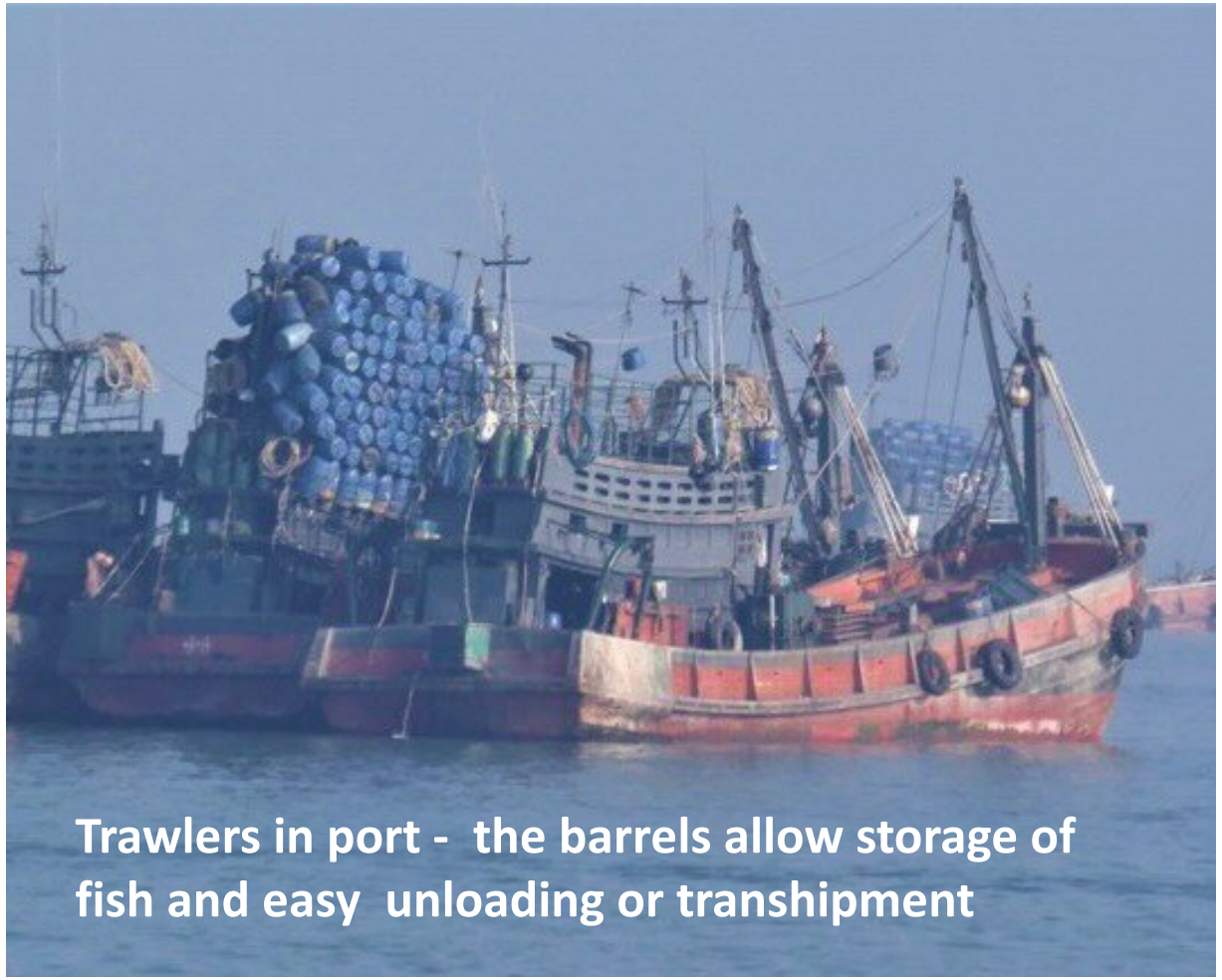
Capacity to detect IUU fishing

Capacity to enforce regulations

Take action and prosecute

Principal objectives of the FAO PSMA support Programme

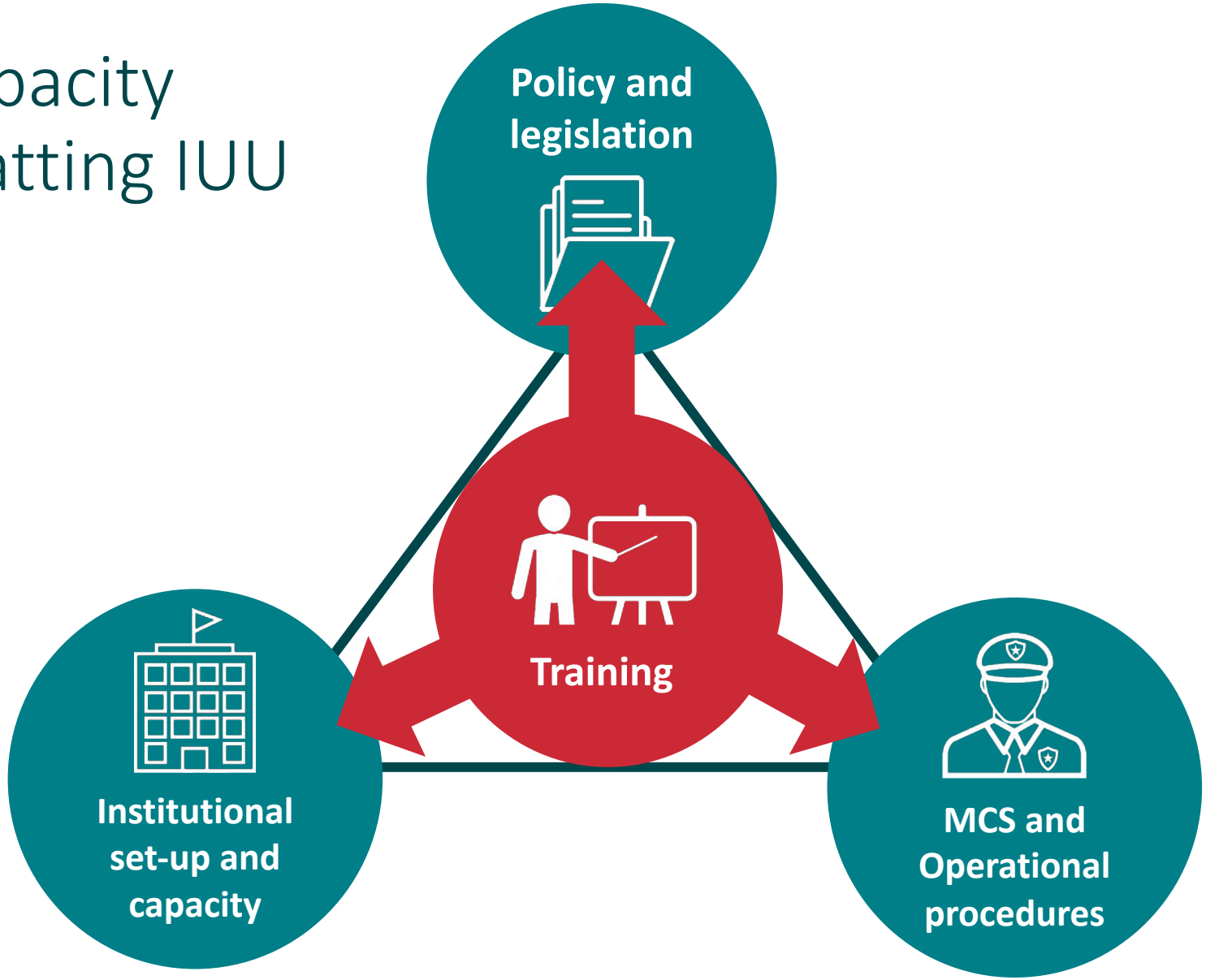
- Strengthened and effective implementation of PSMA and complementary international instruments and regional mechanisms to combat IUU fishing
- Improved detection of IUU fishing incidents, effective enforcement action against IUU fishing operators
- Improved performance and fulfilment of international obligations as port, flag, coastal and market States
- **Goal:** Reduced levels of IUU fishing and sustainable fisheries



Trawlers in port - the barrels allow storage of fish and easy unloading or transhipment

Three main areas for Capacity Development for Combatting IUU fishing

- **Policy and legislation**
- **Institutional set up and capacity**
- **MCS and operational procedures**



Three main areas for Capacity Development for Combatting IUU fishing (cont.)

Policy and legislation

1. Accession to PSMA (designated ports, contact points)
2. NPOA-IUU or equivalent policy document
3. Reformed legal framework in line with requirements of PSMA

Institutional set up and capacity

1. Formalized interagency mechanism
2. SOPs for all PSMA-related operations
3. MCS tools: for risk assessment, monitoring, analysis, …
4. Trained inspectors

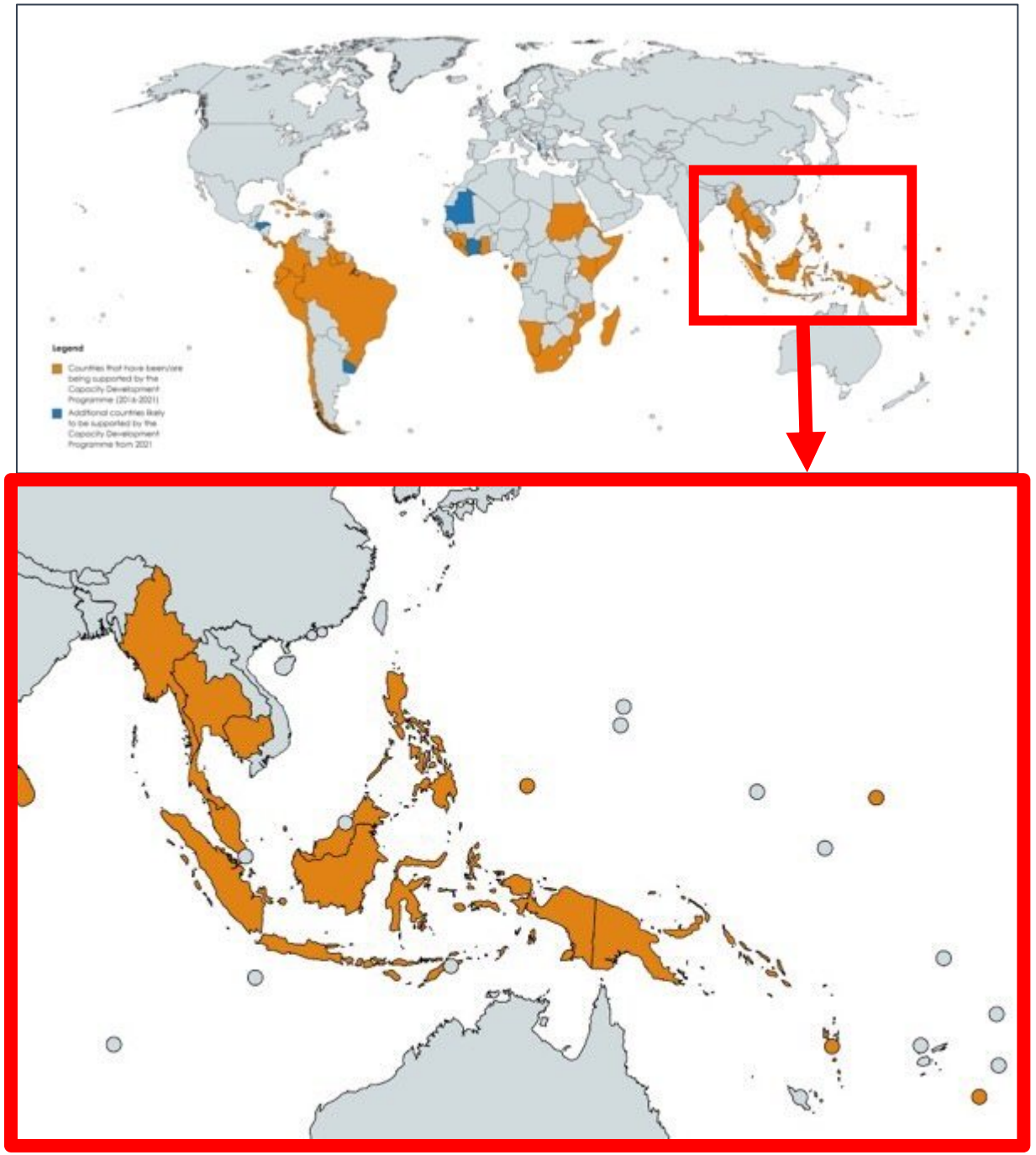
MCS and operational procedures

1. Active regional and global information-sharing & cooperation
2. Global Record of fishing vessels
3. Global Information Exchange Programme
4. Monitoring of flagged vessels

FAO Global PSMA Support Programme (since 2017)

43 countries (2017-2021)*

- Support to implement the PSMA and flag, coastal and market State responsibilities
- Currently 11 projects (approx. 20 million USD) funded by the EU, Germany, Iceland, Norway, Rep. Korea, Spain, Sweden and USA*

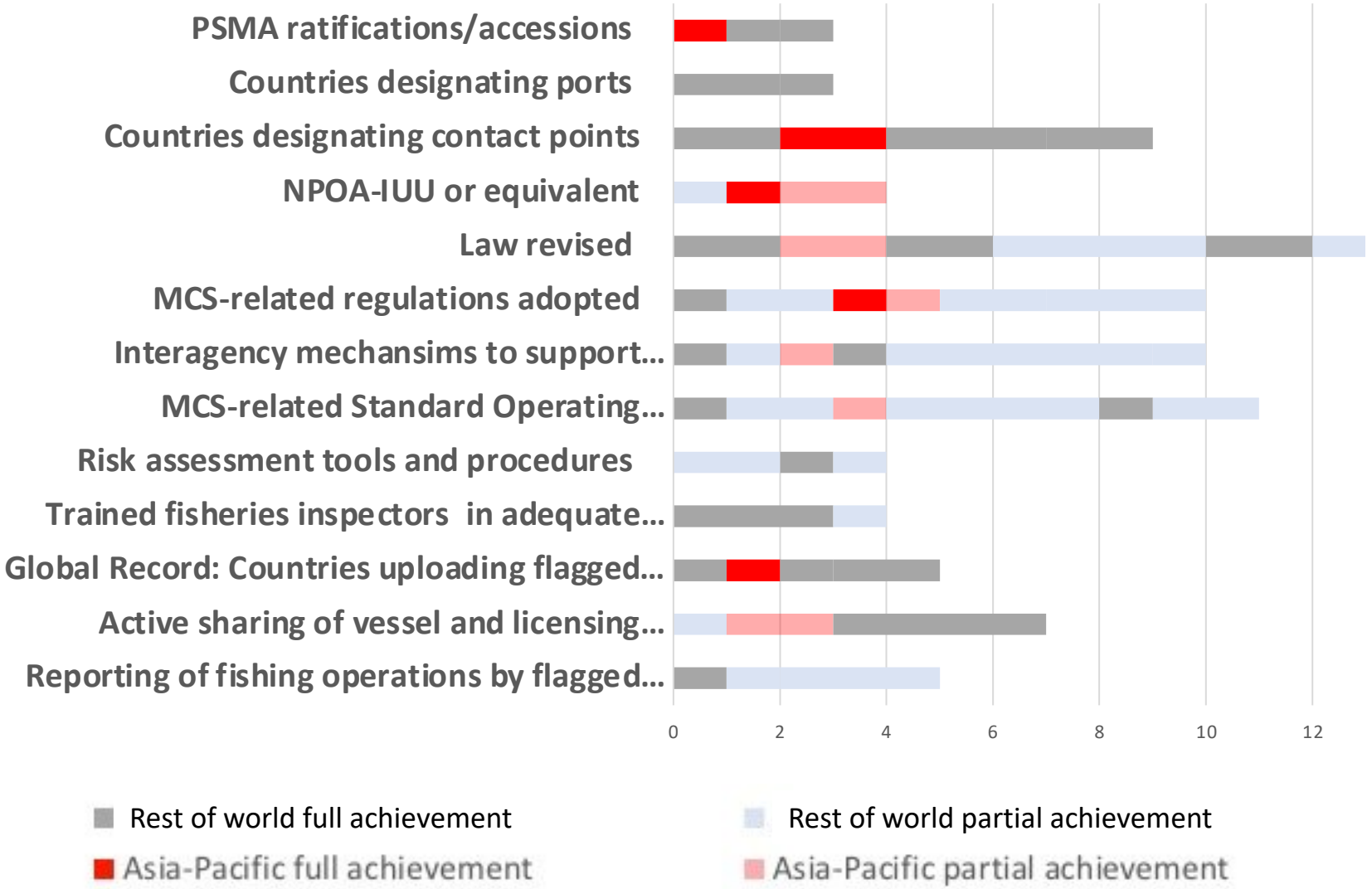


*By 23.06.2021

FAO Capacity Development support to RPOA countries

- National Strategy and Roadmap
- In-country Assistance
  - Policy / Legislation
  - MCS / Enforcement
- International Training
  - Legal
  - Port Inspection
- Ongoing work Planning for follow up support

Implementation achievements during technical assistance



Roll out of programme successful…

..but relatively less activity in Asia-Pacific

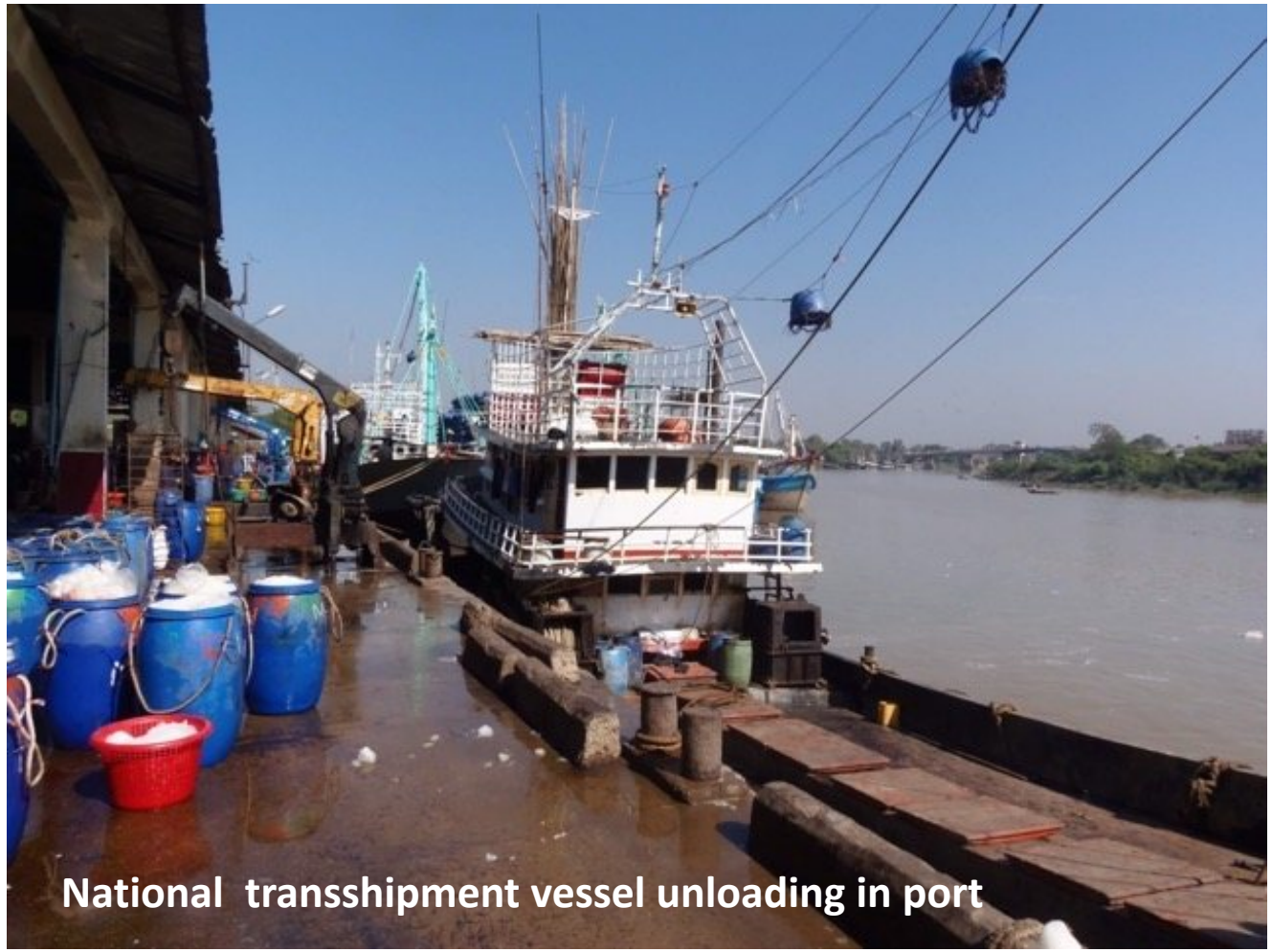
Partially reflects other support programmes in the region

Information sharing is a crucial part for successful implementation of the PSMA

Tuna longliners tied up in port

PSMA information exchange applications

- PSMA applications to share data on Designated Ports and National Contact Points (article 7 and 16)
- Currently:
  - 525 Designated Ports (72 from 3 SE Asia)
  - 54 National contact Points (6 from SE Asia)
- **Expected launch of :**
  - **Global Vessel Record** (Ver. 2) in early 2022
  - **Global Information Exchange System** (GIES) pilot – end of 2021



National transshipment vessel unloading in port

Global Information Exchange System (GIES) application (article 15 and 16)

Prototype presented at 3rd Meeting of Parties, with preparations for launching GIES pilot version (end of Q3)

Components

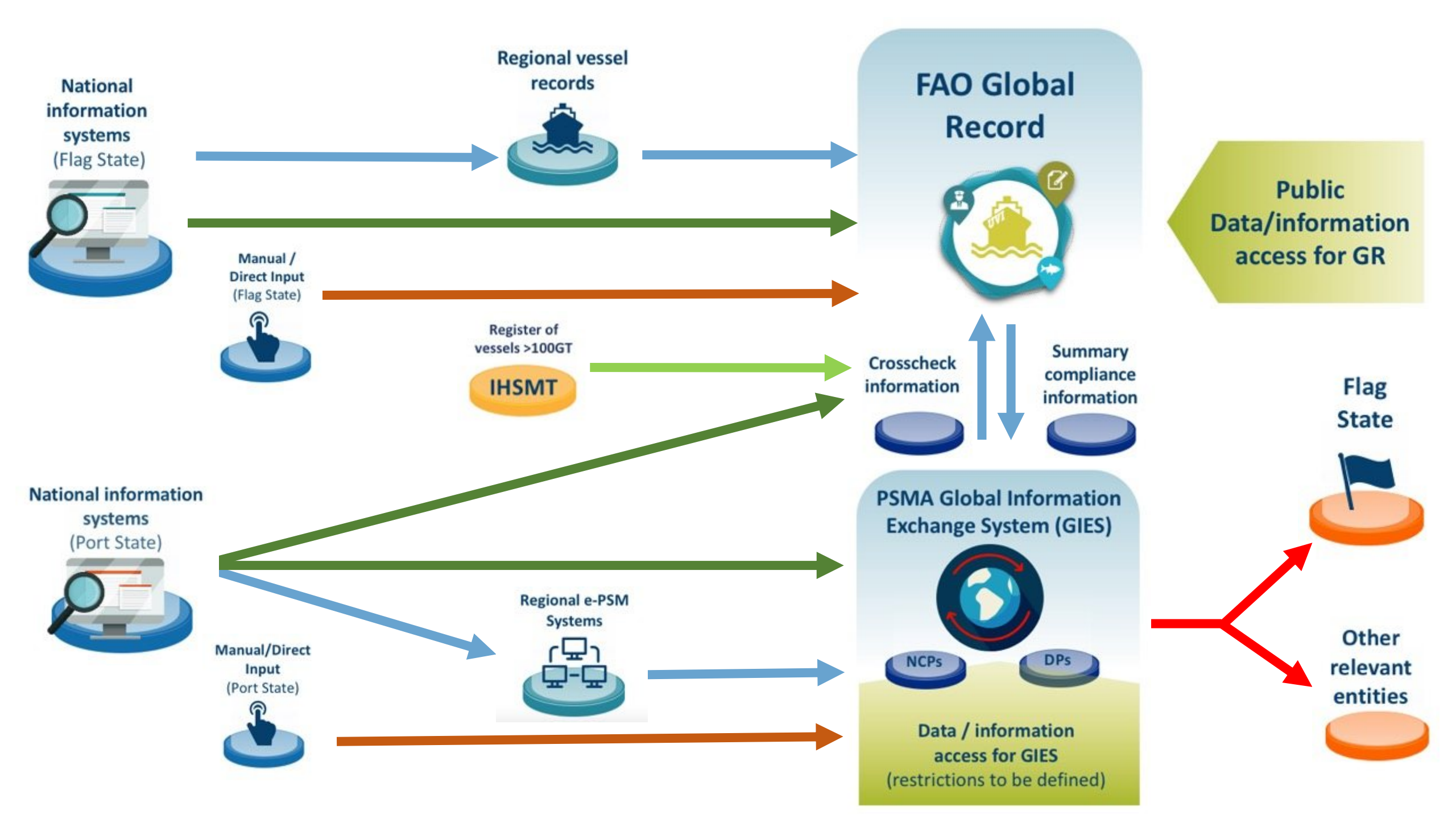
1. Denial of entry or use of port & withdrawal of port denials
2. Inspection reports
3. Flag State actions

Functionalities

1. Manual online forms
2. Automated connection for near-real time exchange (Global Record; National; Regional; International)
3. Notifications (including non-Parties, as relevant)
4. Search functionality

Accessibility

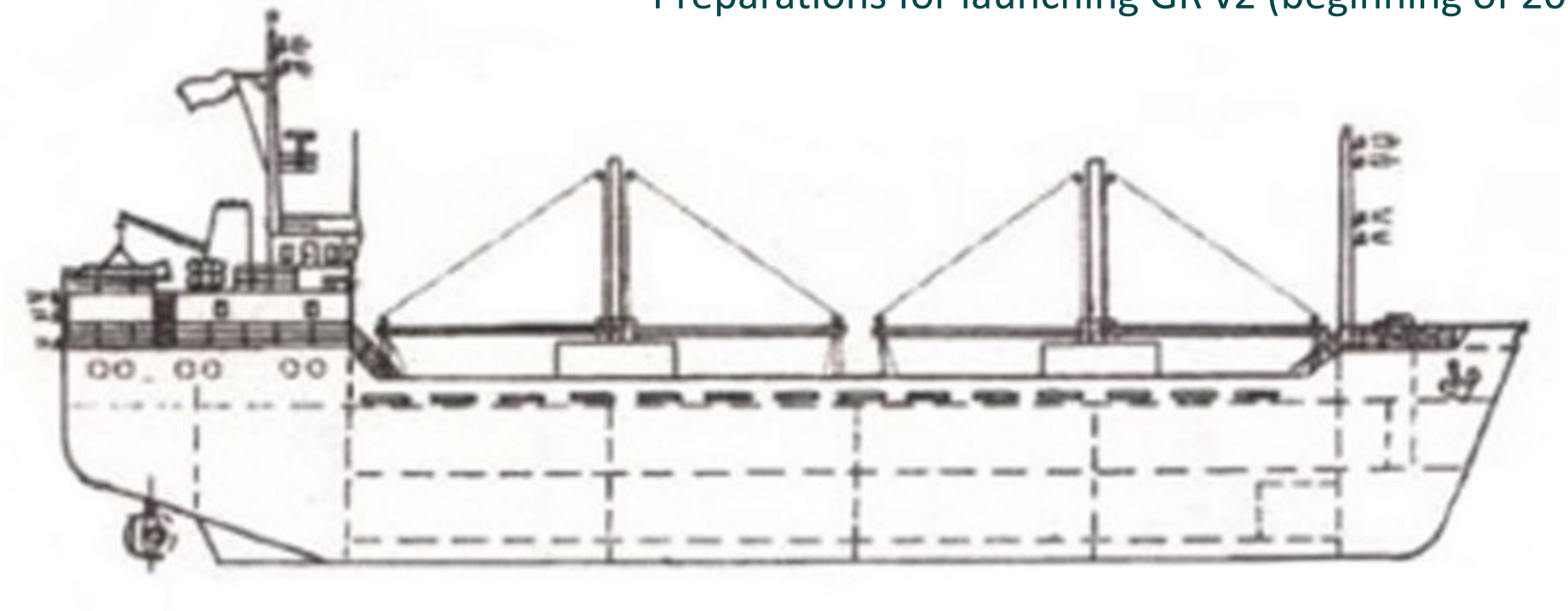
1. **Public:** general information only
2. **Limited access**: only Parties; summary information (risk analysis)
3. **Full access**: as per Article 15


National information systems (Flag State)
Regional vessel records
FAO Global Record
Public Data/information access for GR
Manual / Direct Input (Flag State)
Register of vessels >100GT
IHSMT
Crosscheck information
Summary compliance information
Flag State
National information systems (Port State)
PSMA Global Information Exchange System (GIES)
Regional e-PSM Systems
NCPs
DPs
Manual/Direct Input (Port State)
Other relevant entities
Data / information access for GIES (restrictions to be defined)

Global Record
of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels

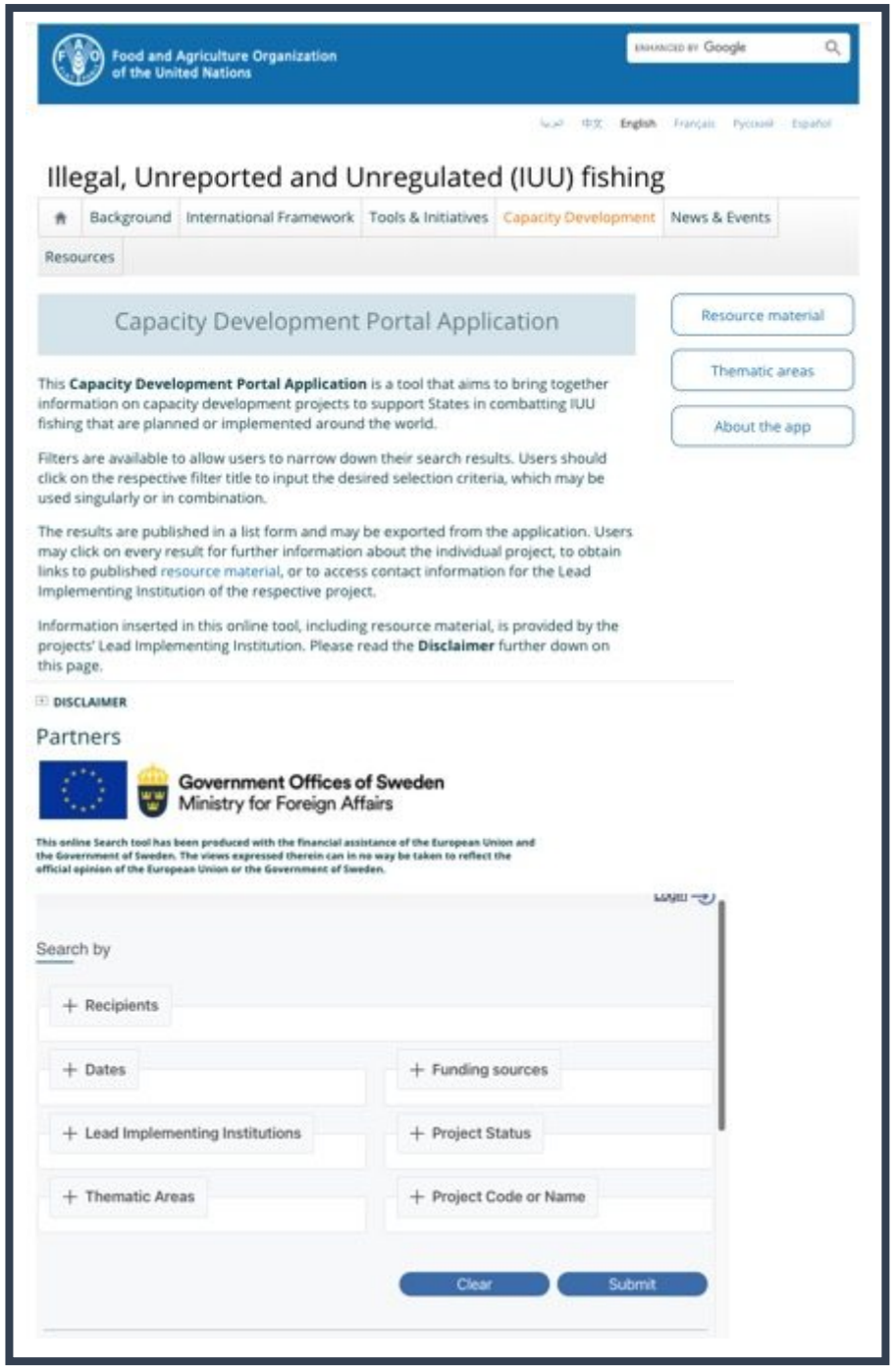
Supporting the implementation of the PSMA and other instruments to combat IUU fishing:

- Verification of vessel and authorisation information
- Risk analysis from historical and compliance information
- Linkage between vessel and port State inspection information and results
- Parties and non-parties to international instruments
- Other surveillance information (Coastal State)
- Preparations for launching GR v2 (beginning of 2022)



Avoiding overlaps in capacity development and assistance

- The FAO PSMA support programme is one initiative providing support to PSMA implementation
- There are many other bilateral and regional initiatives targeted at building capacity to combat IUU fishing
- FAO has developed a web-based "Capacity Development Portal Application" database to try to improve coordination of all the support
- http://www.fao.org/iuu-fishing/capacity-development/en/



Global implementation of the PSMA: The way forward

Global implementation of the PSMA

FUNDAMENTAL ELEMENTS TO ELIMINATE IUU FISHING

- Cooperation
- Transparency
- Compliance

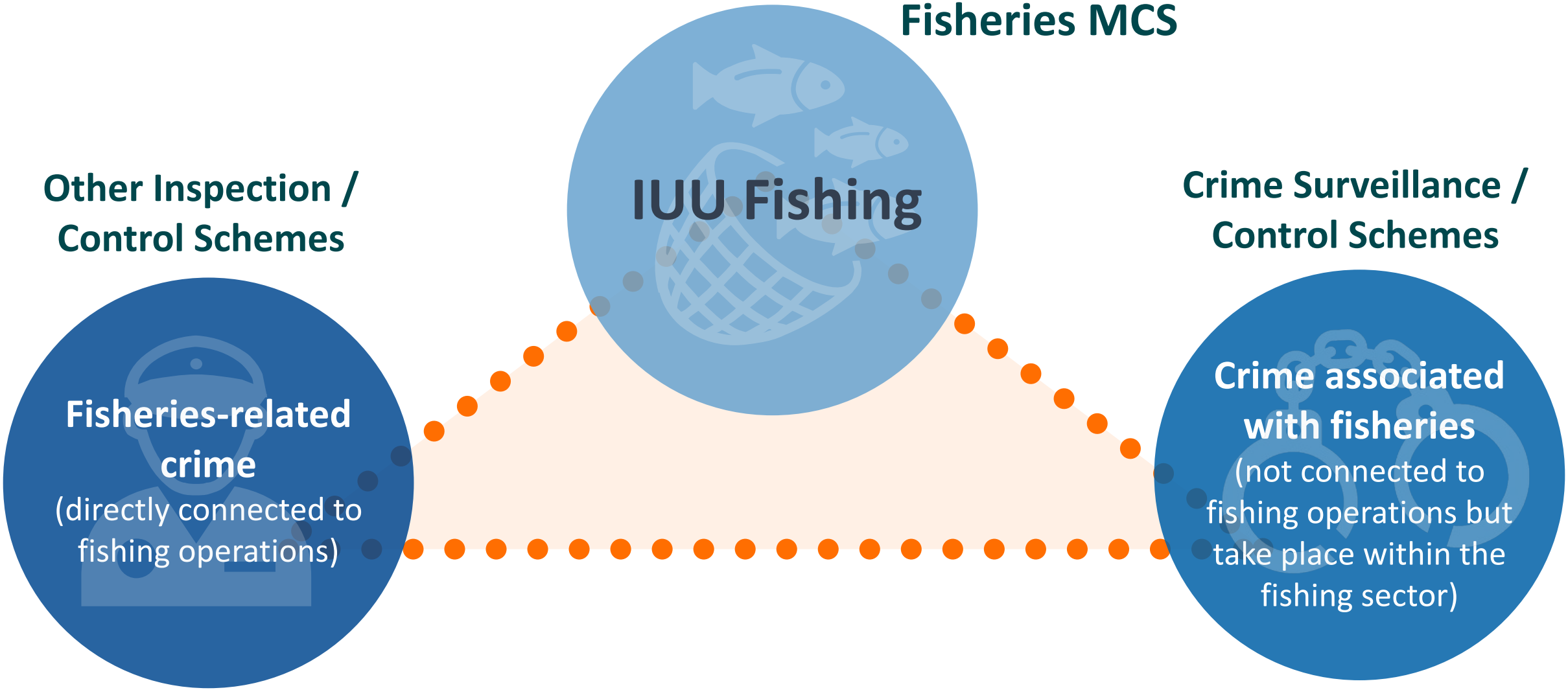
KEY CHALLENGES

- Stronger political will and commitment
- Streamlined legal framework
- Operational implementation and enforcement
- Capacity development needs
- Inter-agency coordination
- Synergies with other partners

NEXT CRITICAL STEPS

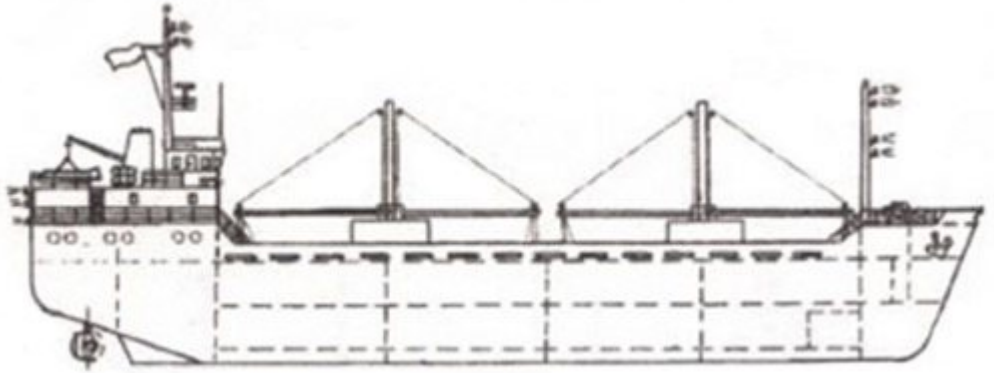
- Develop the PSMA **Global Information Exchange System** and link to regional systems
- International standards for the regulation, control and monitoring of **transshipment** practices
- Strengthened **regional and global information shar**ing networks and cooperation
- Mapping initiatives/support for implementation PSMA

Linking systems: connections between IUU fishing and crimes in the fishery sector



Development of Voluntary Guidelines on Transshipment

- **Concerns about risks** that transshipment could support IUU fishing other criminal activities
- **In-depth study concludes** lack of MCS the risk of IUU caught fish entering the market
- **COFI 34 requests** FAO to develop draft Voluntary Guidelines for the regulation, monitoring and control of transshipment through Expert Consultation and Technical Consultation
- **Objective of Voluntary Guidelines**: Provide assistance to develop transshipment regulations or to review existing ones, with a view to integrating these within the broader regulatory framework

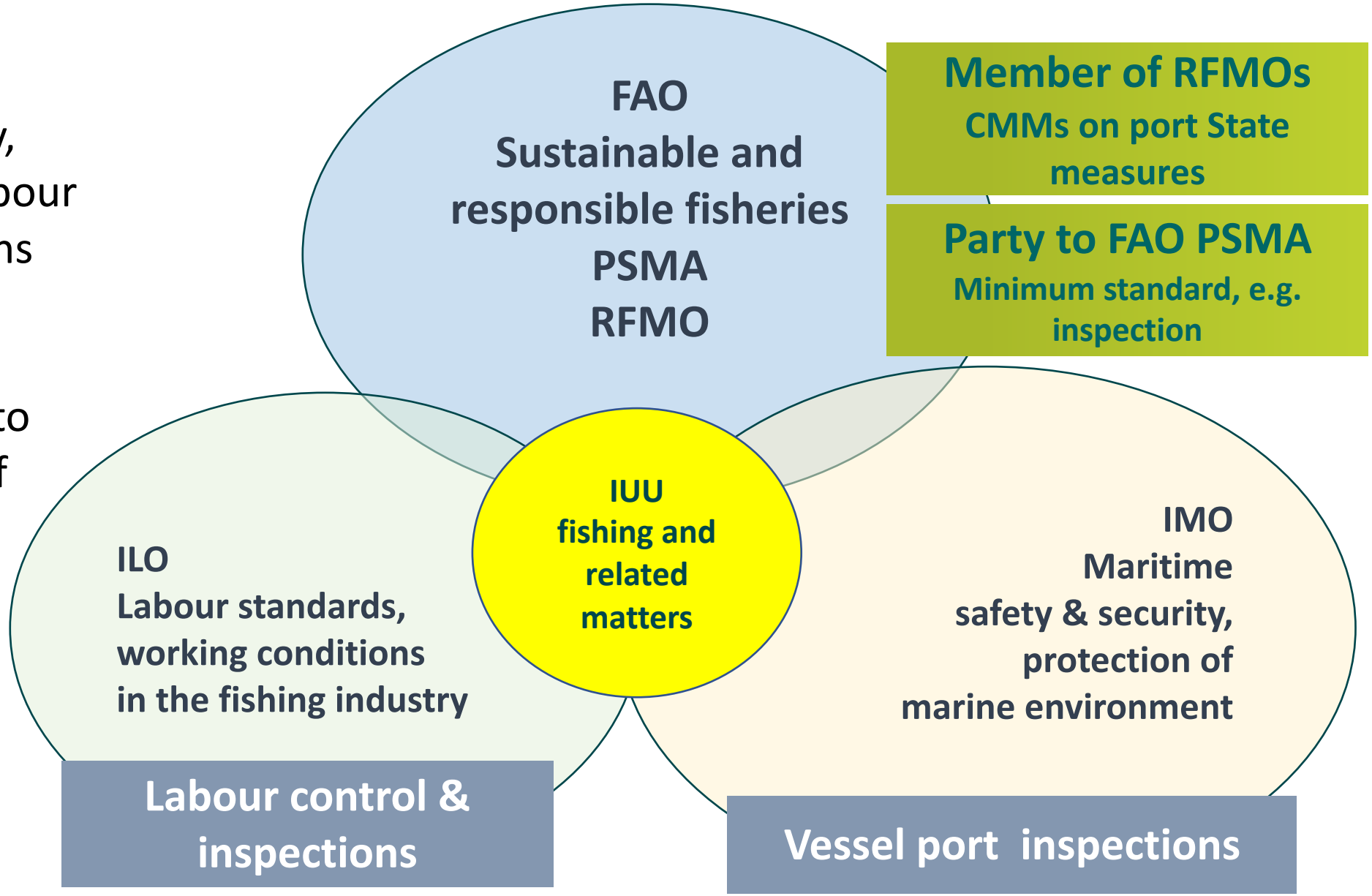


FAO/IMO/ILO JWG on IUU fishing and related matters

Recognize linkages between vessel safety, maritime security, labour and working conditions and (IUU) fishing

Integration of PSM into the broader system of Port State Controls

Improve **Interagency cooperation at national level**



Thank You

[redacted]

Grateful acknowledgement: this presentation was prepared with slides and support provided by FAO colleagues in the Fisheries Global and Regional Processes Team led by Matthew Camilleri

Traceability of fisheries product & market measures to combat iuu fishing

Susan Lockhart
Supply Chain Standards Director

Our vision

Oceans teeming with life, and seafood supplies safeguarded for this and future generations.

Our MISSION

to use our ecolabel and fishery and supply chain certification program *to contribute to the health of the world's oceans by:*

- *recognising and rewarding sustainable fishing practices*
- *influencing the choices people make when buying seafood*
- *and working with our partners to transform the seafood market to a sustainable basis.*

MSC certification and ecolabelling

Our eco label as a sustainability tool

The concept

- Harnessing consumer power to create change in the market place.

What it involves

- Assessment of the ecological performance of a fishery against a set standard.
- Promoting market support for sustainable seafood products from certified fisheries through a label.

Catalysing improvement

- Providing a framework and pathway for fishery improvement.

MSC AT A GLANCE

Globally-recognised seafood certification and labelling program

- Recognise and reward efforts to protect oceans and safeguard seafood supplies for the future

Over 400 fisheries certified to the MSC Fisheries Standard

- **17.4%** of global wild marine catch engaged with our program
- Further **8%** working towards certification

More than 18,000 products sold with MSC ecolabel*

Around 38,000 sites selling MSC certified sustainable seafood products

*(2019/20)

TACKLING IUU THROUGH OUR PROGRAM

Eco-label: setting & maintaining standards

Fishery → Fishery Certification → Chain of Custody Certification → Ecolabel Licensing → Consumer Product

1) Fisheries Standard

- Sustainable fish stocks
- Minimising environmental impact
- Effective management

2) Chain of Custody Standard

Principle 1	Principle 2	Principle 3	Principle 4	Principle 5
				
Companies must purchase certified product from a certified supplier	Certified products are clearly identifiable	Certified products are separated from non-certified	Certified products are traceable and volumes are recorded	Company's management system addresses requirements of the Standard

Addressing iuu – fisheries standard

- compliance with relevant regulation
- Effective management systems
- Strict limitations on scope of fisheries eligible
- target stock must not be under pressure from IUU
- Effective traceability measures
  - Verified through Third party assessment
  - Publicly available reports
  - Surveillance audits

Addressing iuu – Chain of custody standard

traceable to MSC certified fisheries

must not be transported on vessels on Regional Management Bodies Black lists

Where does THE CHAIN OF CUSTODY start?

At or before the first sale from the fishery

Independent assessor determines:

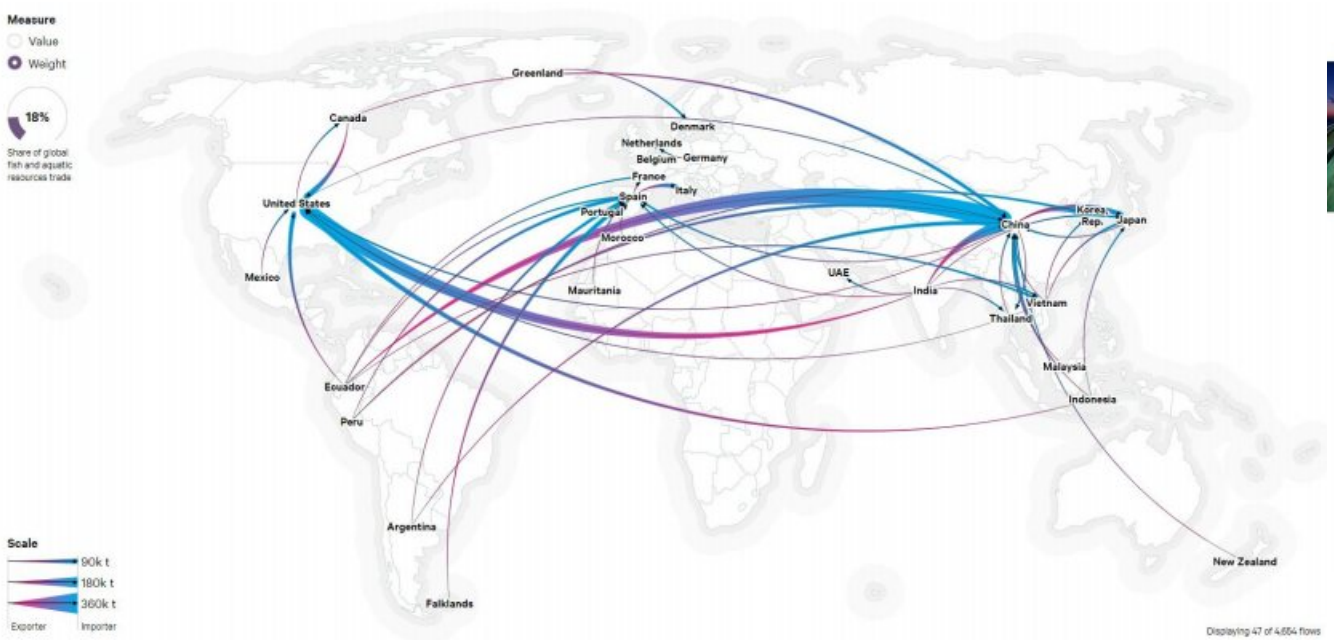
- if fishery traceability systems are sufficient
- where product ownership changes
- where CoC begins.

CoC can begin:

- At catch (onboard the vessel)
- At landing
- After landing e.g. storage or auction facilities

Start of CoC is defined in the traceability section of the Fishery Public Certification Report

seafood supply chains & trade

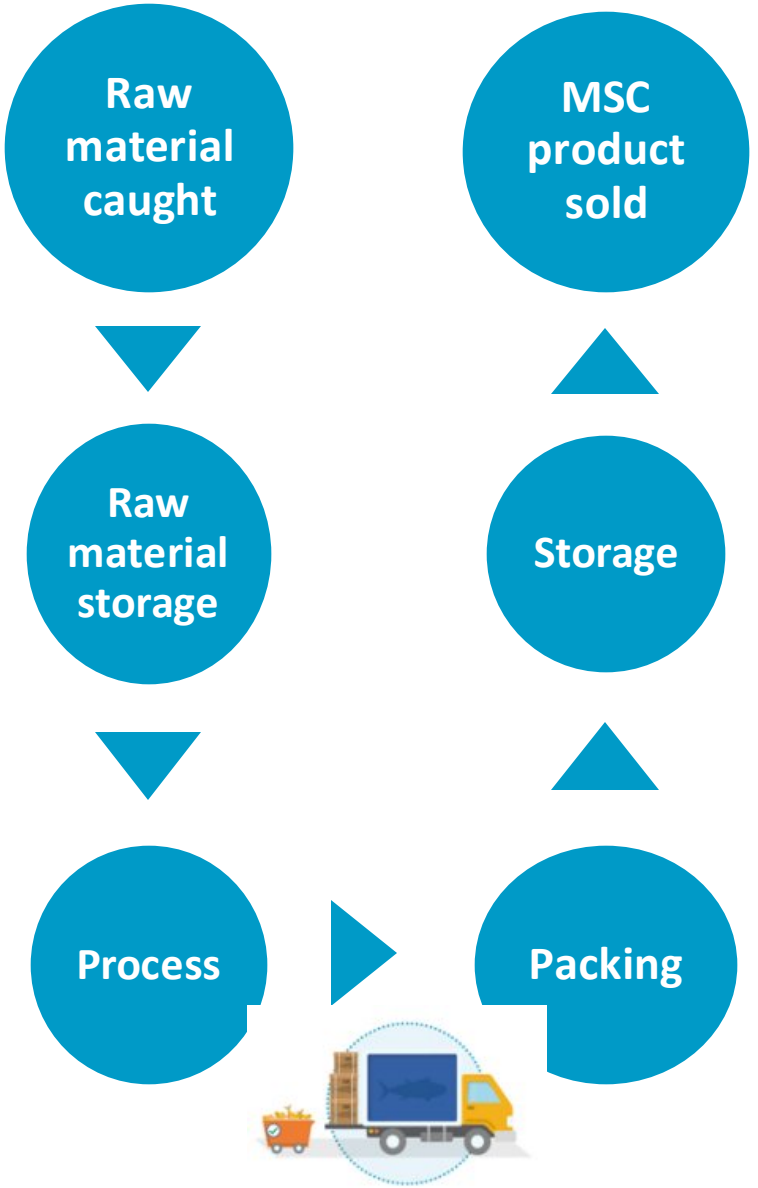


Source: Chatham House - Resourcetrade.Earth (2019)

Principle 4 traceability

Certified seafood is traceable and volumes are recorded

- Traceable from sales invoice/point of serving to consumer back to a certified fishery(ies).
- Traceability records link certified product at every activity covered by CoC certificate
- Records maintained and allow volume of certified inputs and outputs to be calculated
- The resulting “paper trail” enables full reconstruction of product flow through the MSC supply chain.



Traceability chain of custody standard

NOW

- one up one down traceability based on record keeping.
- Enables full reconstruction of product flow through the MSC Supply Chain.
- Many CoC certificate holders still use paper-based systems.
- Effective but can take time in particular for very complex supply chains.

THE FUTURE

- The MSC is actively digitising its ways of working
- MSC is working to develop a digital solution for MSC certified supply chains that compliments rather than conflicts with other traceability systems.

Changing landscape of seafood traceability

- Fantastic opportunity presented by digital innovation and deployment.
- Recognition of seafood traceability as the backbone of sustainable seafood and a key tool to address IUU
- Prompted regulatory activity across the globe
- Non-regulatory, multi stakeholder movements
- SALT The Seafood Alliance for Legality and Traceability
  www.salttraceability.org

  GDST The Global Dialogue for Seafood Traceability
  www.traceability-dialogue.org
- Recognition of the importance of harmonizing seafood traceability standards and
- Globally accepted language for key data elements (kdes)

Global dialogue for seafood traceability

Establishing a common framework for tracking and sharing origin information in an effort to decrease instances of IUU and seafood fraud.

Brings together companies from around the globe and across different parts of the supply chain

- unified framework for interoperable and verifiable seafood traceability,

Global interoperable standard governing

- Information, content and data formats for seafood traceability systems
- Suggested lists of KDEs and nomenclature

VERIFICATION, Monitoring and Assurance

Regular audits and other monitoring activities provide assurance that Chain of Custody certification is effective:

- **Announced and unannounced 3rd party audits** – carried out by CABs
- **Product tracebacks** – ensures paperwork correct for each step in the supply chain
- **Volume reconciliations –** to detect product substitutions or mislabelling
- **Monitoring by Assurance Services International (ASI)** - quality assessment of CAB's work
- **DNA testing** – ensures products correctly labelled

Forensic testing

Species

DNA testing program

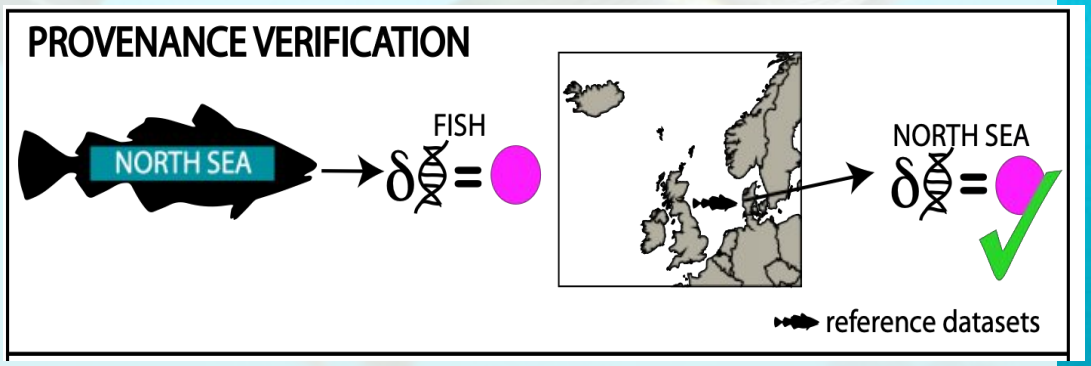
Beyond Species Substitution

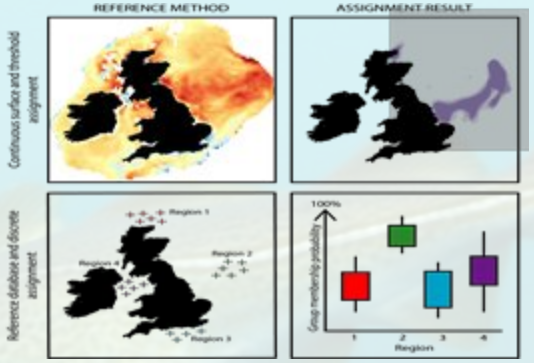
Stable isotope

Potential to directly link an organism to a physical location at a point in time

Genetic tracers

Reflects population spatial histories rather than recent individual movements or location at point of capture





Hot of the press

Paper co-authored by MSC

Published 9th August 2021

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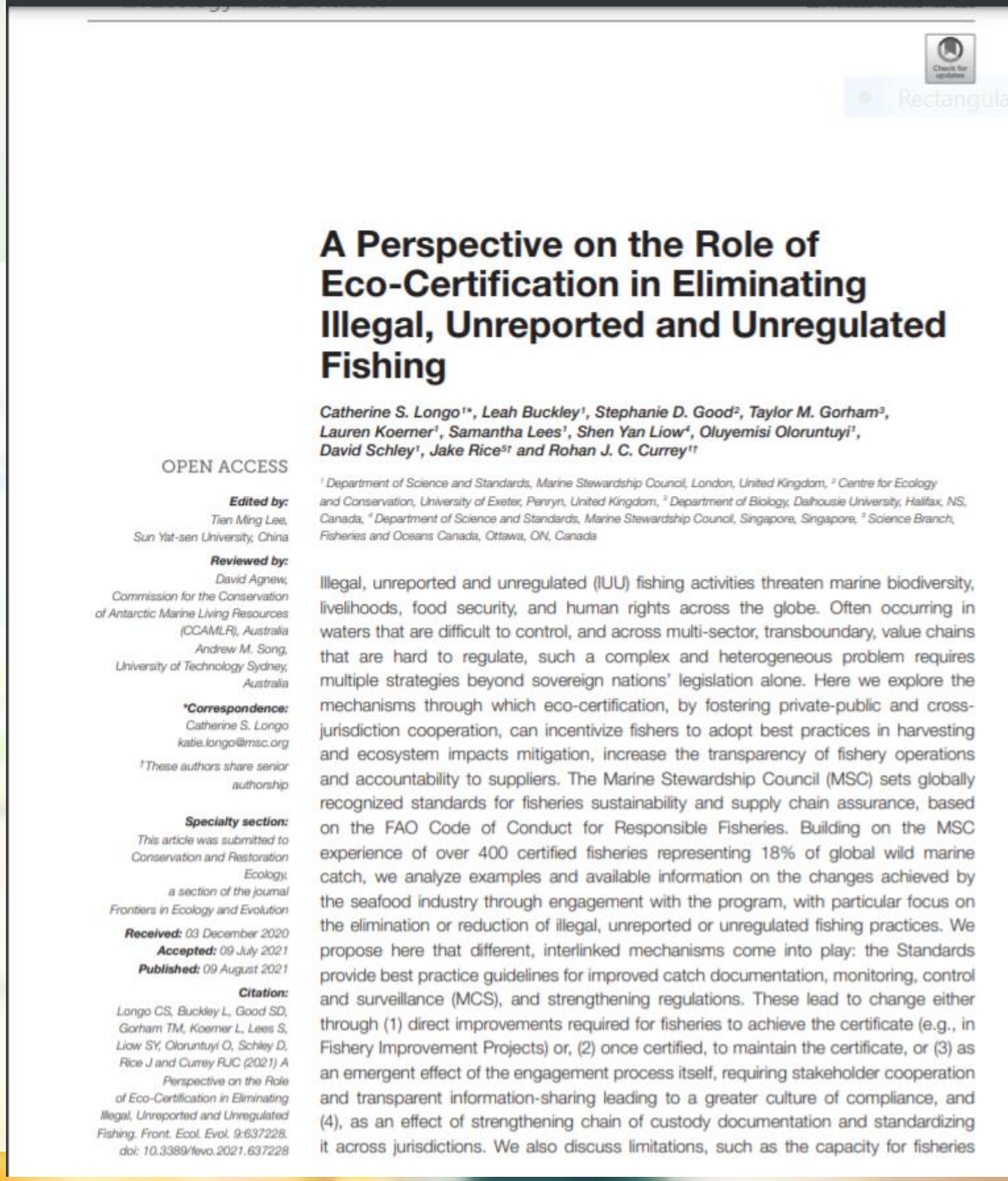

A Perspective on the Role of Eco-Certification in Eliminating Illegal, Unreported and Unregulated Fishing

Catherine S. Longo[1], Leah Buckley[1], Stephanie D. Good[2], Taylor M. Gorham[3], Lauren Koerner[1], Samantha Lees[1], Shen Yan Liow[4], Oluyemisi Oloruntuyi[1], David Schley[1], Jake Rice[5†] and Rohan J. C. Currey[1†]*

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Citation:
Longo CS, Buckley L, Good SD, Gorham TM, Koerner L, Lees S, Liow SY, Oloruntuyi O, Schley D, Rice J and Currey RJC (2021) A Perspective on the Role of Eco-Certification in Eliminating Illegal, Unreported and Unregulated Fishing. Front. Ecol. Evol. 9:637228. doi: 10.3389/fevo.2021.637228

Illegal, unreported and unregulated (IUU) fishing activities threaten marine biodiversity, livelihoods, food security, and human rights across the globe. Often occurring in waters that are difficult to control, and across multi-sector, transboundary, value chains that are hard to regulate, such a complex and heterogeneous problem requires multiple strategies beyond sovereign nations' legislation alone. Here we explore the mechanisms through which eco-certification, by fostering private-public and cross-jurisdiction cooperation, can incentivize fishers to adopt best practices in harvesting and ecosystem impacts mitigation, increase the transparency of fishery operations and accountability to suppliers. The Marine Stewardship Council (MSC) sets globally recognized standards for fisheries sustainability and supply chain assurance, based on the FAO Code of Conduct for Responsible Fisheries. Building on the MSC experience of over 400 certified fisheries representing 18% of global wild marine catch, we analyze examples and available information on the changes achieved by the seafood industry through engagement with the program, with particular focus on the elimination or reduction of illegal, unreported or unregulated fishing practices. We propose here that different, interlinked mechanisms come into play: the Standards provide best practice guidelines for improved catch documentation, monitoring, control and surveillance (MCS), and strengthening regulations. These lead to change either through (1) direct improvements required for fisheries to achieve the certificate (e.g., in Fishery Improvement Projects) or, (2) once certified, to maintain the certificate, or (3) as an emergent effect of the engagement process itself, requiring stakeholder cooperation and transparent information-sharing leading to a greater culture of compliance, and (4), as an effect of strengthening chain of custody documentation and standardizing it across jurisdictions. We also discuss limitations, such as the capacity for fisheries

Thank you!

INTERPOL

INTERPOL ENVIRONMENTAL SECURITY PROGRAMME – FISHERIES

A Look into the IUU-F *modus operandi*

International Workshop on

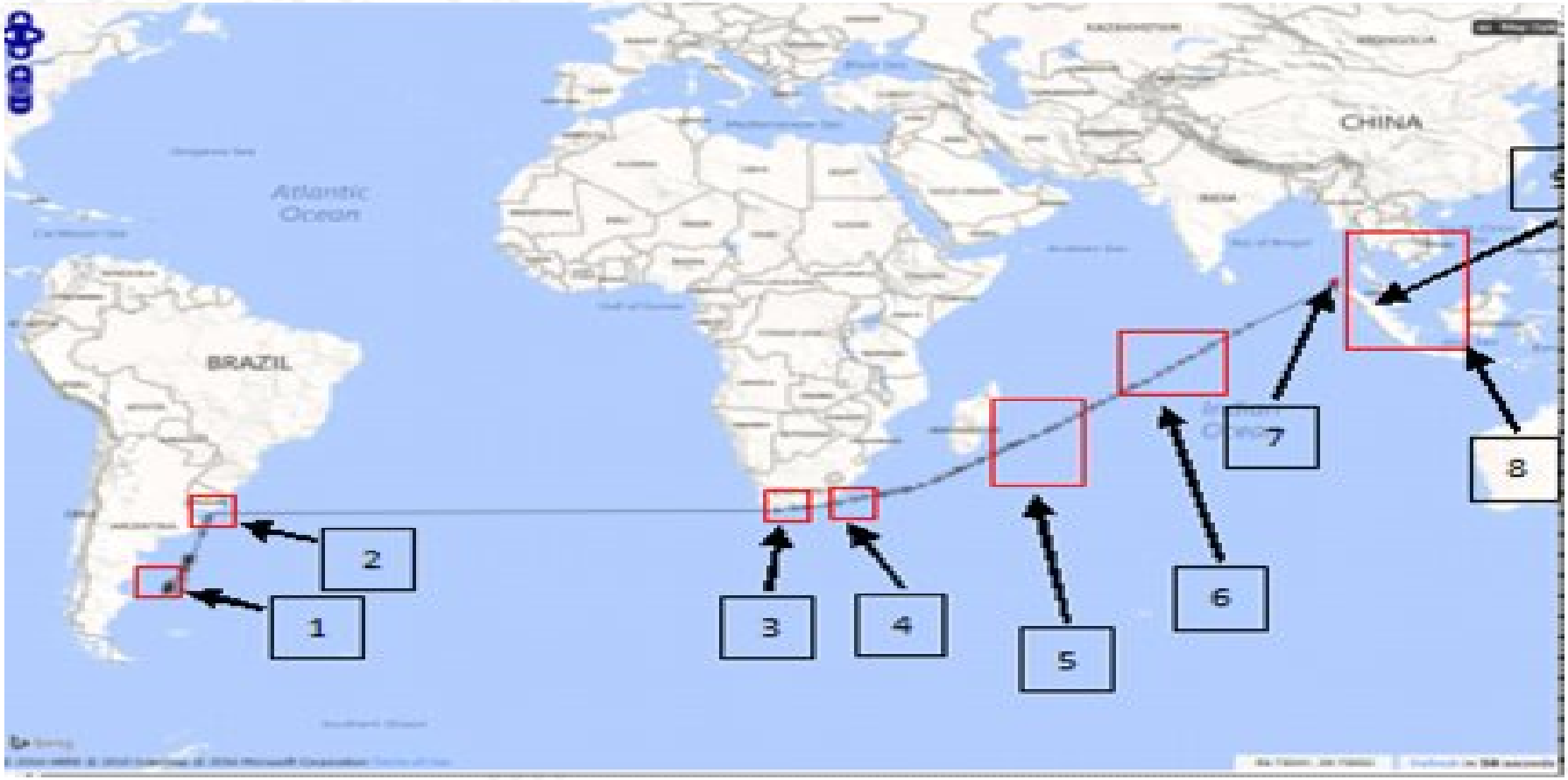
Eradication of Illegal, Unreported and Unregulated Fishing for Regional Plan of Action


IUU Fishing

Case Study I
“HUA LI 8”

“HUA LI 8” (CHN) Argentina 29 Feb 2016

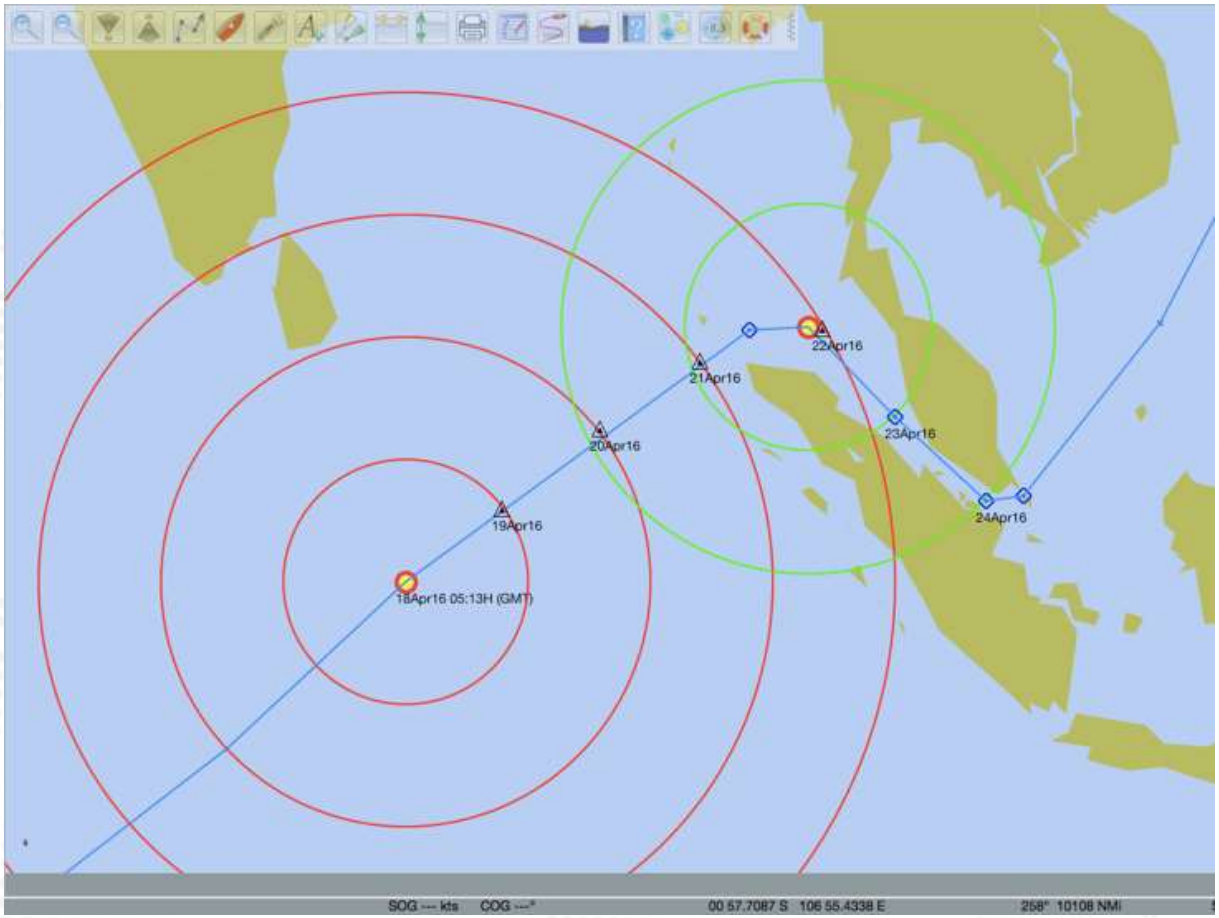
29 DAY PURSUIT, 10,000 NM, ACROSS TWO OCEANS…



INTERPOL

Daily dead reckoning and planning of vessels possibilities and estimation vessel courses.

Results provided to Indonesia.



INTERPOL

The interception moment by Indonesia Navy.

MCS Assets Involved

Mauritius

UK

Indonesia

INTERPOL

Vessel detained in port

Crew detained

Captain arrested

Cargo confiscated

DIPLOMATIC IMPACT – Indonesia hands over custody of the vessel to Argentina

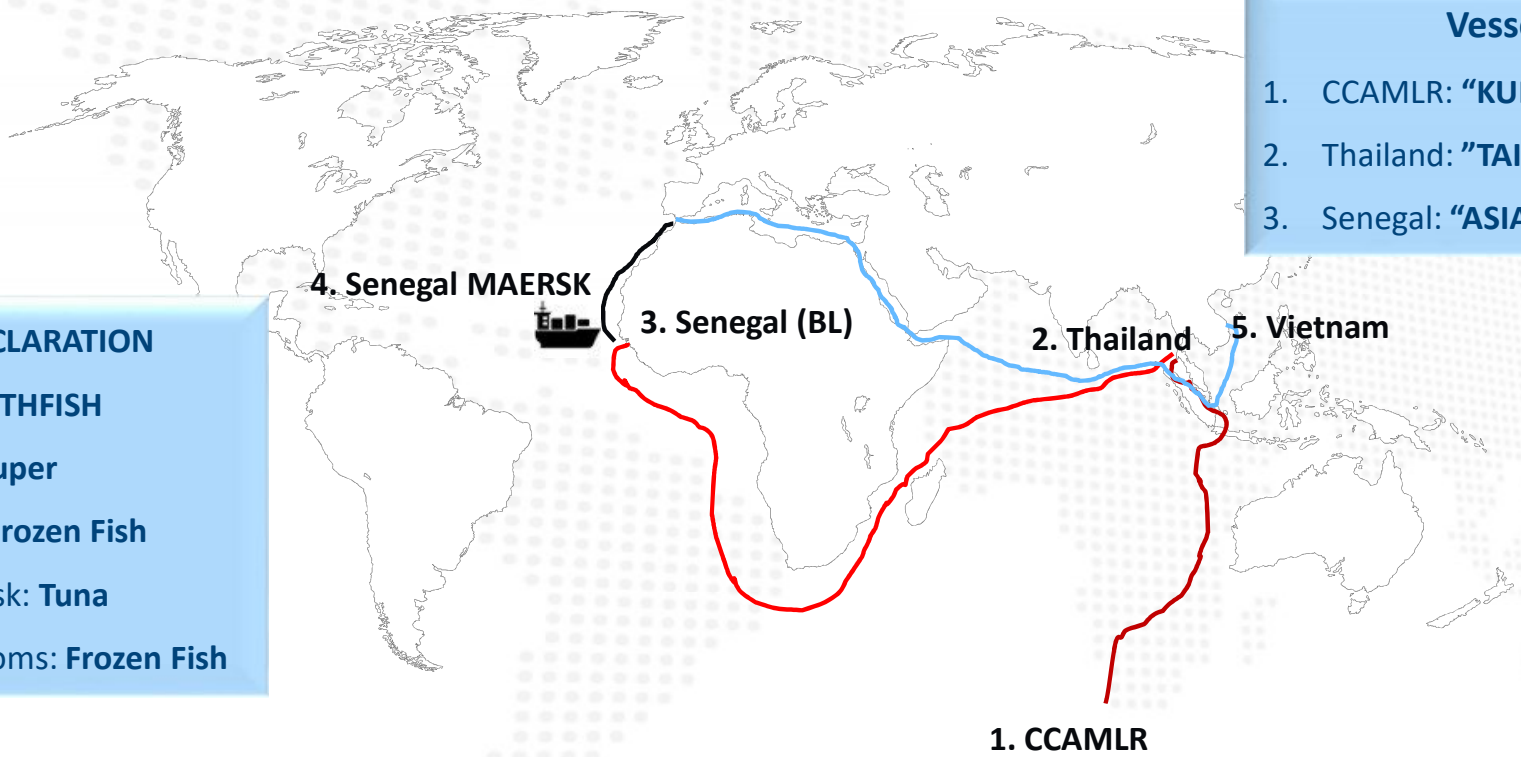
Case Study II

“FRAUDULENT BEHAVIOUR”

Fraudulent Tactics: Vessel ID and Species ID

Vessel ID

1. CCAMLR: **"KUNLUN"**
2. Thailand: **"TAISHAN"**
3. Senegal: **"ASIAN WARRIOR"**



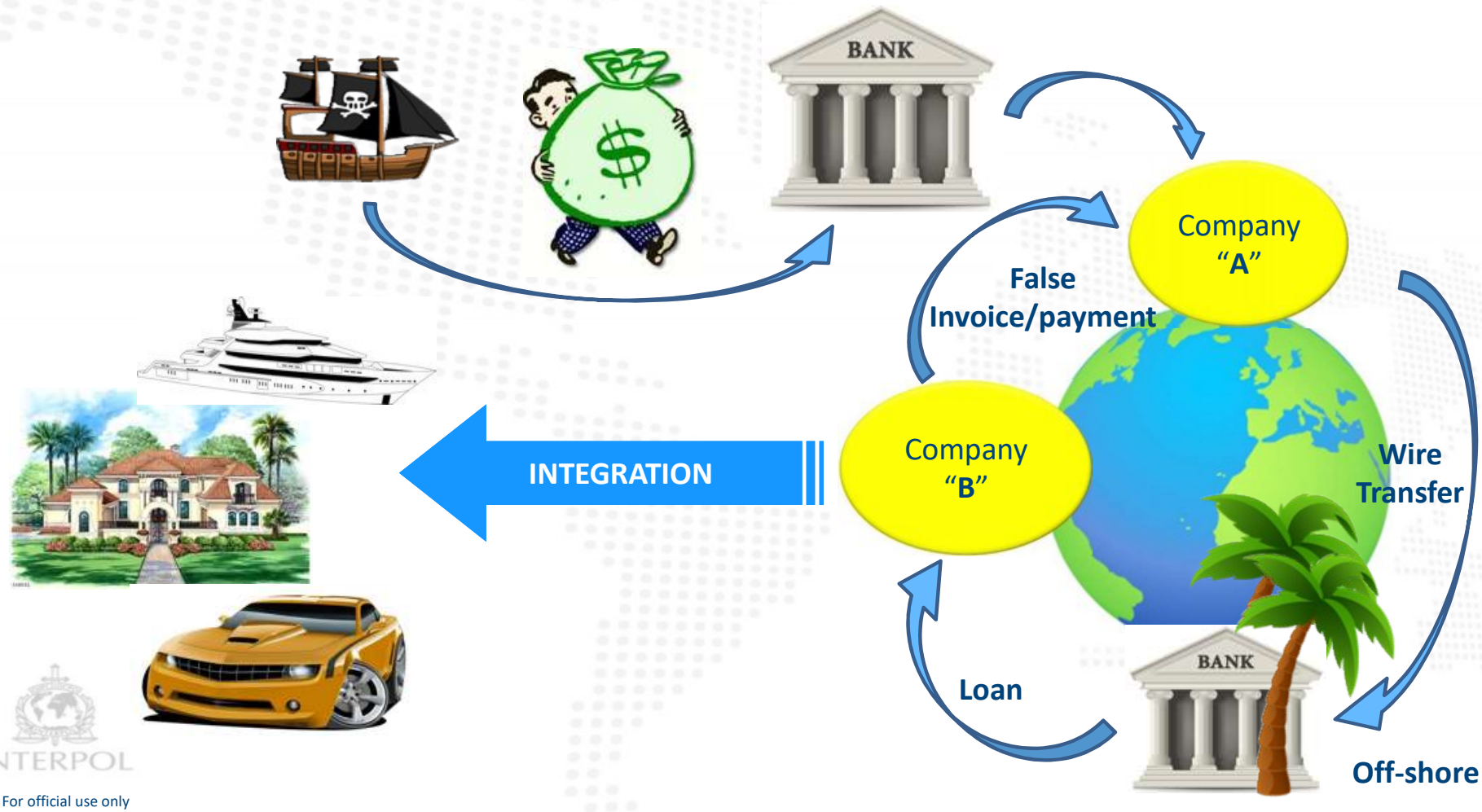
CARGO DECLARATION

1. CCAMLR: **TOOTHFISH**
2. Thailand: **Grouper**
3. Senegal BL's: **Frozen Fish**
4. Senegal Maersk: **Tuna**
5. Vietnam Customs: **Frozen Fish**

CHALLENGES IN FIGHTING IUU

- **DOCUMENTATION FRAUD** (Vessel Register, Fishing License, etc).
- Legal **LOOP HOLES** exploitation (national and international levels).
- **LOW** financial sanctions.
- Protected by **INSURANCE**.
- **LACK** of (effective) **COOPERATION** between states and agencies.
- **Low MCS** at coastal state and within RFMOs areas.
- Highly organized criminal entities behind the vessel operation.
- High complexity of criminal network to hamper LE efforts.

Poachers challenge: How to clean dirty money?



BUT THEN, HOW SHOULD WE TACKLE IT?

- Cooperate effectively/timely manner other agencies/countries!
- Focus on the networks …and not just on the poachers!
- Understand the business model to tackle the root causes !
- Be proactive and not dragged by the events.

Thank You

environmentalcrime@interpol.int

Twitter: @INTERPOL_EC

INTERPOL

International Workshop on
Eradication of Illegal, Unreported and Unregulated Fishing for Regional Plan of Action to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries
9-11 August 2021

Regional Capacity Building to Combat IUU Fishing in Southeast Asia

Mr.Kongpathai Saraphaivanich
SEAFDEC Training Department

What is SEAFDEC

The Southeast Asian Fisheries Development Center (SEAFDEC) is an autonomous inter-governmental body established as a regional treaty organization on 28 December 1967.

Vision

"Sustainable management and development of fisheries and aquaculture to contribute to food security, poverty alleviation and livelihood of people in the Southeast Asian region"

SEAFDEC Members

Currently, comprise 11 Member Countries: (ASEAN+Japan)

More Information: www.seafdec.org

SECRETARIAT
www.seafdec.org

TD
Training Department

www.seafdec.or.th

MFRD
Marine Fisheries Research Department

www.seafdec.org/mfrd

AQD
Aquaculture Department

www.seafdec.org.ph

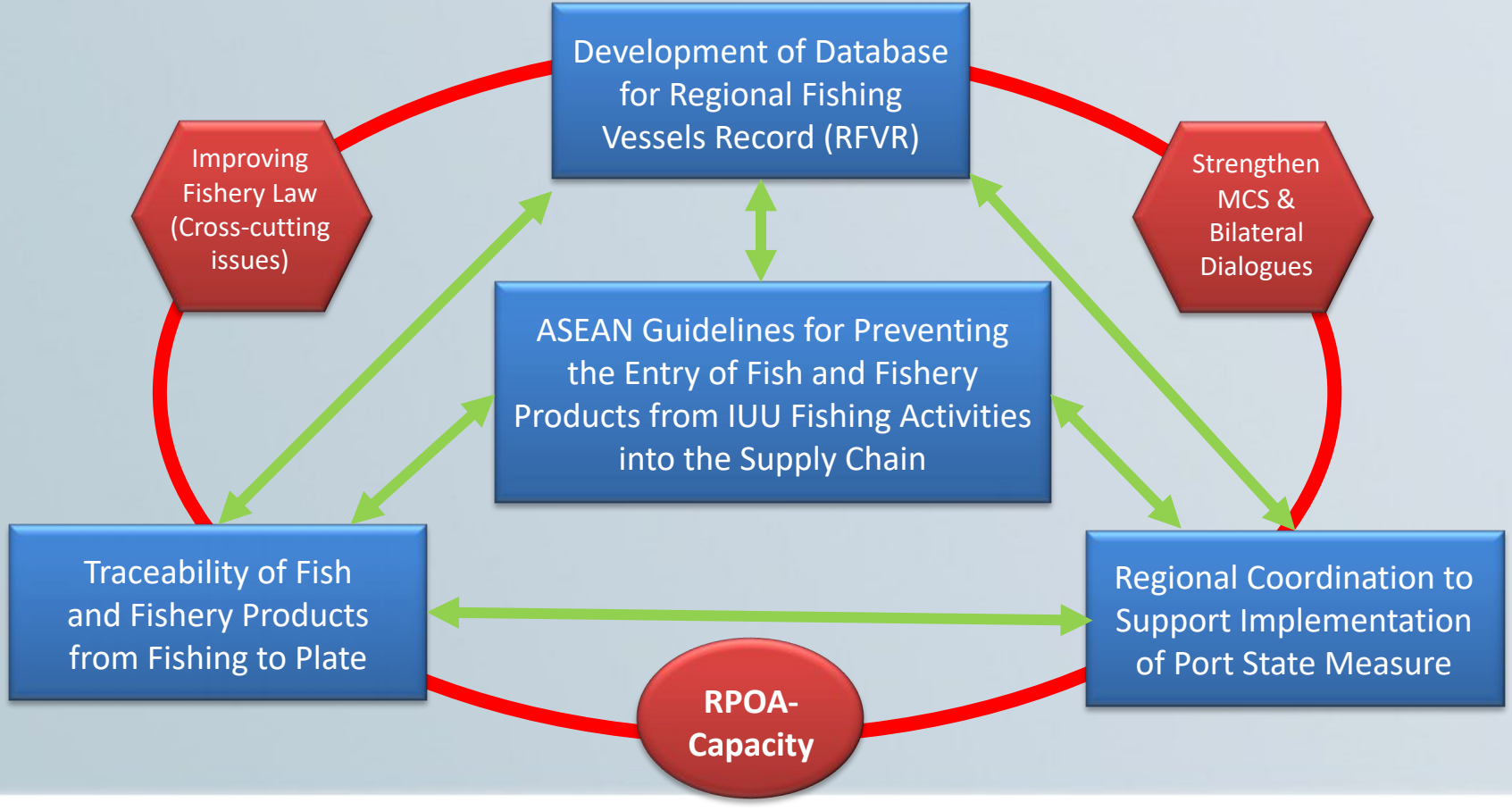
MFRDMD
Marine Fishery Resource Development and Management Department

www.seafdec.org.my

IFRDMD
Inland Fishery Resource Development and Management Department

www.seafdec.id

SEAFDEC Initiatives Toward Combating IUU Fishing



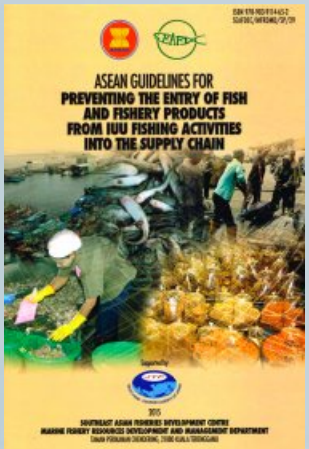
Regional Capacity Building to Combat IUU Fishing in Southeast Asia

- Meeting, Workshop, and Seminar
- Training
  - Regional Training Course
  - On-site Training Course (national)

Face to face → Virtual

Capacity Building via Meeting, Workshop and Seminar

- Series of Meeting to develop ASEAN Guidelines for Preventing the Entry of Fish and Fishery Products from IUU Fishing Activities into the Supply Chain



- Series of Workshop to Develop Regional Fishing Vessels Record (RFVR)
- Encouragement AMSs to Participate in FAO Global Record TWG Meeting held in the Republic of Korea in 2019

Capacity Building via Meeting, Workshop and Seminar

Teleseminar on Way Forward for Combating IUU Fishing in Southeast Asia was organized in August 2020

Fundamental elements for eliminating IUU fishing and Way forward for combating IUU fishing in Southeast Asia (Regional and National)

Fundamental elements for eliminating IUU fishing

- Political will and commitment
- Cooperation and collaboration
- Transparency
- Law enforcement
- Mechanism
- Capacity development Technologies and innovations
- Sustainability of the initiatives and mechanisms for combating IUU fishing

Way forward for combating IUU fishing in Southeast Asia

National Level

- Strengthening country's capacity in the undertaking of flag State, coastal State and port State's responsibilities, as well as market-related measures for combating IUU fishing
- Applying multiple tools for combating IUU fishing, taking into consideration in different scenarios and requirements, *e.g*. in a domestic environment, territorial seas, EEZs, RFMO areas, etc.
- Considering not only combating IUU fishing in commercial/large-scale fisheries but also exploring appropriate approaches in dealing with IUU fishing in small-scale fisheries in coastal and inland waters
- Focusing not only on illegal fishing but also on unreported and unregulated fishing
- Adopting innovations for more effective MCS programs, including the use of RS data and AI to alert possible IUU fishing activities, and risk assessment before entering into port of fishing vessels

Way forward for combating IUU fishing in Southeast Asia

National Level

- Enhancing effective implementation of the PSMA with implementation protocols, and identification of designated ports. Inter-agency cooperation and coordination with relevant countries are necessary for effective implementation.
- Development/improvement of a country's traceability system that could exchange with systems of importing countries
- Enhancing cooperation and collaboration, including multi-national engagement in the investigation of IUU fishing, and public-private partnership in combating IUU fishing
- *(for countries that do not have NPOA-IUU)* Development of NPOA-IUU that fits with the country's major roles, *e.g*. whether the country mainly plays roles as flag State, coastal State or port State, to assist the implementation

Way forward for combating IUU fishing in Southeast Asia

International Level

- Strengthening global and regional information exchange,
- Enhancing collaboration between organizations in the region for information exchange,
- Furthering harmonization of catch documentation scheme importer's requirements (paper-based and electronic), including IT Catch, and moving toward ensuring compatibility and linking of data in the future.

Way forward for combating IUU fishing in Southeast Asia

International Level

- Improving unregulated fishing especially of shared stocks by establishing a monitoring plan (*e.g.* stock assessment) and management plan among concerned countries
- Facilitating the exchanging of information on the progress of initiatives in combating IUU fishing undertaken by the AMSs
- Continuing dialogues on the establishment of ASEAN policies and so on

Capacity Building via Training Couse

THE REGIONAL TRAINING ON PORT STATE MEASURES IMPLEMENTATION IN SOUTHEAST ASIA

was organized in February 2018 in Bangkok, Thailand

The training came up with better understanding on implementation of Port State Measures in Member Countries, increasing of knowledge on Port State Measures and relevant activities as a tool to combat IUU Fishing, the situation and preparation on PSM implementation in the region and way to practical improvement of Port State Measures.

Capacity Building via Training Course

The Regional Training on Port State Measures (PSM) Implementation for Inspectors in Southeast Asia,
22-26 July 2019 at SEAFDEC/TD, Thailand

Better understanding in the implementation of PSM, and increasing of knowledge, skills and experience on inspection to support the implementation of PSM and port control

Capacity Building via Training Course

Series of On-site and Online Training on the Use of eACDS Application were organized for Brunei Darussalam, Viet Nam, Malaysia, and Myanmar

Understanding on the use of eACDS application

eACDS
Catch Report App.

Plan of Capacity Building to Combat IUU Fishing in the Region

- Regional Workshop on Improvement and Development of RFVR Database to key in and update information by country themselves (September 2021)
- Regional Training on Implementation of PSM for Inspector (October 2021 and 2022)
- Regional Training Course on Responsible Fishing Technologies/Practices to Combat IUU Fishing in Southeast Asia (2022)
- Regional Capacity Building Workshop on Enhancing Policies and Countermeasures Against IUU Fishing in Southeast Asia (2022)
- Regional Training Course on electronic ASEAN Catch Documentation Scheme for Small-scale Fisheries in Southeast Asia (2023)

International Workshop on
Eradication of Illegal, Unreported and Unregulated Fishing for Regional Plan of Action to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries
9-11 August 2021

THANK YOU
FOR YOUR KIND ATTENTION

Email: kongpathai@seafdec.org

LESSON LEARNED FROM REGIONAL EFFORT TO COMBAT IUU FISHING IN THE REGION : RPOA-IUU

[INTERNATIONAL WORKSHOP ON ERADICATION IUU FISHING, AUGUST, 10, 2021]

SECRETARIAT RPOA-IUU

OUTLINE

- OVERVIEW
- IMPLEMENTATION CORE ELEMENT
- LESSON LEARNED

RPOA-IUU

Regional Plan of Action to Promote Responsible Fishing Practices including Combating IUU Fishing in the Region

Agreed on 4 May 2007, Bali-Indonesia, by 11 Ministers related to fisheries (Australia, Brunei Darussalam, Cambodia, Indonesia, Malaysia, Papua New Guinea, Philippines, Singapore, Thailand, Timor Leste, Viet Nam).

Voluntary regional initiative: Each participating Countries have role on the implementation, as the commitment on responsible fishing practices including combating IUU Fishing.

Advisory Bodies

FAO-APFC

WORLD FISH

SEAFDEC

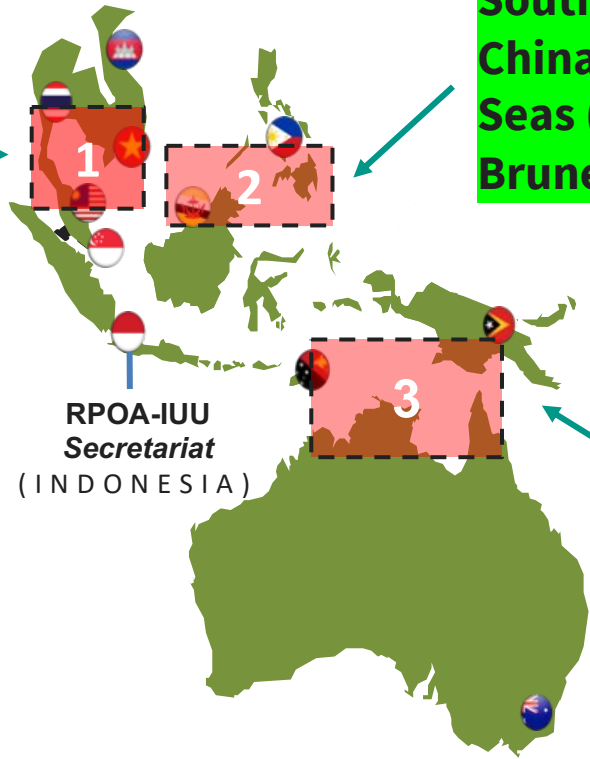
INFOFISH

RPOA-IUU

The MCS Subregional Working Group

Gulf of Thailand (Thailand, Cambodia, Malaysia, Viet Nam)

Southern and Eastern of South China Seas and Sulu-Sulawesi Seas (Malaysia, Indonesia, Brunei Darussalam, Philippines)



Arafura-Timor Seas (Australia, Indonesia, PNG, and Timor-Leste)

RPOA-IUU AREA OF ACTION

AREA OF ACTION	UPDATE STATUS
Promote responsible fishing practices, including prevent, deter, and eliminate IUU Fishing	RPOA-IUU participating countries promote responsible fishing practices. Different approach and status, depend on national's priority.
Ratification and/or acceptance and full implementation of relevant regional and multilateral arrangements	All participating countries has ratified or on-going ratification of regional arrangements such as UNCLOS, UNFSA, and PSMA
Collaboration with relevant regional organisations to provide assistance in technical support and development of guidelines, capacity building, sharing data and information on fisheries and trade, and strengthening networking in the region	Several capacity building program under IMCS Network, FAO-APFIC, ATSEA-2, ASEAN, CSIRO and SEAFDEC, and NOAA has been implemented.
Strengthening monitoring, control and surveillance (MCS) systems	Implementation of MCS Systems are implemented through 3 MCS Sub Regional Working Group. The level of implementation also differ.
Strengthening enforcement network (data and information sharing on enforcement strategies)	Still at early stage through the development TOR of Data Sharing Mechanism
Data sharing and monitoring of fishing vessel movement and activities, including suspected IUU fishing	RPOA-IUU has developed RPOA-IUUF vessel watch list mechanism. Data sharing challenged by national regulations.

IMPLEMENTATION OF CORE ELEMENT

CORE ELEMENT	UPDATE STATUS
Current resource and management Situation in the region	RPOA-IUU participating countries continue to conduct assessment and review of national fisheries legislation. Each member countries has developed their NPOA-IUU.
Implementation of international and regional instruments	RPOA-IUU participating countries continue to work toward ratification and implementation regional and international instruments
Role of regional and multilateral organisations	RPOA-IUU participating countries are parties/non contracting parties of regional and multilateral organizations, including RFMOs
Coastal State responsibilities	RPOA-IUU is still developing the TOR of Data Sharing Mechanism (DSM).
Flag State responsibilities	All RPOA-IUU participant countries have reviewed their vessel registration and have no vessel listed as IUU fishing vessel of the respective RFMOs. The progress is differed from country to country.

IMPLEMENTATION OF CORE ELEMENT

CORE ELEMENT	UPDATE STATUS
Port State Measures	6 countries have ratified Port State Measures Agreement, 4 countries are on progress, and 1 country is in possible accession.
Regional Market Measures	RPOA-IUU participating countries has implemented catch documentation scheme such as E-ACDS, Catch Certificate, e-logbook and e-monitoring. Different level of implementation in each country
Regional capacity building	More capacity building program need to be implemented.
Strengthening MCS	Australia has informed IUU fishing vessels to Secretariat and it has been circulated to participating countries. Participating countries also update MCS focal points.
Transhipment at sea	RPOA-IUU participating countries implement strong measures of transshipment at sea. In some participating countries, transshipment is banned.
Implementation	CSIRO has presented the result of the research on estimate illegal landings in the three RPOA sub-regions.

PARTICIPATION IN RFMOs

Each RPOA-IUU member increase their participation in regional and multilateral organizations, including RFMOs

COUNTRY	UPDATE STATUS
Australia	Member of WCPFC, CCSBT, IOTC, SPRFMO SIOFA and CCAMLR
Brunei Darussalam	Brunei Darussalam maintains the list of local commercial fishing vessels which are only licenced to operate within the Brunei Darussalam EEZ maritime area; Not a member of any RFMOs
Cambodia	Cambodia doesn't have fishing vessels in the RFMO areas.
Indonesia	Member of IOTC, CCSBT, WCPFC) and non contracting party (IATTC).
Malaysia	N/A
Papua New Guinea	PNG is a committee member WCPFC scientific Committee

PARTICIPATION IN RFMOs

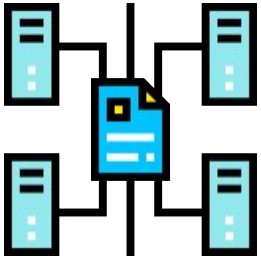
COUNTRY	UPDATE STATUS
Philippines	Continue to cooperate and actively participate in relevant RFMOs including WCPFC, IOTC, ICCAT
Singapore	Singapore continues to collaborate with relevant RFMOs (CCAMLR, ICCAT)
Thailand	Thailand is a member of IOTC, SIOFA, WCPFC, ICCAT and CCAMLR
Timor Leste	N/A
Vietnam	N/A

UPDATE IMPLEMENTATION ON MCS KEY INSTRUMENT

COUNTRY	UNCLOS	UNFSA	PSMA	NPOA-IUU	GRFV/RFVR	CATCH DOCUMENTATION SCHEME
Australia	Ratified	Ratified	Ratified	Developed	Participate	e-logbook and e-monitoring
Brunei Darussalam	Ratified	on progress	on progress	Developed	Participate	E-ACDS
Cambodia	signed	Ratified	Ratified	Developed	Participate	Pilot phase, assist from SEAFDEC and FAO-CAP Fish-Capture program
Indonesia	Ratified	Ratified	Ratified	being revised into the 2nd version	Participate	E-Logbook, E-Catch Certificate, CDS for Southern Blue Fin Tuna fisheries.
Malaysia	Ratified	Possible accession	Possible accession	Developed	Participate	On- going engagement with SEAFDEC on e-ACDS
Papua New Guinea	Ratified	Ratified	final waiting to ratify the PSMA	on progress	Participate	Catch Certificate
Philippines	Ratified	Ratified	Ratified	Developed	Participate	Catch Certificate
Singapore	Ratified	on progress	on progress	In progress	Participate	Work with RFMO on Catch Documentation Scheme
Thailand	Ratified	Ratified	Ratified	being revised into the 2nd version	Participate	Thai Flagged Catch Certification System (TFCC)
Timor Leste	Ratified	Not commenced yet	on progress	Developed	Participate	Catch Certificate
Viet Nam	Ratified	Ratified	Ratified	Developed	Participate	Apply Catch Documentation Scheme as requested by imported markets such as EU, ICCAT 1.Cooperate with SEAFDEC to implement E-ACDT in 2 provinces of Vietnam 2.Complete electronic traceability software on the basis of integration of EU, US regulations and imported market requirements, expected to be implemented throughout the country

PROGRESS ON RPOA-IUU DATA SHARING MECHANISM

Secretariat as mandated 2021 Workplan, is currently working on the Development of the TOR of Data Sharing Mechanism (DSM)



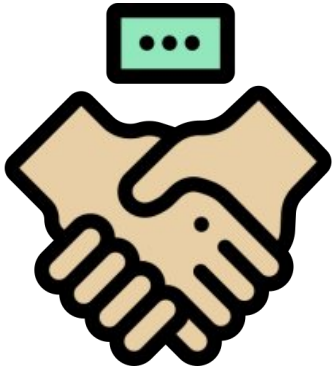
The development the TOR of Data Sharing Mechanism is conducted in collaboration with ATSEA-2 Project

The first draft of the TOR of Data Sharing Mechanism is expected to be circulated for comment before the 18th RPOA-IUU CC meeting

VESSELS WITHOUT NATIONALITY

Commitment by CCM on Vessels Without Nationality has been finalized

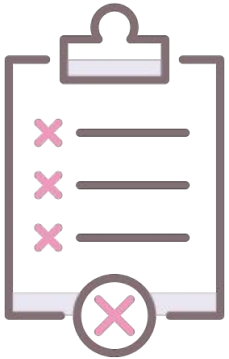
The document is currently on the proses of being endorsed by the RPOA-IUU participating countries



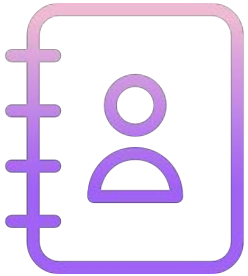
Need more than 3 years to prepare and endorse this document

RPOA-IUU FISHING WATCH LIST

The Vessel Watch List is regularly updated by the RPOA-IUU Secretariat based on the member countries report or from RFMOs and Interpol information sharing;



Need more participation of RPOA-IUU member countries to update the RPOA-IUU vessel watch IUU lists



RPOA-IUU member countries need to update their contact person/ person in charged more regularly

RPOA-IUU FISHING WATCH LIST

Background

In 2011, RPOA-IUU Coordination Committees pay attention on the IUU Fishing vessels from RFMOs may be operating on the region. In 2014, Draft of IUU Watch List was adopted in 7th CCM

Objective

To assist countries in focusing efforts to take action against IUU fishing vessels that are operating in the region

RPOA-IUU Watch List

- Definition of IUU fishing vessels
- Provisional of RPOA-IUU fishing vessels watch list
- Listing and delisting mechanism
- Action taken by each RPOA participating country recorded to the Annual Coordination Committee meeting

Updates on IUU Vessel Lists


CCAMLR

9 November 2020

To:
Republic of Ecuador
Republic of Singapore
Commission for the Conservation of Southern Bluefin Tuna (CCSBT)
General Fisheries Commission for the Mediterranean (GFCM)
Indian Ocean Tuna Commission (IOTC)
Inter-American Tropical Tuna Commission (IATTC)
International Commission for the Conservation of Atlantic Tunas (ICCAT)
North-East Atlantic Fisheries Commission (NEAFC)
Northwest Atlantic Fisheries Organization (NAFO)
South Indian Ocean Fisheries Agreement (SIOFA)
South Pacific Regional Fisheries Management Organisation (SPRFMO)
South-East Atlantic Fisheries Organisation (SEAFO)
Western and Central Pacific Fisheries Commission (WCPFC)
North Pacific Fisheries Commission (NPFC)
Food and Agriculture Organization of the United Nations

CCAMLR IUU Vessel Lists

CCAMLR Conservation Measure (CM) 10-06, paragraphs 19 and 20, and CM 10-07, paragraphs 24 and 25, require the CCAMLR Executive Secretary to place CCAMLR illegal, unreported and unregulated (IUU) Vessel Lists on the public section of our website and communicate the lists to the FAO and appropriate regional fisheries management organisations and non-Contracting Parties (NCPs) cooperating with CCAMLR to enhance cooperation between CCAMLR and organisations for the purposes of preventing, deterring and eliminating IUU fishing.

Accordingly, please find attached the CCAMLR NCP-IUU Vessel List as adopted at our annual Commission meeting held from 27 October to 30 October 2020.

The CCAMLR Non-Contracting Party IUU Vessel List is available on our website.

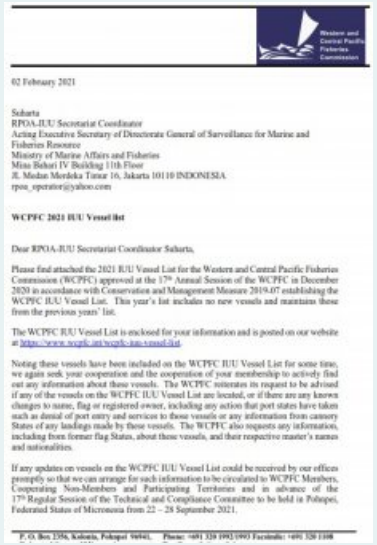
At CCAMLR-39 the Panamanian-flagged vessel *Nika* (IMO: 8808845) was added to the CCAMLR Contracting Party IUU Vessel List. The CCAMLR Contracting Party IUU Vessel List is also available on our website.

We would be happy assist you with any queries you may have on either of the IUU Vessel Lists.

Regards,

Dr David Agnew
Executive Secretary

CCAMLR IUU Listed 2021


Western and Central Pacific Fisheries Commission

02 February 2021

Suharta
RPOA-IUU Secretariat Coordinator
Acting Executive Secretary of Directorate General of Surveillance for Marine and Fisheries Resource
Ministry of Marine Affairs and Fisheries
Mina Bahari IV Building 11th Floor
JL. Medan Merdeka Timur 16, Jakarta 10110 INDONESIA
rpoa_operator@yahoo.com

WCPFC 2021 IUU Vessel list

Dear RPOA-IUU Secretariat Coordinator Suharta,

Please find attached the 2021 IUU Vessel List for the Western and Central Pacific Fisheries Commission (WCPFC) approved at the 17th Annual Session of the WCPFC in December 2020 in accordance with Conservation and Management Measure 2019-07 establishing the WCPFC IUU Vessel List. This year's list includes no new vessels and maintains those from the previous years' list.

The WCPFC IUU Vessel List is enclosed for your information and is posted on our website at https://www.wcpfc.int/wcpfc-iuu-vessel-list.

Noting these vessels have been included on the WCPFC IUU Vessel List for some time, we again seek your cooperation and the cooperation of your membership to actively find out any information about these vessels. The WCPFC reiterates its request to be advised if any of the vessels on the WCPFC IUU Vessel List are located, or if there are any known changes to name, flag or registered owner, including any action that port states have taken such as denial of port entry and services to those vessels or any information from cannery States of any landings made by those vessels. The WCPFC also requests any information, including from former flag States, about these vessels, and their respective master's names and nationalities.

If any updates on vessels on the WCPFC IUU Vessel List could be received by our offices promptly so that we can arrange for such information to be circulated to WCPFC Members, Cooperating Non-Members and Participating Territories and in advance of the 17th Regular Session of the Technical and Compliance Committee to be held in Pohnpei, Federated States of Micronesia from 22 – 28 September 2021.

P. O. Box 2356, Kolonia, Pohnpei 96941, Phone: +691 320 1992/1993 Facsimile: +691 320 1108

WCPFC IUU Vessel List for 2021

Cooperation Partners

INTERPOL · INTERNATIONAL MCS NETWORK · NOAA · CCAMLR · Western and Central Pacific Fisheries Commission

RPOA-IUU Watch List

Vessel Watchlist

Show 20 entries Search:

No.	Current Name	Current Flag	Date of Notification	Action Taken
1.	Neptune	Unknown	February 2021	2021 WCPFC IUU Vessel List
2.	Fu Lien No 1	Unknown	February 2021	2021 WCPFC IUU Vessel List
3.	Yu Fong 168	Unknown	February 2021	2021 WCPFC IUU Vessel List

https://www.rpoaiuu.org

LESSON LEARNED FROM RPOA-IUU

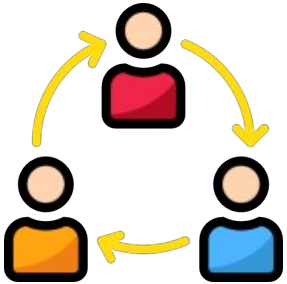
Voluntary cooperation requiring participating countries and secretariat to be more actively engaged;

Agreement that have been reached at the regional level cannot be implemented immediately at the national level, unless member countries are willing to implement them;

NPOA-IUU is one of the important instrument to promote responsible fishing practices, including prevent, deter, and eliminate IUU Fishing at national level.

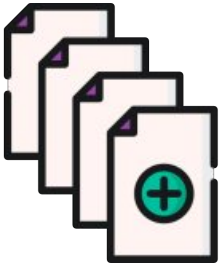
LESSON LEARNED FROM RPOA-IUU

RPOA IUU Secretariat and members country should be more active in regional and international cooperation regarding eliminate and deter IUU-Fishing practices;



Information sharing is the key element in this cooperation.

LESSON LEARNED FROM RPOA-IUU



Regional and International program on eradication IUU Fishing by many regional ang international organization need to coordinate and streamline to minimize duplication of efforts.

The higher the position of the officials involved in the cooperation, the higher the chances of implementing it at the national level

Thank You

"The most effective weapon against crime [IUU Fishing] is cooperation"

J. Edgar Hoover- First FBI Director

RPOA-IUU Secretariat

Ministry of Marine Affairs and Fisheries, Republic of indonesia
Mina Bahari Building IV, 10th floor
Jl. Medan Merdeka Timur No 16 Jakarta Pusat 10110 Indonesia

Phone : +62-3519070 ext 4062
Fax : +62 21 3520346
Email : rpoa_operator@yahoo.com
secretariat@rpoaiuu.org
Website : www.rpoaiuu.org

Materi Peserta

Australian Government
Department of Agriculture, Water and the Environment

Best practice in handling IUU Fishing: Australia

Lessons Learned from Participating Countries Session

11 August 2021

Country profile

- Responsibility for Australian fisheries management is shared between:
  - 7 State and Territory Fisheries Management Agencies
    - Up to 4 nautical miles
    - State and Territories have their own separate legislation and management arrangements
  - The Commonwealth
    - From 4 to 200 nautical miles and on the high seas

Combating IUU Fishing

Multifaceted Approach including:

- Regional and international cooperation, including information sharing
- Strong domestic legislation, regulations and policies
- MCS operations/ on water enforcement
- Diplomatic representations
- Capacity building, education and outreach

Photo credit: AFMA

The result: *The number of foreign fishing vessels detained for fishing illegally in our waters has declined as a result of these actions - from 367 in 2005-06 to 4 in 2019-20.*

Challenges

- IUU Fishing is versatile and exploits weaknesses and opportunities.
- Profit driven but can emerge in response to social and economic shocks.
- Australia has seen an upturn in illegal vessels operating in its waters that may result from several factors, for example:
  - COVID-related changes to enforcement activity
  - Fishermen grappling with economic shocks:
    - Effects of cyclones
    - Climate change effects on fish stocks
    - Depleted stocks in traditional fishing grounds
    - COVID-19 pandemic effects

Regional collaboration is the key towards ‘best practice’

Sharing information:

- The RPOA-IUU
- Strong collaboration through INTERPOL
- Flag States and States with Nationals on board
- Cooperation in investigations and applying sanctions.

Other Regional collaboration

- Engagement in Regional Fisheries Management Organisations
- Support for the Forum Fisheries Agency in the Pacific
- Ratification of Niue Treaty Subsidiary Agreement (Pacific)
- Capacity building and joint operations
- Multilateral cooperation
    - E.g. Ratification of the FAO Port State Measures Agreement

Photo credit: AFMA

Lessons learned

To continue to understand the contextual difficulties faced by other countries and where Australia can provide assistance

Ways forward

- Sharing information and providing capacity building assistance; and
- Actively engaging in the RPOA-IUU as well as through other multilateral and international communities

Conclusion and thank you

جابتن فرايكنن
Department of Fisheries
Ministry of Primary Resources and Tourism

International Workshop (Virtual) on Eradication of Illegal, Unreported and Unregulated Fishing for Regional Plan of Action to Promote Responsible Fishing Practices including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries

9-11 August 2021

Brunei Darussalam Country Presentation
Best Practice in Handling IUUF : Lesson Learned from Participating Countries

OUTLINE

- Brunei Darussalam's Brief Profile;
- Categories of Common IUUF in Brunei Darussalam's Context;
- Prevention and Combating IUUF in Brunei Darussalam;
- Impact of COVID-19 Pandemic in Brunei Darussalam;
- Conclusion.

BRUNEI DARUSSALAM's BRIEF PROFILE

- Brunei Darussalam, the 'Abode of Peace', is an equatorial country located in the north-western coast of the Borneo Island in Southeast Asia Region;
- has a coastline of 130km in length, fronting the South China Sea;
- total maritime area of 38,600km^2 of the Exclusive Economic Zone (EEZ) covering 200nm;
- for the purpose of fisheries management, the fishing area of EEZ is divided into four zones as follows :-
  - Zone 1 - 0 to 3 nm from the shoreline;
  - Zone 2 - 3 to 20 nm from the shoreline;
  - Zone 3 - 20 to 45 nm from the shoreline;
  - Zone 4 - 45 to 200 nm from the shoreline.

CATEGORIES OF COMMON IUUF IN BRUNEI DARUSSALAM's CONTEXT

- By Foreign Fishing Vessels :-
  - encroachment within Brunei Darussalam's EEZ maritime waters.

- By Local Fishers :-
  - commercial fishing vessels (using inboard engines) :-
    - fishing in restricted zones;
    - fishing with prohibited mesh sizes of fishing gears.

CATEGORIES OF COMMON IUUF IN BRUNEI DARUSSALAM's CONTEXT (...continued)

- By Local Fishers :-
  - small-scale fishermen (using outboard engines) :-
    - fishing without valid fishing gear licence;
    - fishing in restricted zones / areas;
    - misuse of fishing gear licence;
    - fishing with prohibited gears and fishing techniques;
    - fishing with cyanide and blast fishing.

PREVENTION AND COMBATING IUUF IN BRUNEI DARUSSALAM

- Fisheries Order, 2009 and Brunei Fishery Limit Act Chapter 130 which are the main legislation and the backbone for fisheries management plan, policies and strategies;
- develop and implement Brunei Darussalam National Plan of Action (NPOA) to prevent, deter and eliminate IUU fishing since 2011;
- routine sea patrol operation by Royal Brunei Navy to monitor, control and conduct surveillance (MCS) within Brunei Darussalam's EEZ maritime waters up to 200 nautical miles to overcome and reduce encroachment by foreign fishing vessels;
- scheduled joint sea and riverine patrol operation between Department of Fisheries and other relevant enforcement agencies including Marine Police of the Royal Brunei Police Force to monitor, control and conduct surveillance (MCS) within 12 nautical miles of Brunei Darussalam territorial waters to combat IUUF by local fishing boats / vessels;

PREVENTION AND COMBATING IUUF IN BRUNEI DARUSSALAM (…continued)

- scheduled inland joint operation between Department of Fisheries and other relevant agencies including Maritime and Port Authority of Brunei Darussalam (control registration of fishing boats) focusing at boat slipways in Brunei Darussalam;
- routine inspection on fishing gears of commercial fishing vessels including mesh-size cod end of fishing gears conducted by Department of Fisheries enforcement staffs;
- Roadshows and announcement through electronic media have and would been implemented to inform the local fishermen and the public on the necessary to comply the rules and regulations of the national fisheries legislation.

IMPACT OF COVID-19 PANDEMIC IN BRUNEI DARUSSALAM

- Department of Fisheries has established Business Continuity Plan (BCP) including introduce Work From Home (WFH) approach and shift scheduled of minimal staffs work at office with a number of revised standard operations procedures to follow Ministry of Health (MOH) safety guidelines during the first wave of COVID-19 outbreak in March 2020;
- once the COVID-19 positive cases amongst local community in Brunei Darussalam has been controlled from the first wave of outbreak, Department of Fisheries has activated “business as usual” with MOH safety guidelines;
- but with the recent second wave of COVID-19 outbreak in Brunei Darussalam, Department of Fisheries has reactivated a revised BCP with MOH safety guidelines to reduce the infection risk amongst the population.

CONCLUSION

- any state flagged foreign fishing vessel found entering and conducting fishing activities in Brunei Darussalam's maritime waters with enough offence evidence, would be apprehended and brought to court for trial and sentence according to the Fisheries Order, 2009 of Brunei Darussalam;
- Brunei Darussalam would participate on any relevant capacity building programmes and activities on instruments and measures to promote responsible fishing practices and to combat IUUF activities organized by respective SEAFDEC departments and ASEAN working group forums;
- Brunei Darussalam remains committed and would active collaboration with other countries in the region in assessing the status of fisheries resources, developing appropriate regional and bilateral MCS measures, and sharing fisheries-related information towards combating IUUF.

جابتن فرايكنن
Department of Fisheries
Ministry of Primary Resources and Tourism

Food and Agriculture Organization of the United Nations

This programme is co-funded by the European Union

កម្មវិធីជំរុញកំណើនវិស័យជលផលប្រកបដោយចីរភាពនិងបរិយាប័ន្ន

Cambodia Programme for Sustainable and Inclusive Growth in the Fisheries Sector

(ខាបហ្វីស-ខាបឆឺ) (CAPFISH-Capture)

The International Workshop on Eradication of IUU-F for Regional Plan of Action to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries

Best Practice in Handling IUU Fishing – Cambodia

9 - 11 August 2021

Buoy Roitana, Deputy Director General of Fisheries Administration, Cambodia

Main type of IUU Fishing in Cambodia

- Illegal fishing – large and medium scale vessels fishing without licenses; Illegal fishing gear & zone transgressions.
- Unreported Fishing - significant under- or non-reporting by fisheries
- Unregulated fishing - substantial fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources

Best Practice Handling of IUU Fishing

- 1: Adopted Marine Fisheries Policy; NPOA-IUU Fishing; National Plan of Control and Inspection; the PSMA and UNFSA

The policy and planning documents guide the priority activities that are needed to combat IUU fishing. Marine fishing vessel census was conducted.

PSMA in the process of assignation of fishing port and PSMA gap analysis.

UNFSA will be implemented, if Flag state fishing vessel is re-open for application.

- 2: Upgraded MCS equipment & services

Patrol vessels and patrol vehicles were equipped;

A VMS system and units for approximately 3500 fishing vessels approved for procurement;

Routine Aerial surveillance to be undertaken;

Specialized National and Provincial MCS enforcement teams established

- 3: Improve compliance with reporting and licensing

New data base to license fishing vessels;

Logbooks allocated to large scale fishing vessels;

Adoption of SMART inspection and patrol tool to record inspection data and information

Best practice (continued)

- 4: Improve compliance with gear and protected areas

Significantly improved number of patrol in inland and marine waters

Gear census and technical description of legal and illegal fishing gear for Marine Fisheries developed

VMS Geo-fencing for protected areas.

- 5: Training and capacity building

Undertaken training of Inspectorate and adoption of SOPs for inspections

Training for Inspectorate in SMART data collection and analyses

- 6: Development of new Fisheries law

A Draft amendment of Fishing law was developed with support from FAO .

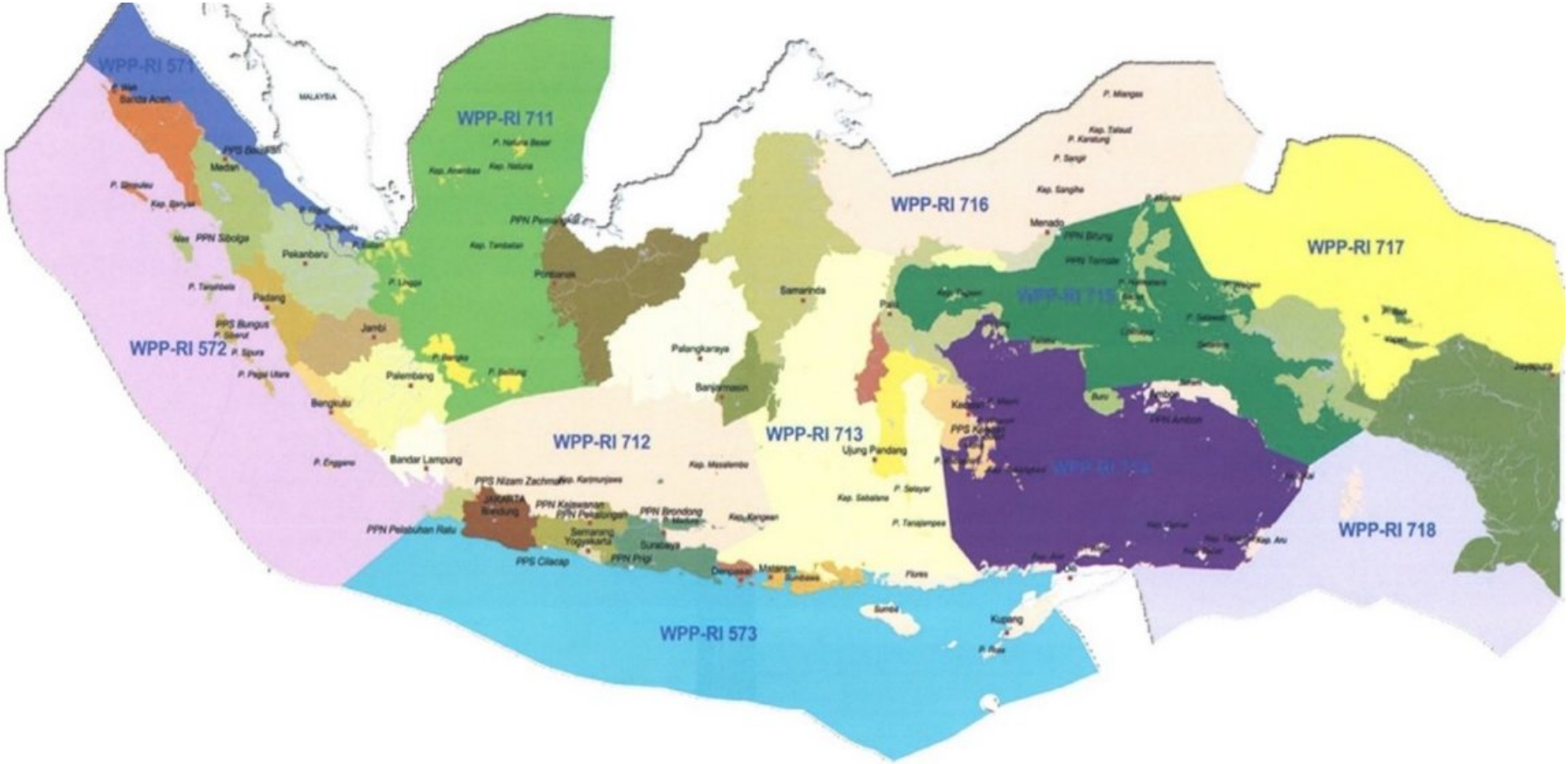
Thank You

LESSON LEARNED: COMBATING IUU FISHING DURING PANDEMIC COVID-19

International Workshop on Eradicating Illegal, Unreported and Unregulated Fishing

August 11, 2021
(Virtual Meeting)

IUU Fishing Case During 2020-2021



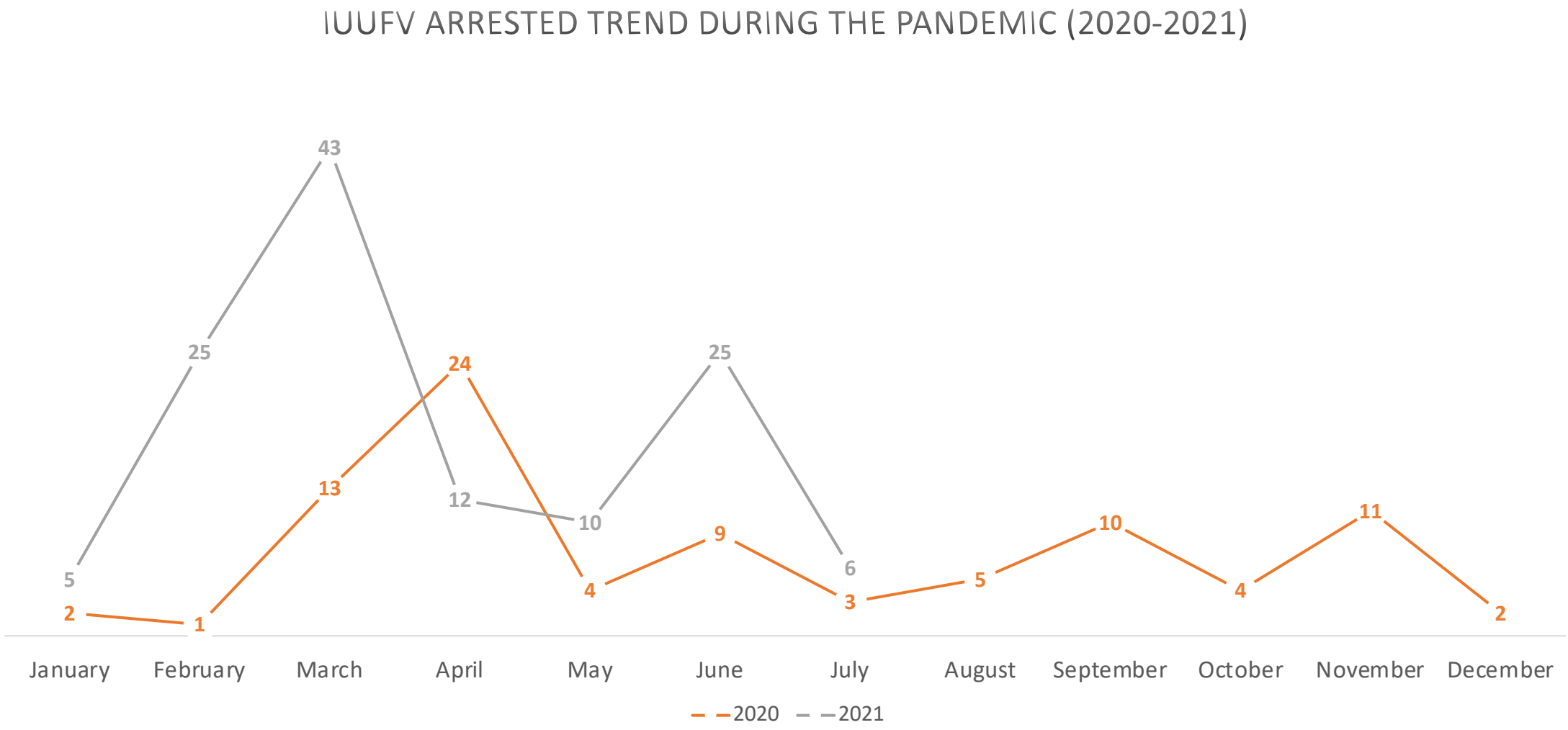
IUUFV Arrested:

214

IUUFV flag state:

Indonesia FV	117 units
Foreign FV	97 units

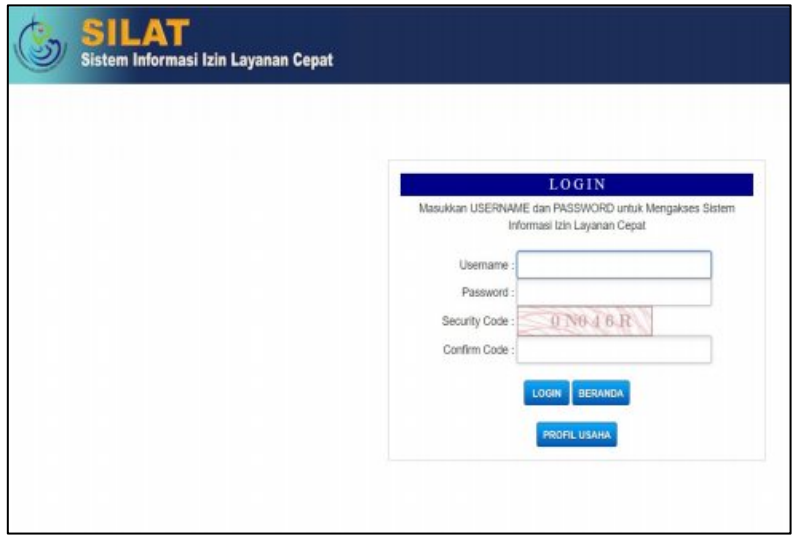
IUU Trend During Pandemic Covid-19 (2020-2021)



Modus Operandi IUU Fishing

1. Operating destructive fishing gear
2. Various fishing gear
3. Hide and seek in the border
4. Spreading

MCS Implementation During Pandemic



Online submission of fishing licensed

Monitoring FV-based on participation

Online procedure of in-out port inspection

Law Enforcement During Pandemic

IUUFV crews check the temperature

Swab Antigen/PCR Test and 14 days quarantine

Minimum interaction: online investigation

Lesson Learned Combating IUUF during Pandemic

Modus operandi more complex

Adaptive MCS is required

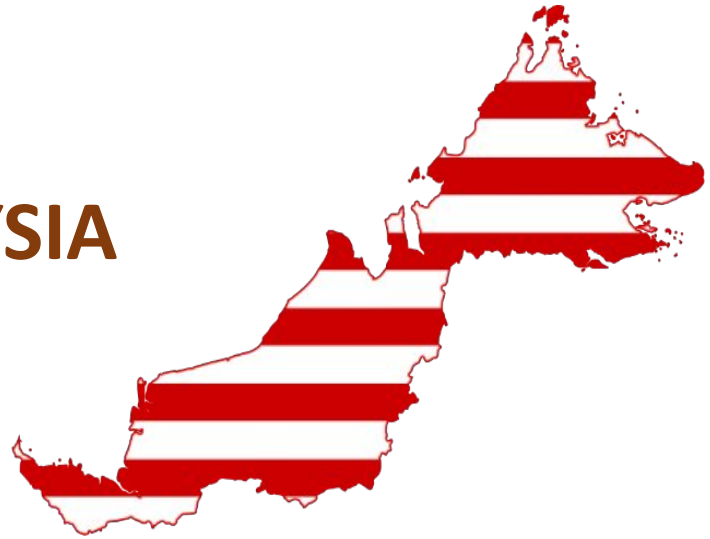
Innovation will help us

Covid-19 protocol is the key

Thank You

budiantosahono@kkp.go.id

MALAYSIA



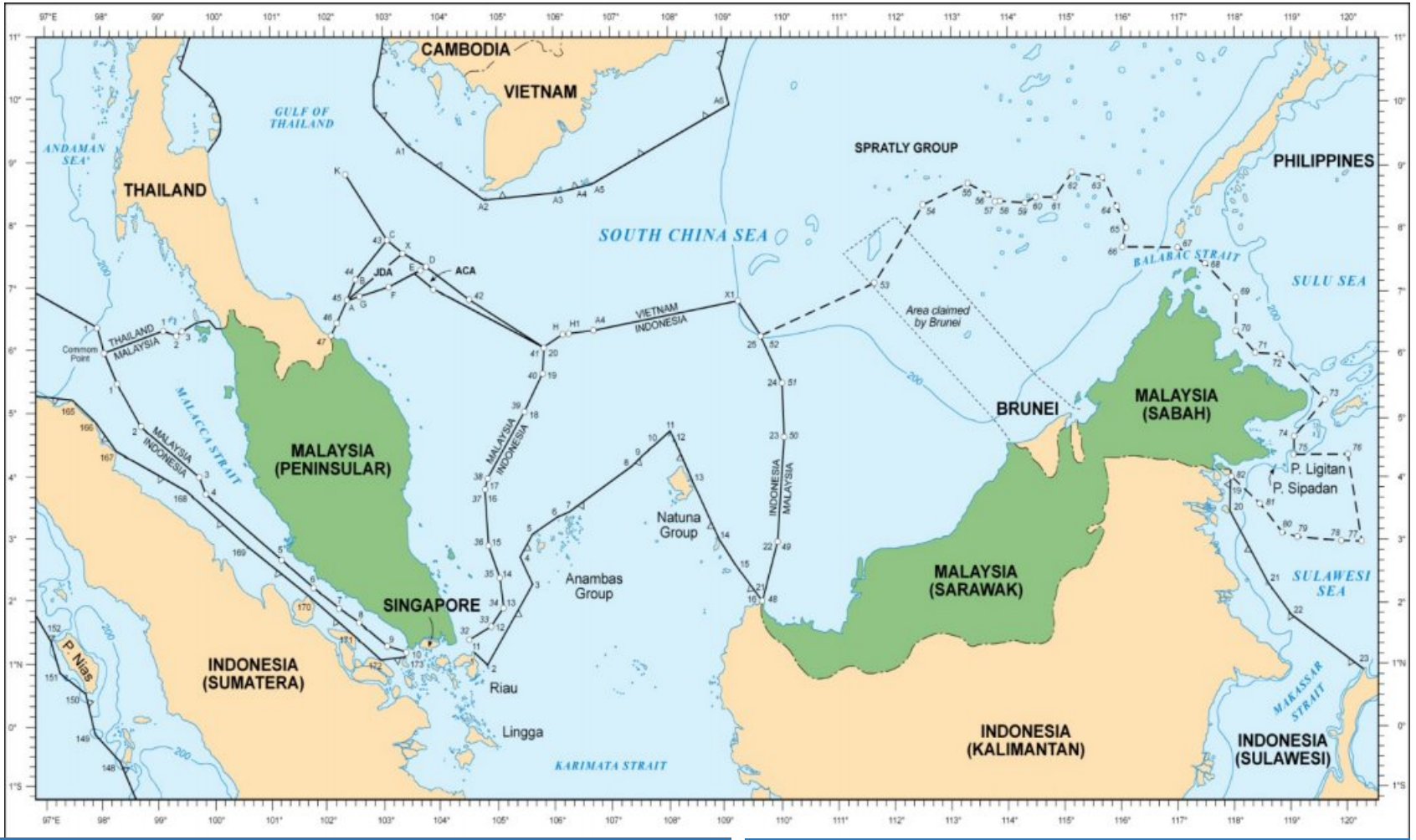
BEST PRACTICE IN HANDLING IUU FISHING: MALAYSIA

International Workshop on Eradication of IUU Fishing for Regional Plan of Action to Promote Responsible Fishing Practices Including Combatting IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries

9 – 11 August 2021

Jabatan Perikanan Malaysia

MALAYSIA FISHERIES RESOURCES



Coastline : 4,675 km

Fisheries EEZ : 379,820 km^2

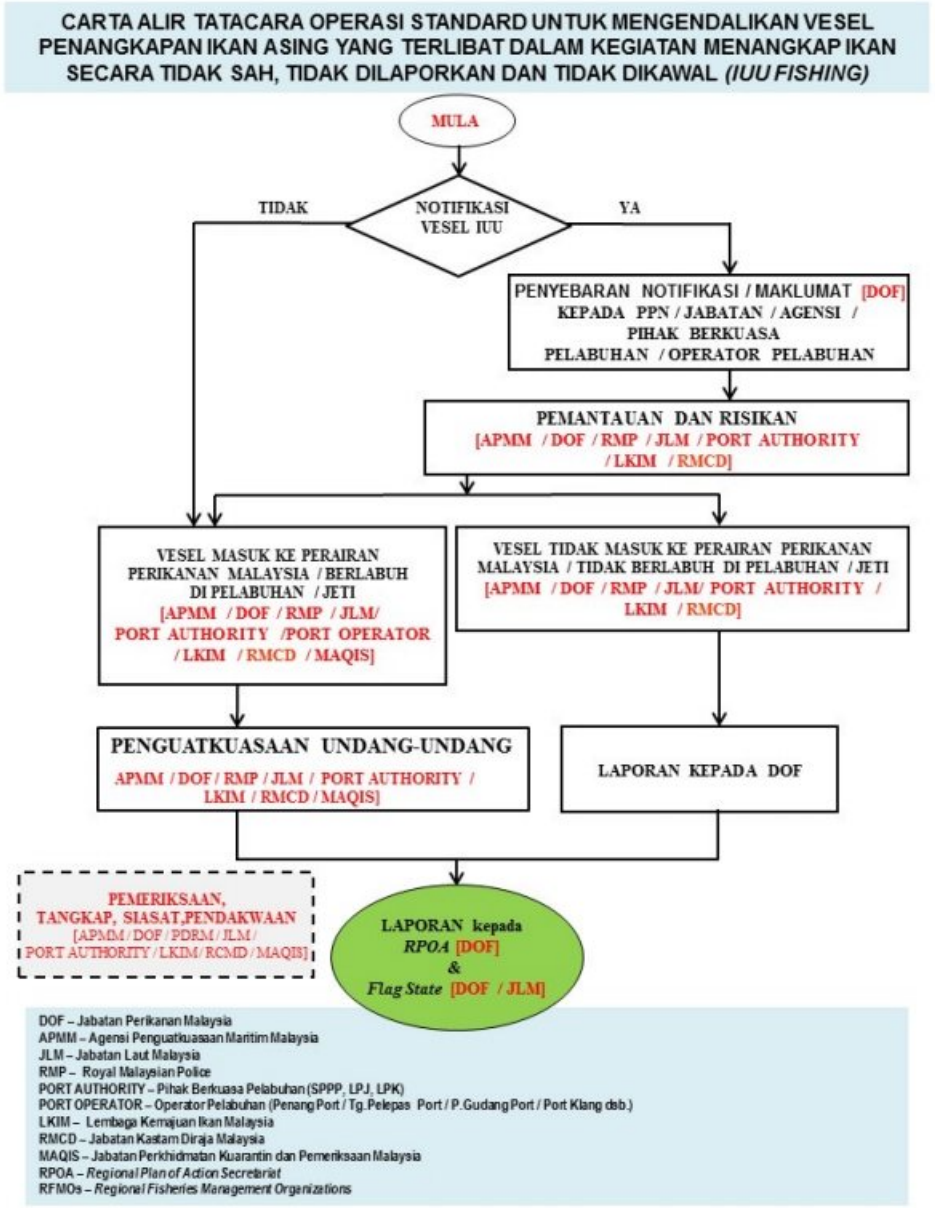
West Peninsular : 68,747 km^2 Landing 2015 : 742,263 m.t & (50%)	Sabah : 164,854 km^2 Landing 2015 : 227,826 m.t & (15%)
East Peninsular : 132,947 km^2 Landing 2015 : 361,047 m.t & (25%)	Sarawak: 171,747km^2 Landing 2015 : 141,103 m.t & (10%)

Challenges in pandemic era

- Fisheries has been classified as one of essential service. Therefore MCS activities were carried out as usual during this period.
- VMS were used to monitor fishing activity by local fishermen's vessel.
- Detention of foreign fishermen exposes the enforcement officers of getting infected by the virus.
- Focus during pandemic - to strengthen the country’s border control.

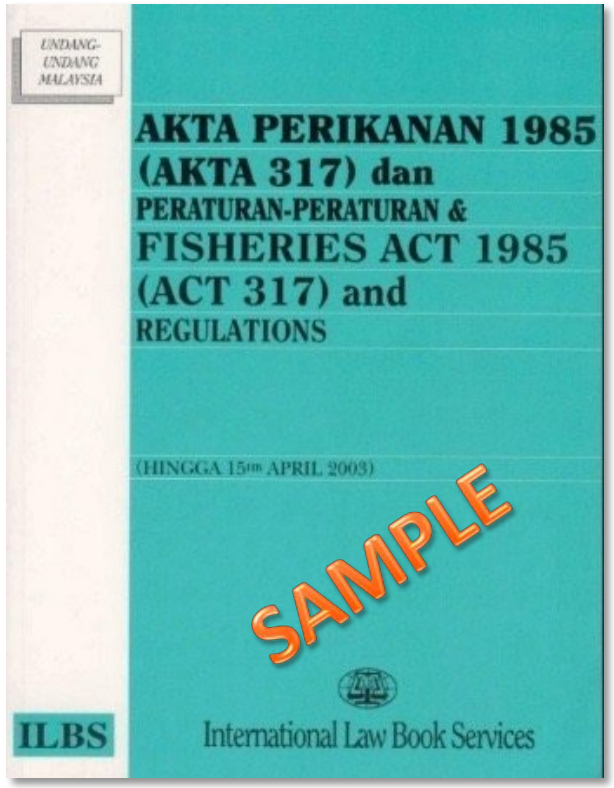
SOP TO HANDLE FOREIGN FISHING VESSELS ENGAGED IN IUU FISHING

- Malaysia already establish SOP for handling foreign fishing vessels which is suspected engaged with IUU fishing.
- Involves multiple enforcement agencies.



Amendment of Fisheries Act 1985

- Effective 30th September 2019.
- The newly amended law imposes penalty six-time heavier than that of the former provisions.
- RM 6 Million (approximately USD 1.5 Million) for the owner or skipper and RM600,000 (approximately USD 150,000) for every crew member of a foreign fishing vessel which encroached into Malaysian Fisheries Waters.
- also imposes penalty up to RM 4 Million (approximately USD 1Million) for any local fishing vessel fished without valid license or in violation of license condition on the high seas.



Refuse entry of IUU fish

Information from Thai PSM Investigation (10 August 2018).

- Catches from the 4 IUU fishing vessels which listed in IOTC IUU Vessel. New flag Somali.
- 46 containers rejected by Thailand.
- went to Singapore via 3 container vessels.
- transferred to the other 3 container vessels.
- Destination : Penang Port, Malaysia.

Malaysia's action

- Refused entry by MAQIS Malaysia.
- Return to Djibouti.

- Full cooperation of DOF, MAQIS, CUSTOM, Port Authority and Importer.

JABATAN PERKHIDMATAN KUARANTIN DAN PEMERIKSAAN MALAYSIA
[Department of Malaysian Quarantine and Inspection Services (MAQIS)]
ARAS 4, MENARA 4G1, WISMA TANI
NO . 28, PERSIARAN PERDANA, PRESINT 4
PUSAT PENTADBIRAN KERAJAAN PERSEKUTUAN
62624 PUTRAJAYA
MALAYSIA

Telefon : 03-8000 8000 / 03-8870 1000 *Faks : 03-8888 6904 / 03-8888 4855* *Portal : http :// www.maqis.gov.my*

Ruj. Kami : KP/MAQIS/193/3 Jld. 2 (58)
Tarikh : 17 Ogos 2018

Pengarah MAQIS Negeri Pulau Pinang
Ketua Pintu Masuk MAQIS NBCT

Tuan/Puan,

ARAHAN *REFUSED ENTRY* KE ATAS KEMASUKAN IKAN *IUU FISHING* MELALUI KAPAL KONTENA DI PELABUHAN PULAU PINANG

Dengan segala hormatnya saya merujuk kepada perkara di atas dan surat daripada Jabatan Perikanan Malaysia dengan no. rujukan Prk.ML. (S) 10/02/55 Jld. 3 (7) adalah berkaitan.

2. Jabatan dimaklumkan oleh Jabatan Perikanan Malaysia melalui surat yang dinyatakan diatas bahawa terdapat 46 buah kontena hasil tangkapan ikan yang dipercayai diperolehi daripada 4 buah vessel penangkapan ikan yang termasuk dalam senarai vessel *IUU Indian Ocean Tuna Commission* (IOTC) telah dinafikan kemasukannya ke Thailand. Ekoran daripada penafian kemasukan oleh Kerajaan Thailand, pengeksport telah cuba membawa masuk kontena tersebut ke Pelabuhan Pulau Pinang dan pihak tuan telah membuat tahanan bagi kemasukan 20 buah kontena serta berbaki 26 buah kontena lagi dijangka tiba pada 19 Ogos 2018.

3. Oleh itu, pihak tuan diarahkan bagi mengambil tindakan ***refused entry*** bagi kesemua 46 buah kontena berkenaan. Perhatian dan kerjasama tuan/puan amatlah dihargai dan didahului dengan ucapan terima kasih.

Sekian, dimaklumkan. Terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menurut perintah,

(DR AZHARI SHARIDAN BIN ABU BAKAR)
Pengarah Bahagian Pemeriksaan dan Penguatkuasaan
b/p Ketua Pengarah
Jabatan Perkhidmatan Kuarantin dan Pemeriksaan Malaysia (MAQIS)
Putrajaya

s.k Timbalan Ketua Pengarah MAQIS, Putrajaya
Semua Pengarah Bahagian

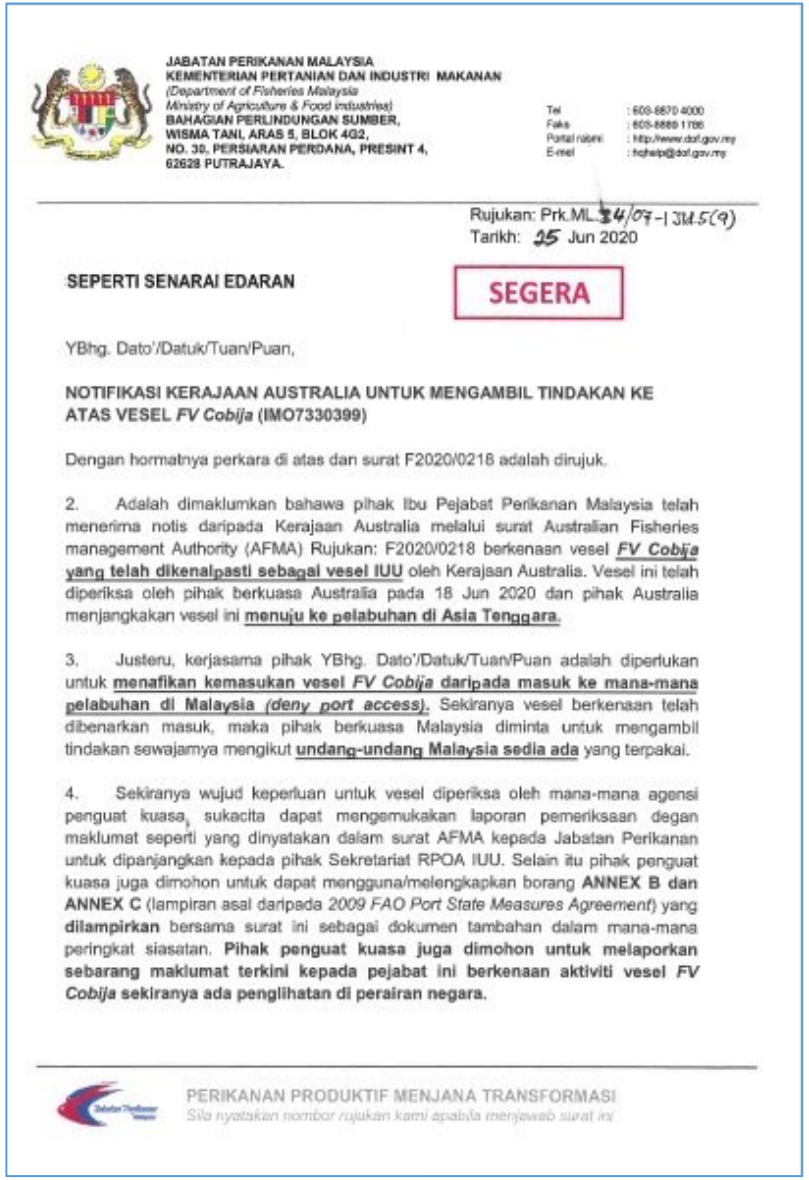
Concerted Effort in Combating IUU Fishing

Information circulated by AFMA- dated 23rd June 2020

- FV Cobija- identified as IUU fishing vessel by Australian Authorities.
- Vessel may be heading towards port in South East Asia.

Malaysia's action

- Circulated information to relevant enforcement authorities and port authorities.
- Full cooperation of all authorities in Malaysia.



JABATAN PERIKANAN MALAYSIA
KEMENTERIAN PERTANIAN DAN INDUSTRI MAKANAN
(Department of Fisheries Malaysia
Ministry of Agriculture & Food industries)
BAHAGIAN PERLINDUNGAN SUMBER,
WISMA TANI, ARAS 5, BLOK 4G2,
NO. 30, PERSIARAN PERDANA, PRESINT 4,
62628 PUTRAJAYA.

Tel : 603-8870 4000
Faks : 603-8888 1788
Portal rasmi : http://www.dof.gov.my
E-mel : fqhelp@dof.gov.my

Rujukan: Prk.ML.34/07-1 JLD.5(9)
Tarikh: 25 Jun 2020

SEPERTI SENARAI EDARAN

SEGERA

YBhg. Dato'/Datuk/Tuan/Puan,

NOTIFIKASI KERAJAAN AUSTRALIA UNTUK MENGAMBIL TINDAKAN KE ATAS VESEL *FV Cobija* (IMO7330399)

Dengan hormatnya perkara di atas dan surat F2020/0218 adalah dirujuk.

2. Adalah dimaklumkan bahawa pihak Ibu Pejabat Perikanan Malaysia telah menerima notis daripada Kerajaan Australia melalui surat Australian Fisheries management Authority (AFMA) Rujukan: F2020/0218 berkenaan vesel ***FV Cobija* yang telah dikenalpasti sebagai vesel IUU** oleh Kerajaan Australia. Vesel ini telah diperiksa oleh pihak berkuasa Australia pada 18 Jun 2020 dan pihak Australia menjangkakan vesel ini **menuju ke pelabuhan di Asia Tenggara.**

3. Justeru, kerjasama pihak YBhg. Dato'/Datuk/Tuan/Puan adalah diperlukan untuk **menafikan kemasukan vesel *FV Cobija* daripada masuk ke mana-mana pelabuhan di Malaysia *(deny port access)*.** Sekiranya vesel berkenaan telah dibenarkan masuk, maka pihak berkuasa Malaysia diminta untuk mengambil tindakan sewajarnya mengikut **undang-undang Malaysia sedia ada** yang terpakai.

4. Sekiranya wujud keperluan untuk vesel diperiksa oleh mana-mana agensi penguat kuasa, sukacita dapat mengemukakan laporan pemeriksaan degan maklumat seperti yang dinyatakan dalam surat AFMA kepada Jabatan Perikanan untuk dipanjangkan kepada pihak Sekretariat RPOA IUU. Selain itu pihak penguat kuasa juga dimohon untuk dapat mengguna/melengkapkan borang **ANNEX B dan ANNEX C** (lampiran asal daripada *2009 FAO Port State Measures Agreement*) yang **dilampirkan** bersama surat ini sebagai dokumen tambahan dalam mana-mana peringkat siasatan. **Pihak penguat kuasa juga dimohon untuk melaporkan sebarang maklumat terkini kepada pejabat ini berkenaan aktiviti vesel *FV Cobija* sekiranya ada penglihatan di perairan negara.**

PERIKANAN PRODUKTIF MENJANA TRANSFORMASI
Sila nyatakan nombor rujukan kami apabila menjawab surat ini

What we want to learn?

- how the flag states control their local fishing vessel which carried out activities beyond their national jurisdiction and the action taken to any vessel that violate the control mechanism.

Ideas to promote coordination and collaboration among countries

- Encourage to maintain good communication among countries, especially coastal state/port state with flag state (especially in transmitting information regarding any violation made by foreign vessels or detention of such vessel).
- Coastal state or port state should engage with flag state before determine or listed any vessels as IUU vessels in their list.
- Flag state should promote awareness among their fishers on IUU fishing, especially on the encroachment into neighbouring waters.
- Fully utilize the existing cooperation platform on IUU (such as RPOA-IUU).

THANK YOU

Best Practices in Handling IUUF - Philippines

Sandra Victoria R. Arcamo, Atty. Michael Andayog, and Crejay Lacena*

****presentor***

Virtual International Workshop on Eradication of Illegal, Unreported and Unregulated Fishing in the RPOA-IUUF and Pacific Participating Countries
9-11 August 2021

Contents

COMMON TYPES OF IUUF

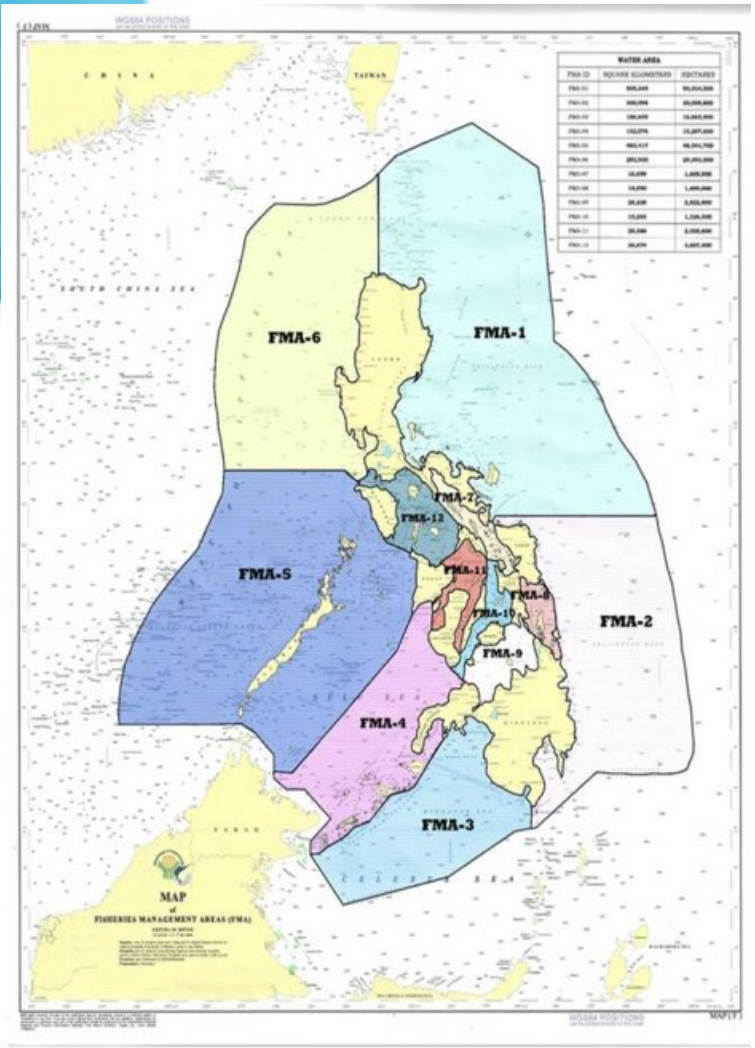
- Intrusion of Commercial Fishing Vessels
- Use of destructive fishing method
- Use of active gears in municipal/coastal waters
- Employment of unregistered fisherfolk
- Poaching

LEGAL FRAMEWORK

- Ratification of the UNCLOS, FAO Compliance Agreement, UN Fish Stocks Agreement, Port State Measures
- Enactment of enabling laws relative to these international laws, rules and regulations
- Adoption of an NPOA-IUUF
- Enactment of Compatible Measures to the Western and Central Pacific Fisheries Commission’s Conservation and Management Measures

LEGAL FRAMEWORK

- Fisheries Code RA 8550 as amended by RA 10654
  - stiffer penalties for fisheries violations
  - IUU Fishing is added as an offense
  - Adjudication Committee to hasten determination of liabilities and imposition of administrative penalties
- Review, amendment or formulation of appropriate regulations to ensure policies are responsive to current conditions
- Development of a Prototype National IUUF Index and Threat Assessment Tool

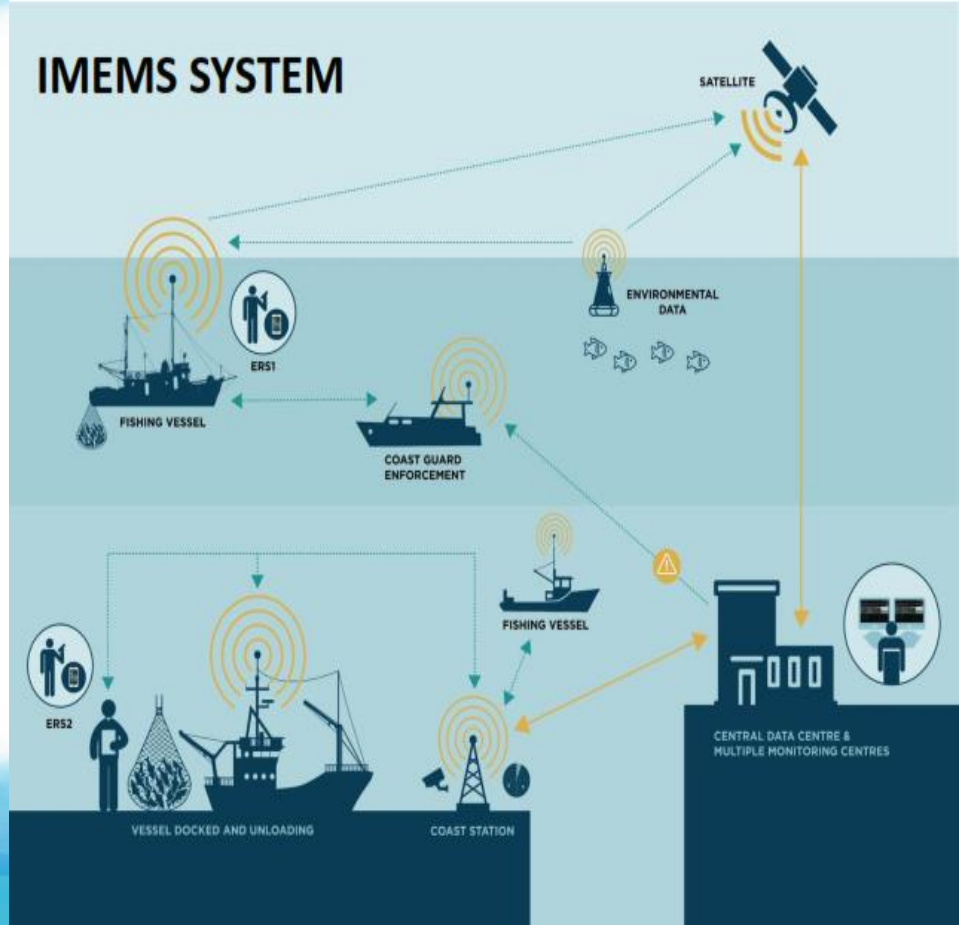


OPERATIONAL FRAMEWORK

- Scaling-up ecosystem approach to fisheries management in large Fisheries Management Areas
- Harmonization of fisheries management systems across juridical boundaries
- Building the foundation for inclusion of Harvest Control Rules in fisheries management

SYSTEMS AND SUPPORT INFRASTRUCTURE

- Adoption of a traceability system to ensure full traceability from net to fork and avoid the entry/import of IUUF products
- Improvements in the Registration and Licensing System for Fishers, Vessels, and Gears
- Ongoing implementation of the Integrated Marine Environment Monitoring System and capacity building for support personnel



REGIONAL/INTERNATIONAL COOPERATION

- Implementation of port controls such as inspections of foreign-flagged fishing vessels
- Implemented imposed sanctions to foreign-flagged fishing vessels and its local agents in case/s of violation/s
- Prohibition of Philippine-flagged fishing vessels to transship-at-sea
- Cooperate and actively participate in relevant RFMOs (WCPFC, IOTC, ICCAT) and the ASEAN Fisheries Working Group including SEAFDEC

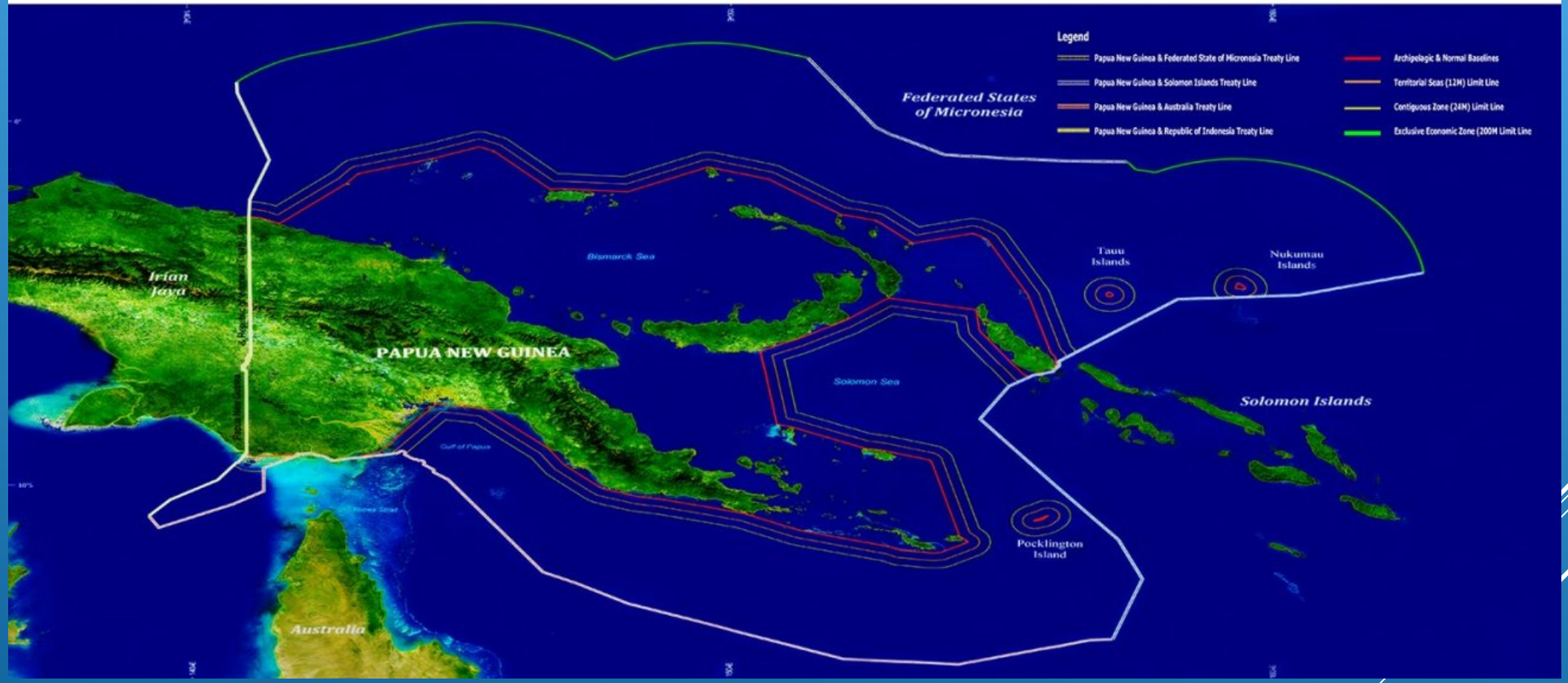
Thank you for your
Kind attention!

THE MCS BUSINESS GROUP

By Mark BANGKOMA

Photo by David Karis :

MARITIME LIMITS OF THE INDEPENDENT STATE OF PAPUA NEW GUINEA



NATIONAL FISHERIES AUTHORITY

OUTLINE

- FISHERIES INFORMATION MANAGEMENT SYSTEM
  - VESSEL MONITORING SYSTEM
  - PSM SCHEMATIC
  - AUDIT & CERTIFCATIONS OF
  - COVID-19 PROTOCOLS

FISHERIES INFORMATION MANAGEMENT SYSTEM

NFA – Uses web base plat form to deter and combat IUU Fishing and Related Activities which is the Fisheries Information Management System (FIMS). The NFA management tools which are the;

- **VMS**
- **OBSERVER PROGRAM**
- **Catch Documentation and Certification Unit**
- **Audit and Certification Unit**
- **Compliance Unit**

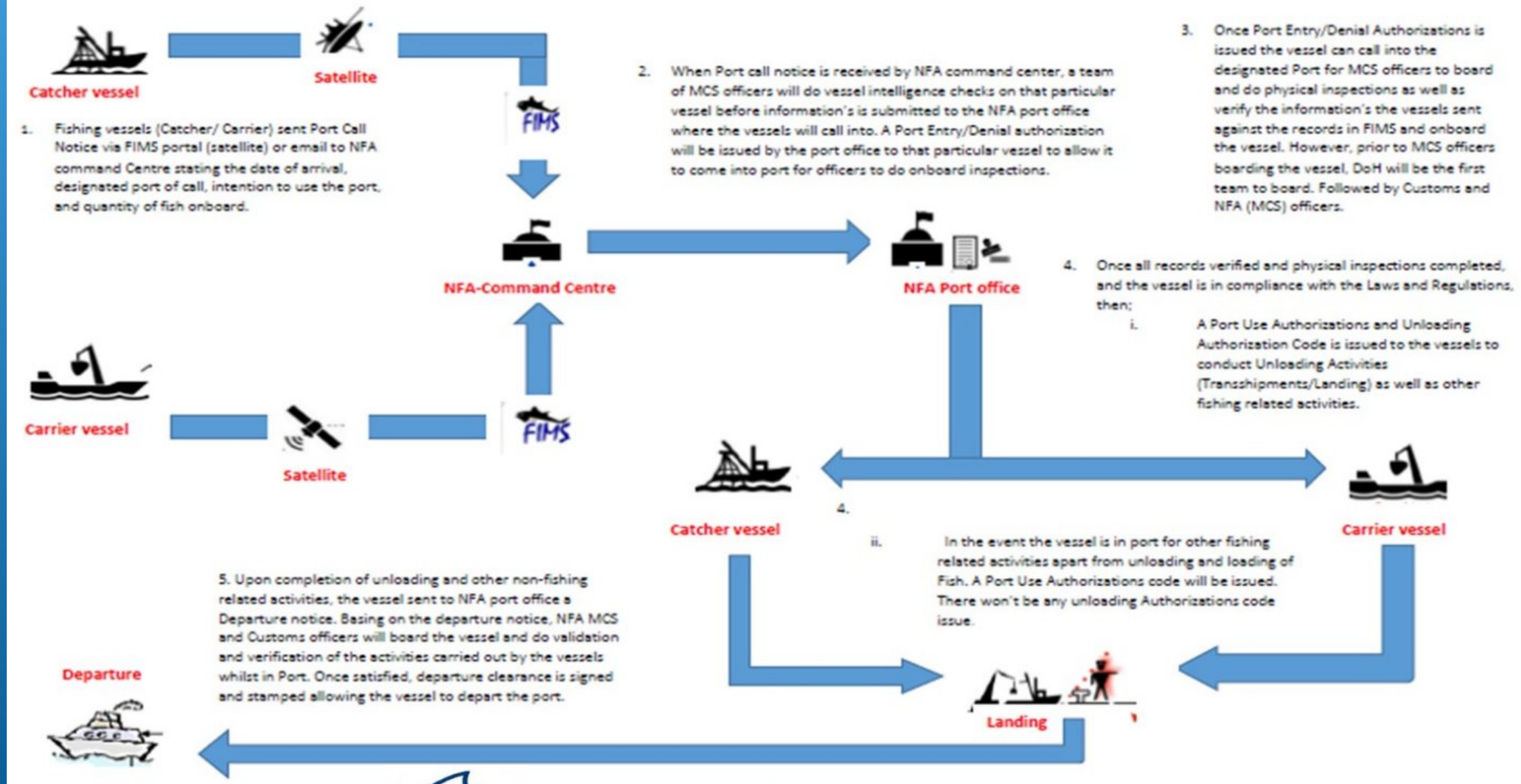
These units record all activities of Licensed Fishing Vessels and Shore base Operators activities onto the FIMS

All IUU Fishing & Related Activities are referred to Compliance Unit to take Courage

VESSEL MONITORING SYSTEM UNIT

- RESPONSIBLE FOR TRACKING AND MONITORING ALL ACTIVITIES OF ALL FISHING AND FISHING RELATED VESSELS.
- PROVIDE PLATFORM FOR THE PURPOSES OF SURVEILLANCE.
- PROVIDE PLATFORM FOR FIMS VESSEL DAYS SCHEME (VDS).
- IMPROVES MANAGEMENT OF FISHERIES RESOURCES.
- PROMOTES VOLUNTARY COMPLIANCE BY OPERATORS THROUGH MONITORING FISHING VESSELS ACTIVITIES

PSM SCHEMATIC



NATIONAL FISHERIES AUTHORITY

Overall Implementation

- Common Centre (VMS) - central nerves system
  - Monitoring of vessels
  - Analysis & Risks determination
- Operational ports (x4)
  - Analyses & Risks determination
  - Port entry authorization
  - Boarding & Inspection
  - Unloading/port use authorization
  - Departure clearance

NATIONAL FISHERIES AUTHORITY

Covid – 19 Protocols

PNA Requirement:
Covid 19 Protocols are Implemented.

All License FV carried out Temperature Checks every morning before work starts are to record every crew's temperature and send the report onto FIMS.

NATIONAL FISHERIES AUTHORITY

RPOA IUU
ARAFURA TIMO SEAS
MCS SUB-REGIONAL GROUP

THANK YOU

Lesson Learned from Thailand

Regional Plan of Action to Promote Responsible Fishing Practices Including Combating Illegal Unreported and Unregulated Fishing in the Region (RPOA-IUU)

International Workshop on Eradication of Illegal, Unreported and Unregulated Fishing for Regional Plan of Action to Promote Responsible Fishing Practices Including Combating IUU Fishing in the Region (RPOA-IUU) Participating Countries and Pacific Countries

9-11 August 2021

THAILAND FISHERIS REFORM (2015 – 2019)

Sustainable Fisheries

Combating IUUF

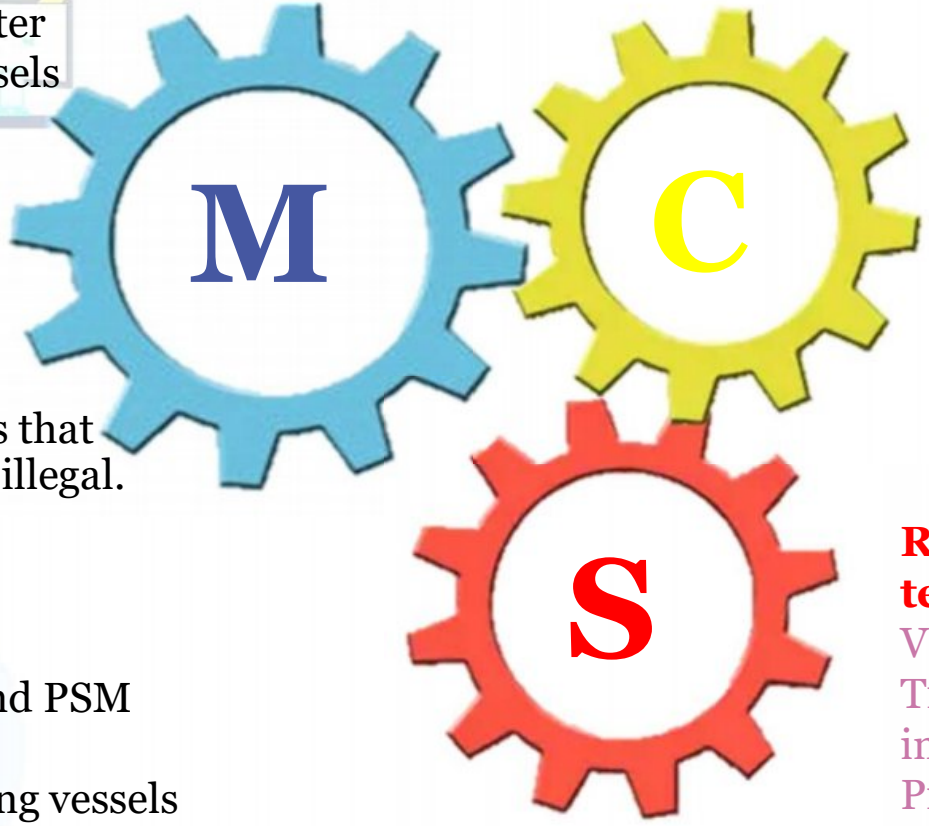
IUU Free Thailand

Monitor, Control and Surveillance (MCS)

Established
Fisheries Monitoring Center for monitor Thai fleet vessels though VMS.

Developed
Electronic system
"Machine Learning tool"
to alert any fishing vessels that behave suspiciously to be illegal.

Developed
Electronic system
"Processing Statement and PSM Link System, PPS"
for monitor foreign fishing vessels request to enter Thailand and control Import fish and fisheries product



Rules and Regulations
Established Rules/Regulations for control Thai-flagged fishing vessel and fishing activity and foreign fishing vessels

Regulated tool kits and technology
VMS, AIS, ERS, EM, PIPO, logbook, Transshipment control, observer, inspection at sea, inspection at port, Pre-common Risk Assessment, AIS analysis report, Behavior Analysis Software

KEY SUCCESS FACTORS in Combating IUUF

AN – IUU Establishment

As the ASEAN Chairmanship of 2019, Thailand initiated the establishment of ASEAN Network for Combating IUU Fishing (AN-IUU).

The AN – IUU aims to

- support effective exchange of information,
- create a network for better communication between the law enforcement authorities and governmental competent authorities responsible for combating IUU fishing
- strengthen the capacity of government officials in the region, in tackling IUU fishing.

At present, the AN-IUU is formally established and is launching operation to upgrade the MCS to effective combating IUU fishing in member States at national level and regional level.

Guidelines for fishing vessels inspection under COVID – 19 pandemic

The practice principles

1. Social distancing
2. Reduce the officer members in field
3. keep the efficiency of the inspection
4. Only use in the widespread area

1

The number of multidisciplinary team: At least 2 officers are representative of multidisciplinary Team delegate (1 DOF officer).

Method: Operate follow the manual. During inspection, the multidisciplinary officers can communicate and advise the delegate. While, DLPW officers can interview crew onboard via VDC.

2

The number of the multidisciplinary team: All of officers work at office or home.

Method: The vessel was inspected by vessel owner or representative of vessel owner via VDC follow the manual.

The number of the multidisciplinary team: All of officers work at office or home.

Method: The vessel was inspected by vessel owner or representative of vessel owner to show an evidence with time and location via LINE application follow the manual.

THANK YOU FOR YOUR ATTENTION

INTERNATIONAL WORKSHOP ON ERADICATION OF IUU FISHING FOR RPOA – IUU PARTICIPATING COUNTRIES AND PACIFIC COUNTRIES

Best Practice in Handling IUU F: Lesson Learned from Participating Countries

PEDRO ANTERO MARIA RODRIGUES
VASCO FREITAS
MARIA SARMENTO TAE

NATIONAL DIRECTORATE OF INSPECTION FOR FISHERIES AND AQUATIC RESOURCES
DIRECTORATE GENERAL OF FISHERIES, AQUACULTURE AND MARINE RESOURCES
MINISTRY OF AGRICULTURE AND FISHERIES
DILI, TIMOR – LESTE

9 – 11 August 2021

ACTIVITIES AND IMPLEMENTATION

National Fisheries Strategic Plan & revision of fisheries law which was implemented by WFC Timor – Leste, these documents have been translated into Tetum and Portuguese which was funded by JICA – TL, these documents have been finalized and will be sent to Council Ministers

Pilot project of PDS devices 434 units are installed & another 151 units will be installed. Last year, 21 units destroyed in Manufahi and 16 units were destroyed in Ainaro municipality due to misunderstanding of PDS functions. Previously, the activation fee for the system was funded by WorldFish but, as planned, this year it will be covered by National Directorate of Inspection for Fisheries and Aquatic Resources

Hiring 17 enumerators to enter the data in each municipalities (except upland areas such as Ermera and Aileu municipality), however they do not cover all landing centers in the municipalities due to limitation of budget.

There still not any fisheries monitoring center in place that's why observing IUU fishing operation by foreign illegal fishing vessel through Global Fishing Watch website.

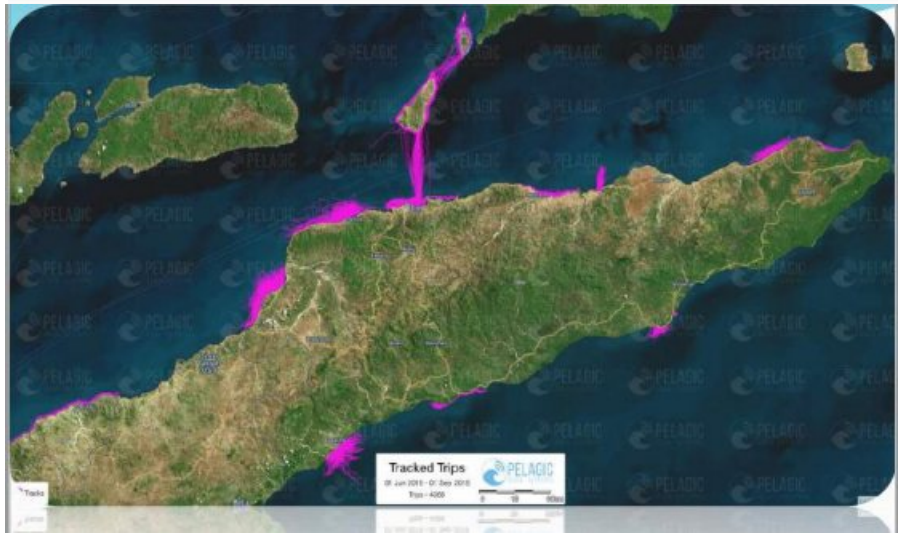
In December 2020, conducting PIC in 8 (eight) fishing centers of 5 (Five) south coast municipalities which was funded by ATSEA2 – UNDP and recently, the same activity was conducted in 12 fishing centers of North Coast municipalities which was funded by ISLME – FAO. This activity aims to educate local fisher on illegal fishing vessel identification, community based IUU reporting system, safety at sea, protected species and fishing licenses procedures. This activity also aims to raise awareness of local fisher on how to practice fishing in a sustainable way.

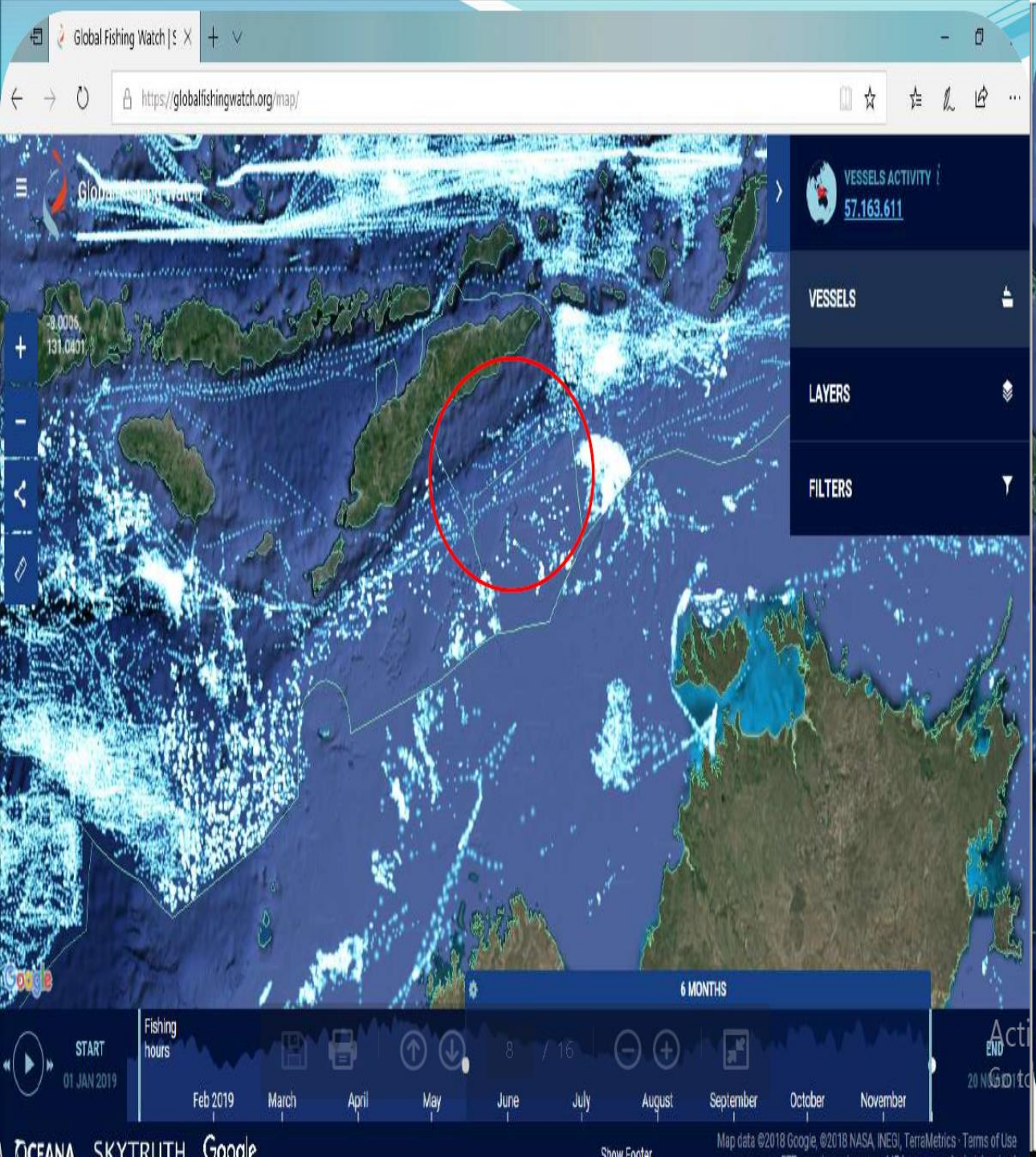
CONT……..

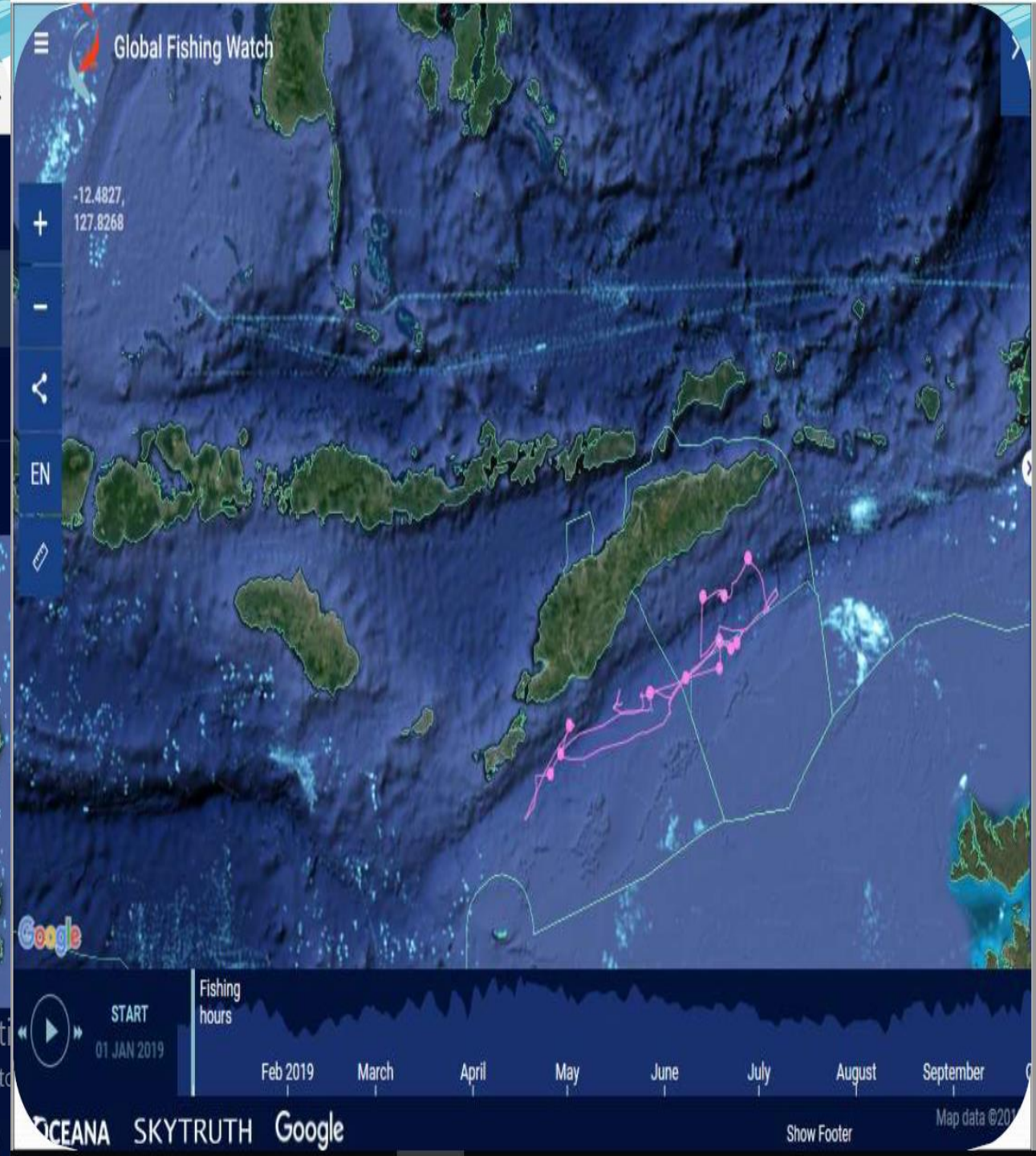
Fishing gear (beach seine net) apprehension which is banned according to decree law no. 6/2004, 21 April 2004, Article 87, Banned Fishing Gear (August 2020). The beach seine net owned by a local fisher in Batugade, Bobonaro.

Joint company between Timor – Leste Veterans and Chinese, they have submitted the proposal and after completion of documents of fishing vessels, we will share the document of fishing vessels to MCS Sub – Regional group in order to track their past activities.

USING PDS DEVICE TO MONITOR SMALL – SCALE FISHING ACTIVITY




Global Fishing Watch | S
https://globalfishingwatch.org/map/
VESSELS ACTIVITY
57.163.611
VESSELS
LAYERS
FILTERS
6 MONTHS
START
01 JAN 2019
Fishing hours
Feb 2019
March
April
May
June
July
August
September
October
November
OCEANA
SKYTRUTH
Google
Show Footer
Map data ©2018 Google, ©2018 NASA, INEGI, TerraMetrics · Terms of Use


Global Fishing Watch
-12.4827,
127.8268
EN
START
01 JAN 2019
Fishing hours
Feb 2019
March
April
May
June
July
August
September
OCEANA
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Google
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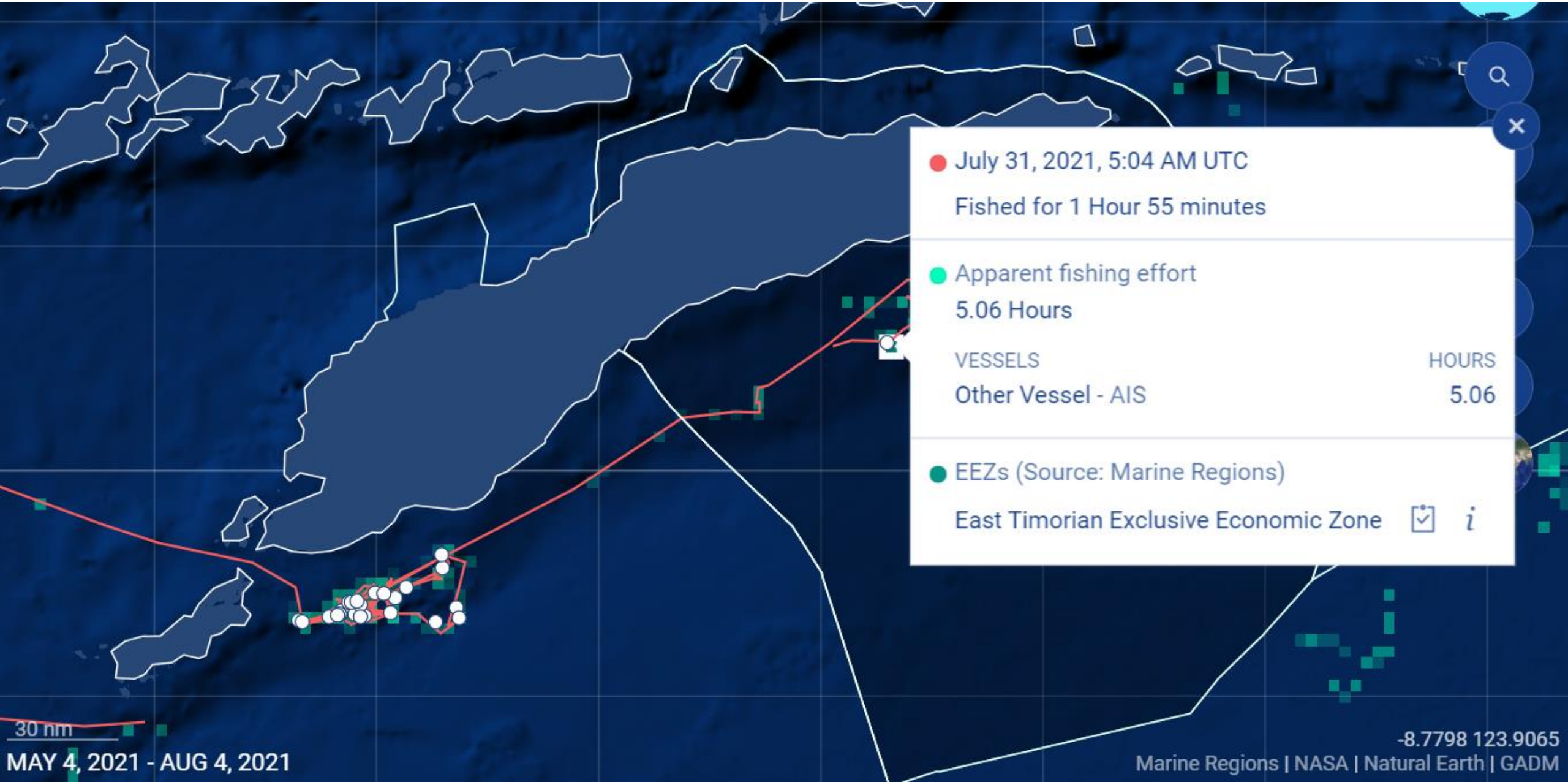
USING GLOBAL FISHING WATCH IN MONITORING FOREIGN ILLEGAL FISHING VESSEL



Data of illegal fishing vessels (2018)

No	Registered gear type	Width(m)	Length(m)	Gross tonna	Global fishin
1	Purse Seine Small Pelagic	5-10	20-40	100-125	7340292
2	Purse Seine Small Pelagic	5-10	20-40	125-150	6291635
3	Purse Seine Small Pelagic	5-10	20-40	100-125	6291634
4	Purse Seine Small Pelagic	5-10	20-40	75-100	4194417
5	Purse Seine Small Pelagic	5-10	20-40	125-150	7864556
6	Purse Seine Small Pelagic	5-10	20-40	100-125	7340292
7	Oceanic Gillnet	5-10	20-40	50-75	1048641
8	Purse Seine Small Pelagic	5-10	20-40	100-125	7340292
9	Purse Seine Small Pelagic	5-10	20-40	150-175	4194534
10	Hand Line Tuna	5-10	20-40	50-75	1048926
11	Squid Hooking	5-10	20-40	100-125	6291522
12	Hand Line	5-10	20-40	25-50	374
13	Purse Seine Big Pelagic with one Boat	5-10	20-40	175-200	5767332
14	Purse Seine Small Pelagic	5-10	20-40	125-150	7864556
15	Purse Seine Small Pelagic	5-10	20-40	125-150	6291635
16	Squid Hooking	5-10	0-20	25-50	5242888
17	Long Line Tuna	5-10	20-40	50-75	2621571
18	Stick-Held Lift Net	5-10	20-40	125-150	3145937
19	Squid Hooking	5-10	20-40	100-125	201
20	Oceanic Gillnet	5-10	0-20	25-50	3670156
21	Squid Hooking	5-10	20-40	75-100	6291750
22	Squid Hooking	5-10	20-40	150-175	5767286
23	Purse Seine Big Pelagic with one Boat	5-10	20-40	175-200	5767332
24	Long Line Tuna	5-10	0-20	50-75	2097541
25	Purse Seine Small Pelagic	5-10	20-40	100-125	6291634
26	Hand Line Tuna	5-10	20-40	50-75	1048926
27	Hand Line Tuna	5-10	20-40	50-75	1048926
28	Hand Line Tuna	5-10	20-40	50-75	1048926
29	Hand Line Tuna	5-10	20-40	50-75	1048926
30	Hand Line Tuna	5-10	20-40	50-75	1048926
31	Purse Seine Small Pelagic	5-10	20-40	100-125	7340292
32	Purse Seine Small Pelagic	5-10	20-40	100-125	7340292
33	Purse Seine Small Pelagic	5-10	20-40	125-150	6291743
34	Purse Seine Small Pelagic	5-10	20-40	175-200	7864588
35	Purse Seine Small Pelagic	5-10	20-40	125-150	6291635
36	Purse Seine Big Pelagic with one Boat	5-10	20-40	175-200	5767332
37	Purse Seine Small Pelagic	5-10	20-40	175-200	524431
38	Purse Seine Small Pelagic	5-10	20-40	100-125	7340292
39	Purse Seine Small Pelagic	5-10	20-40	100-125	7340292
40	Purse Seine Small Pelagic	5-10	20-40	150-175	4194534
41	Hand Line Tuna	5-10	20-40	50-75	1048926
42	Purse Seine Small Pelagic	5-10	20-40	125-150	6291635
43	Purse Seine Small Pelagic	5-10	20-40	125-150	6291635
44	Squid Hooking	5-10	20-40	125-150	1572864
45	Long Line Tuna	5-10	0-20	50-75	2097541
46	Squid Hooking	5-10	20-40	100-125	6291522

No	Registered gear type	Width(m)	Length(m)	Gross tonna	Global fishin
47	Hand Line	5-10	20-40	25-50	374
48	Hand Line	5-10	20-40	50-75	4194686
49	Oceanic Gillnet	5-10	20-40	75-100	1048880
50	Basic Long Line	5-10	20-40	25-50	1048657
51	Purse Seine Small Pelagic	5-10	20-40	125-150	6291635
52	Purse Seine Big Pelagic with one Boat	5-10	20-40	175-200	5767332
53	Purse Seine Small Pelagic	5-10	20-40	125-150	2621754
54	Purse Seine Small Pelagic	5-10	20-40	150-175	4194534
55	Purse Seine Small Pelagic	5-10	20-40	100-125	7340292
56	Squid Hooking	5-10	20-40	150-175	5767286
57	Squid Hooking	5-10	20-40	125-150	1572864
58	Squid Hooking	5-10	20-40	75-100	3670117
59	Squid Hooking	5-10	20-40	75-100	2621460
60	Hand Line	5-10	20-40	25-50	374
61	Purse Seine Small Pelagic	5-10	20-40	175-200	5767332
62	Purse Seine Small Pelagic	5-10	20-40	100-125	6291634
63	Purse Seine Small Pelagic	5-10	20-40	125-150	2621754
64	Purse Seine Small Pelagic	5-10	20-40	100-125	7340202
65	Hand Line Tuna	5-10	20-40	50-75	1048926
66	Purse Seine Small Pelagic	5-10	20-40	100-125	7340292
67	Squid Hooking	5-10	20-40	150-175	5767286
68	Purse Seine Small Pelagic	5-10	20-40	150-175	4194534
69	Squid Hooking	5-10	20-40	75-100	3670117
70	Squid Hooking	5-10	20-40	125-150	7340238
71	Hand Line	5-10	20-40	50-75	4194686
72	Hand Line	5-10	20-40	25-50	374
73	Squid Hooking	5-10	20-40	125-150	7340238
74	Purse Seine Small Pelagic	5-10	20-40	125-150	6291635
75	Purse Seine Big Pelagic with one Boat	5-10	20-40	175-200	5767332
76	Long Line Tuna	5-10	20-40	125-150	5767218
77	Squid Hooking	5-10	20-40	150-175	5767286
78	Purse Seine Small Pelagic	5-10	20-40	100-125	7340292
79	Long Line Tuna	5-10	20-40	50-75	5767520
80	Purse Seine Small Pelagic	5-10	20-40	125-150	6291635
81	Hand Line Tuna	5-10	20-40	50-75	1048927
82	Long Line Tuna	5-10	20-40	75-100	1048827
83	Long Line Tuna	0-5	0-20	25-50	167
84	Long Line Tuna	5-10	0-20	25-50	3670342
85	Purse Seine Small Pelagic	5-10	20-40	125-150	6291635
86	Long Line Tuna	5-10	20-40	50-75	5767520
87	Purse Seine Small Pelagic	5-10	20-40	125-150	2621754
88	Hand Line Tuna	5-10	20-40	25-50	6815951
89	Hand Line	5-10	20-40	25-50	428
90	Purse Seine Small Pelagic	5-10	20-40	125-150	7864556
91	Hand Line Tuna	5-10	20-40	50-75	1048929
92	Purse Seine Big Pelagic with one Boat	5-10	20-40	175-200	5767332

No	Registered gear type	Width(m)	Length(m)	Gross tonnag	Global fishin
92	Purse Seine Big Pelagic with one Boat	5-10	20-40	175-200	5767332
93	Hand Line	5-10	20-40	50-75	4194724
94	Hand Line	5-10	20-40	50-75	4194692
95	Squid Hooking	5-10	20-40	100-125	7864534
96	Hand Line	5-10	20-40	25-50	374
97	Hand Line Tuna	5-10	20-40	50-75	1048905
98	Purse Seine Small Pelagic	5-10	20-40	125-150	7864556
99	Purse Seine Small Pelagic	5-10	20-40	75-100	7340037
100	Hand Line Tuna	5-10	20-40	50-75	1048905
101	Purse Seine Small Pelagic	5-10	20-40	125-150	6291635
102	Purse Seine Small Pelagic	5-10	20-40	125-150	7864556
103	Long Line Tuna	5-10	20-40	75-100	1048827
104	Long Line Tuna	5-10	0-20	25-50	3670358
105	Long Line Tuna	5-10	20-40	75-100	2621457
106	Purse Seine Small Pelagic	5-10	20-40	75-100	7340037
107	Purse Seine Big Pelagic with one Boat	5-10	20-40	175-200	5767332


Shot on realme C2
By Maria S Tae


Public Information Campaign (PIC)
Monitoring, Control and Surveillance
Supported by ESMIE project FAO-TL


Public Information Campaign (PIC)
Monitoring, Control and Surveillance
FAO-TL

THANK YOU

OBRIGADA WAIN

BEST PRACTICES IN HANDLING IUU in VIETNAM

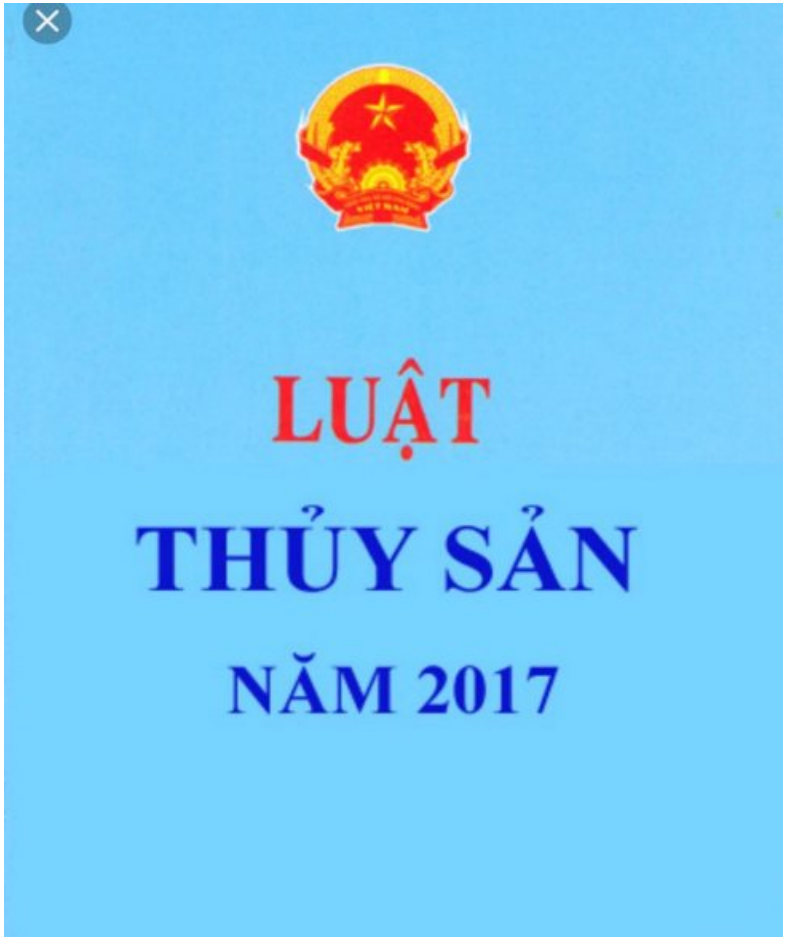
Nguyen Thi Trang Nhung – Deputy Director
Directorate of Fisheries

1. LEGAL FRAMEWORK

NEW FISHERIES LAW 2017

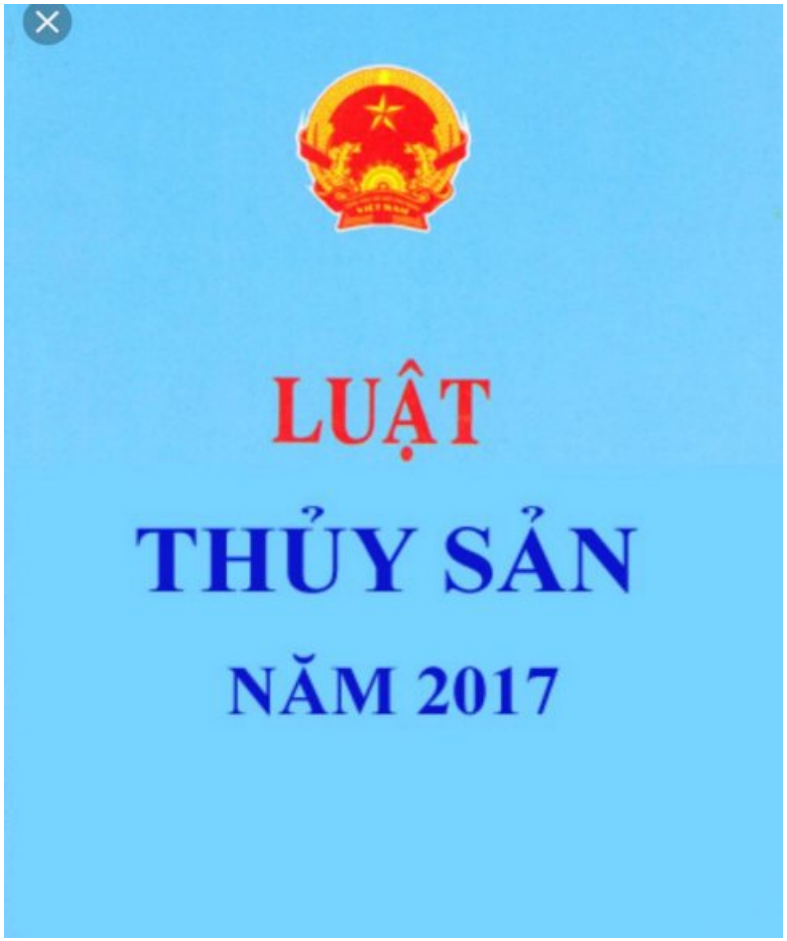
(Adopted by National Assembly on 21 November 2017 and comes to effect on January 2019)

- Establish the main principles and the general legal basis for application and compliance with the existing international obligations
- In line with International Instruments: UNCLOS (1982), PSMA (2009), UNFSA (1995), CCRF (1995), IPOA-IUU, FAO Voluntary Guidelines for Flag States

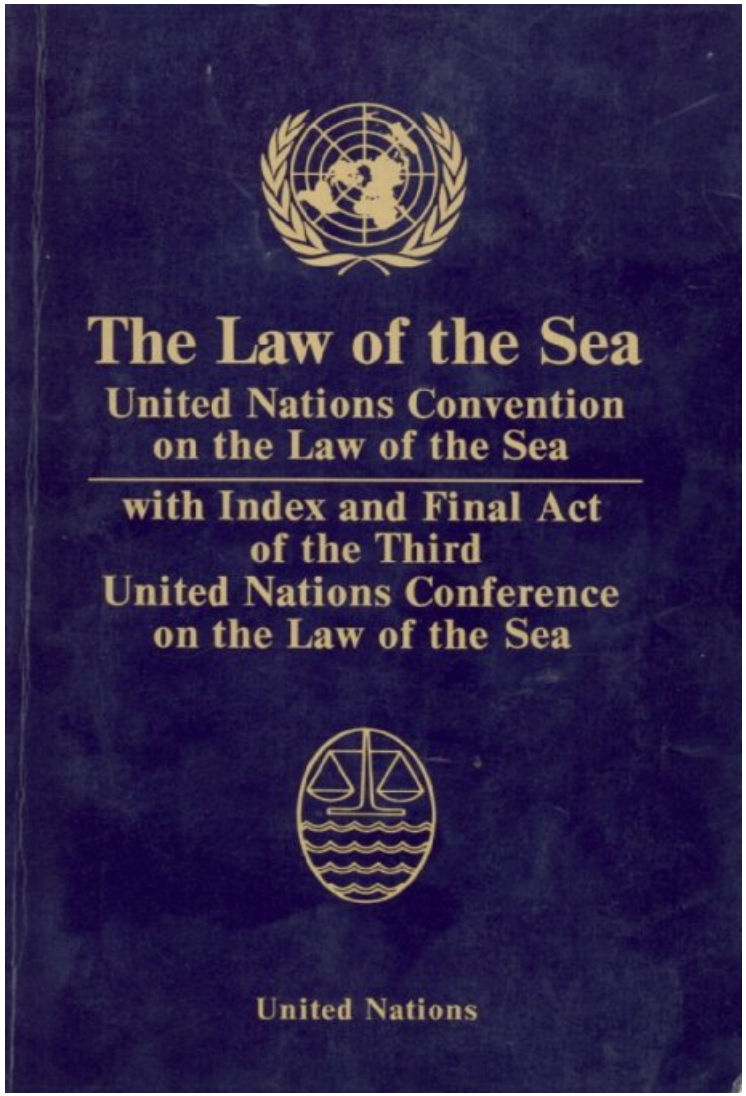


FISHERIES LAW 2017 AND UNDER-LAW REGULATIONS TO COMBAT IUU

- New Definitions (Fishing vessels, fishing activities, IUU…)
- Regulating IUU activities
- Flag states measures
- Port states measures
- Coastal states measures
- 10 times increase in administrative sanctions scheme, additional sanctions (Confiscation of fishing vessels, IUU catch..)
- List of IUU fishing vessels
- Establishment Fisheries Resources Force to Provincial Level
- Converting from HP to total length as criteria for fishing fleet management

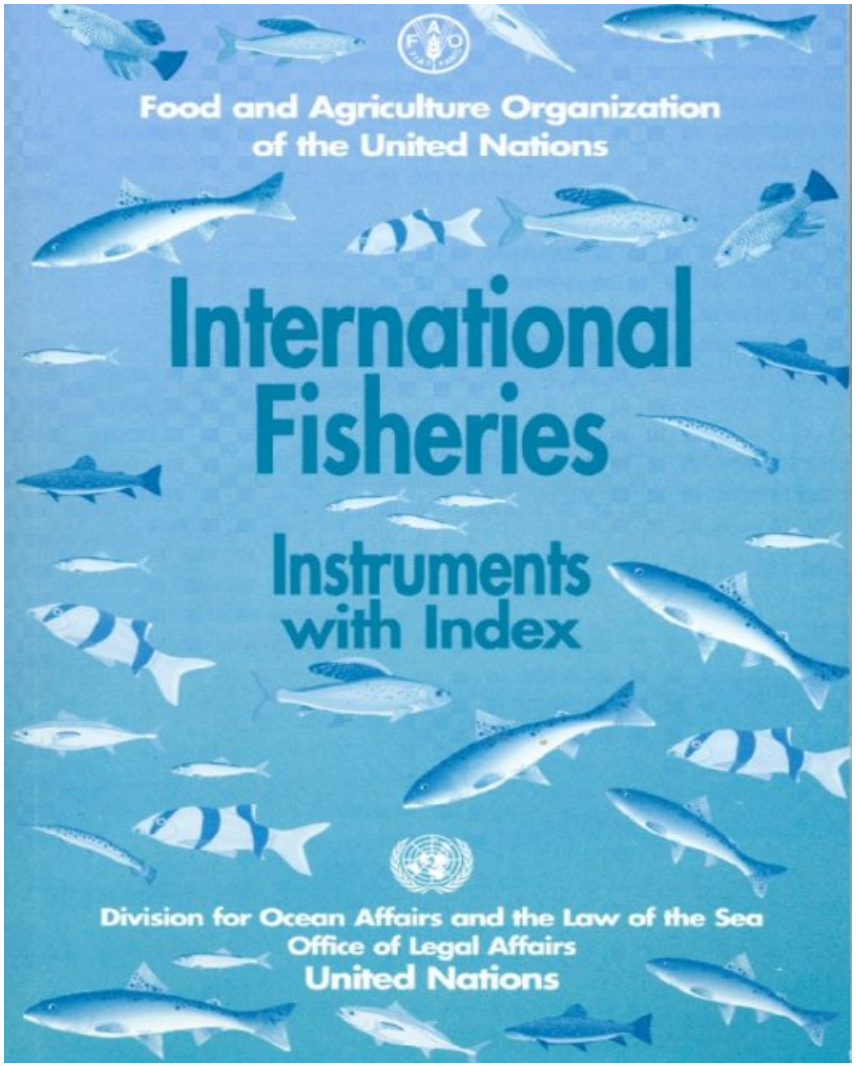


The Law of the Sea 1982



- Being member of UNCLOS in 1994.
- Ensure compliance with UNCLOS, in particular Articles 61,62, 63, 94, 117, 118 and 119, as regard obligations as coastal and flag states measures
- Article 64, 117, 118, 119 relating to RFMO
- Article 94 of UNCLOS on necessary administrative measures to ensure that fishing vessels flying its flag are not involved in activities in the EEZ of coastal States and high seas
- Article 192 of UNCLOS for protecting and preserving the marine environment and conserving the marine living resources which are an integral element of the marine environment.

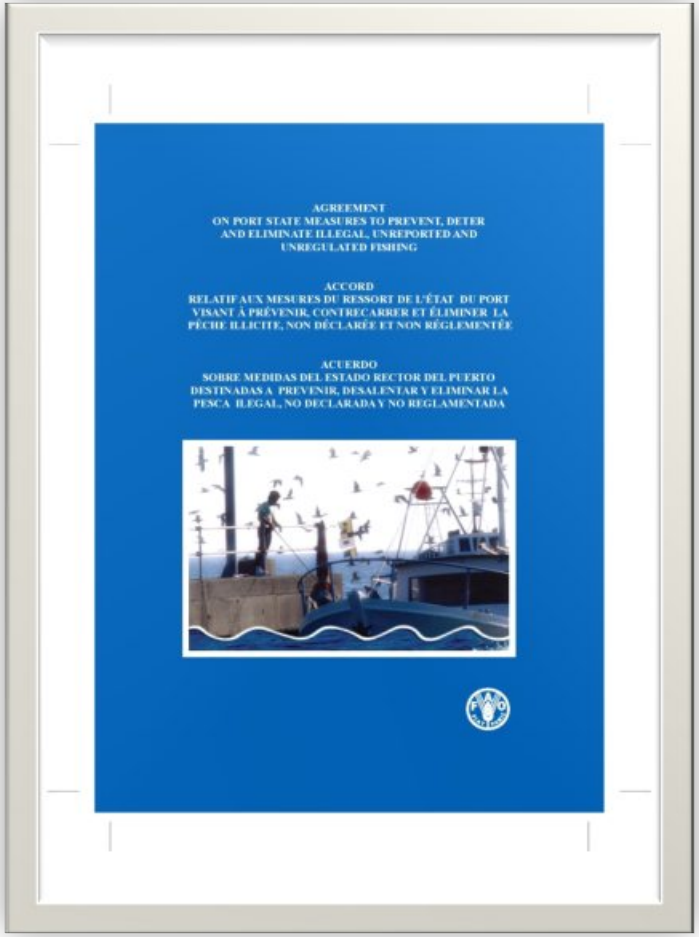
1995 UN FISH STOCK AGREEMENT



- ratifying UN Fish Stock Agreement in 2019
- Precautionary Approach
- TAC for highly migratory species, particular stocks or groups; input control by license quota for offshore fleet;
- Obligations of Flag State (Condition for fishing vessels registration, fishing license in Vietnamese water, outside Vietnamese water, VMS, Logbook regulations, fishing without licenses in high sea, other countries and offshore areas are as serious violation, national registry of fishing vessel…)
- Enforcement, Regional & International Cooperation

2009 FAO PORT STATE MEASURES AGREEMENT

- Official Assess to PSMA in 2019
- Designation of 14 ports for foreign fishing vessels
- Integratation PSMA in to Fisheries Law and under-law regulations (procedures and documents to be submitted to request authorization to enter into port, authorization and denial of entry, the inspections on foreign vessels, actions to be conducted following inspections and communication with the flag State …)



2. POLITICAL WILLINGNESS AND INTERVENTIONS TO COMBATING IUU FISHING

- **PRIME MINISTER ISSUED:** 3 Directives, 3 Telegrams, 2 Decisions

- **ACTIONS BY MINISTRIES, PROVINCES, & PRIVATE COMMUNITIES**

  - Ministry of Agriculture, Ministry of Foreign Affairs, Ministry of Defence, Ministry of Communication, Coastal Guard … and Coastal Provinces have issued their Plan of Action, Directives to fight IUU, Guiding Documents
  - Plan and propaganda actions by Vietnam Fisheries Association; program "Seafood enterprises commit to combat IUU fishing" commenced, and White Book on fighting IUU fishing issued by VASEP

ESTABLISHMENT OF NATIONAL STEERING COMMITTEE TO COMBAT IUU

- **Chairman:** Deputy Prime-Minister
- **Vice Chaiman:** Minister of MARD
- **Members:** Relevant Ministries (Defence, Public Sercurity, Justice, Communication, Transportation ….), Chairman of 28 Coastal provinces

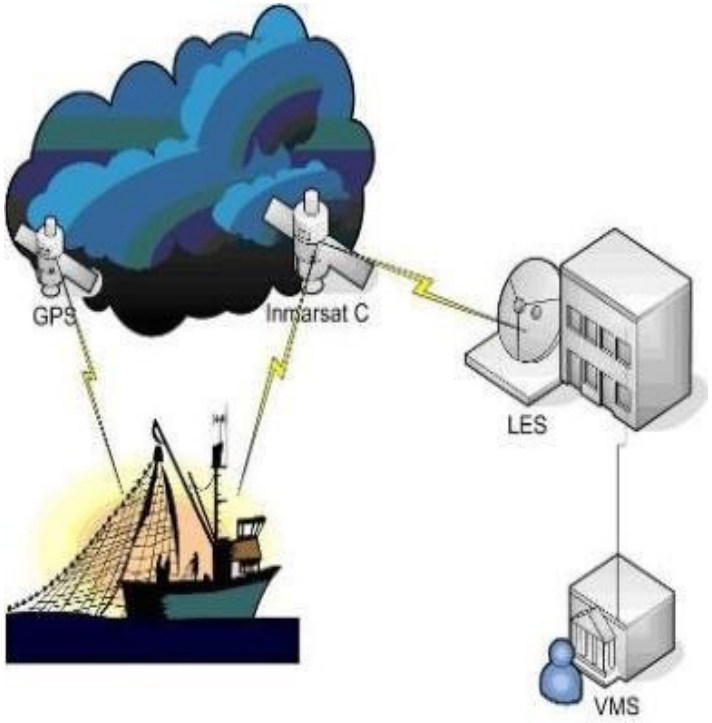
3. STRENGTHENING COOPERATION IN PATROLLING, INSPECTION AND CONTROL AT SEA BETWEEN RELEVANT FORCES

A cooperative mechanism and plan for patrol, inspection and control fishing operations at sea was signed and implemented by Fisheries Resources Surveillance, Coast Guard, Border Guard and Navy

4. Rectification of identified shortcomings in Monitoring, Control and Surveillance (MCS) systems (1)

- MARD issued Decision 27/QĐ-BNN-TCTS dated 05/01/2018 on promulgating guidelines for development of fisheries monitoring, control and surveillance plan
- 25/28 coastal provinces/cities already issued a plan for fisheries monitoring, control, surveillance following guidelines prepared by MARD
- 18/28 coastal provinces have established Fisheries Inspection and Control Office (Coordination mechanism between fisheries and border sercurity to control port in and port out, catch landing of fishing boats)

4. Rectification of identified shortcomings in Monitoring, Control and Surveillance (MCS) systems (2)

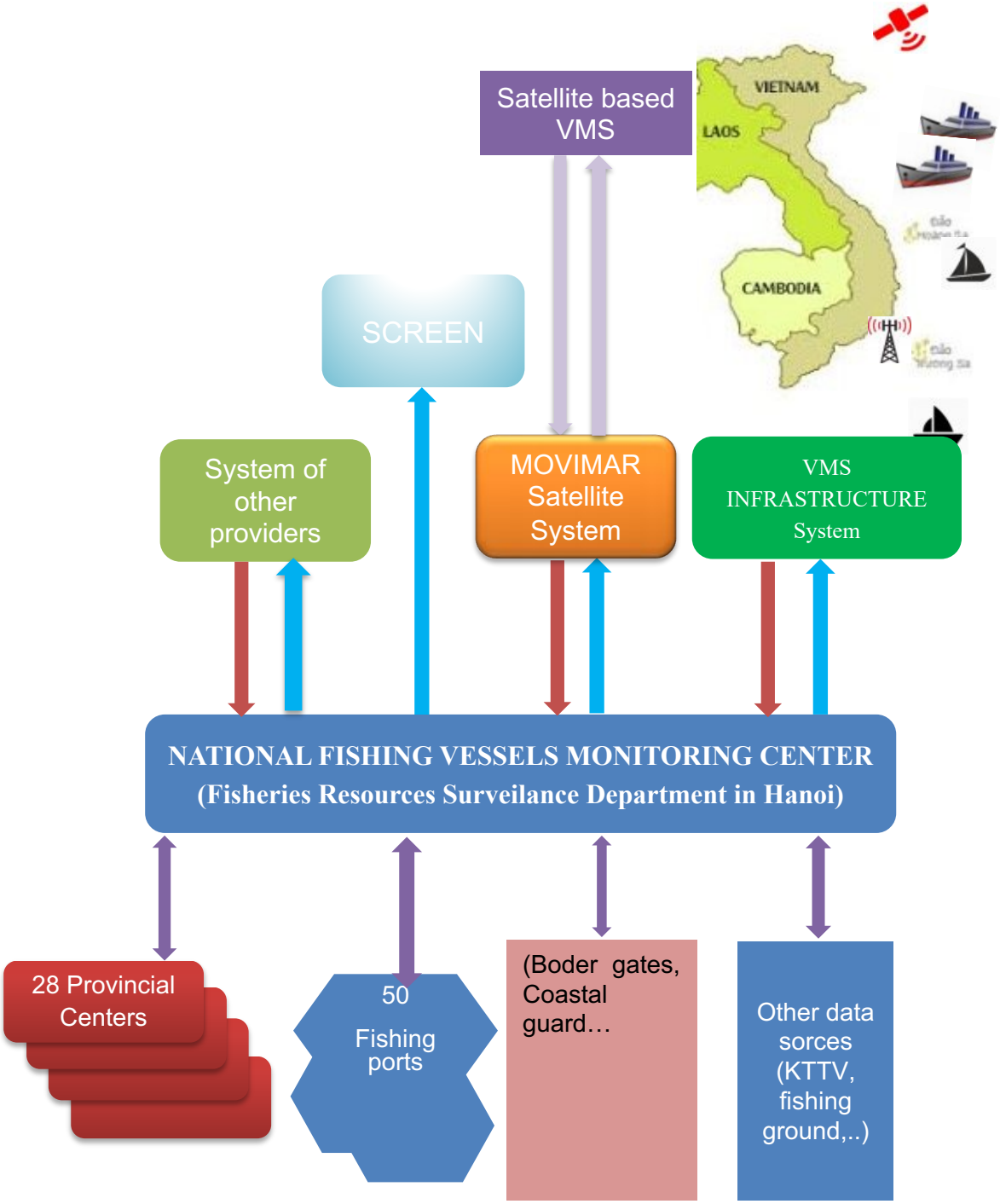


- Compulsory requirement and specific stipulations of VMS installation for fishing vessels from 15m length and over
- Formulating National Technical Standards of VMS in the Under-Law regulation
- Roadmap of installation of VMS to ensure effectiveness of the implementation of the New Fisheries Law
- Establishing procedures of VMS images for enforcement
- Specific Regulations and measures on the logbook, transhipment, landings control at port
- Compulsory for Port in–Port out procedures
- Establish a national database on fishing vessels registration, and fishing licenses to 28 coastal provinces

Status of VMS installation by June of 2021:

- Vessels >=24m: 2.388/2.618 (92%)
- Vessels from 15m-24m:24.714/28.975 (86%)

For those vessels have not installed with VMS, can trace the reasons to specific vessel



5. Improving traceability of capture fishery products

- Revising catch statement verification, and catch certification with cross-checking procedures to ensure the legality of the capture fishery products
- Enhancing the role of fishing port authority in catch control and verification
- Improving the control system of imported raw material in connection with quarantine measures
- Implementing Electronic traceability pilot model

6. FISHING CAPACITY MANAGEMENT

Setting input and output control regulation in the new Fisheries Law **(Offshore Quotation Fishing Licences)**

Decision No. 375/QĐ-TTg by Prime Minister re-organization of capture fishery industry, regulating a roadmap for reducing number of trawlers and coastal fleets

Decision No. 541/QD-TTg dated 20th April 2020 by Prime Minister approving the tasks of developing a fisheries resource exploitation and protection Master Plan in 2021-2030, vision to 2050; targets towards sustainable, responsible fisheries development and international integration.

Decision 339/QD-TTg 2021 approving strategy for fisheries development toward 2030, vision to 2045.

Conducting fisheries resources assessment in the whole seawater of the country.

Results of aquatic resource assessment in Vietnam's EEZ could provide data on fish stock abundance and TAC for some key fish species (large pelagic fish, small pelagic fish and demersal fish) for planning the appropriate fishing effort

Offshore Quotation Fishing Licences

BỘ NÔNG NGHIỆP
VÀ PHÁT TRIỂN NÔNG THÔN

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc

Số: 1481 /QĐ-BNN-TCTS

Hà Nội, ngày 02 tháng 5 năm 2019

QUYẾT ĐỊNH
V/v giao hạn ngạch Giấy phép khai thác thủy sản tại vùng khơi cho các tỉnh, thành phố trực thuộc trung ương

BỘ TRƯỞNG BỘ NÔNG NGHIỆP VÀ PHÁT TRIỂN NÔNG THÔN

Căn cứ Nghị định số 15/2017/NĐ-CP ngày 17 tháng 02 năm 2017 của Chính phủ quy định chức năng, nhiệm vụ, quyền hạn và cơ cấu tổ chức của Bộ Nông nghiệp và Phát triển nông thôn;

Căn cứ Luật Thủy sản ngày 21 tháng 11 năm 2017;

Căn cứ Nghị định số 26/2019/NĐ-CP ngày 08 tháng 3 năm 2019 của Chính phủ quy định chi tiết một số điều và biện pháp thi hành Luật Thủy sản;

Theo báo cáo của Ủy ban nhân dân các tỉnh, thành phố trực thuộc trung ương;

Xét đề nghị của Tổng cục trưởng Tổng cục Thủy sản,

QUYẾT ĐỊNH:

Điều 1. Giao hạn ngạch Giấy phép khai thác thủy sản tại vùng khơi cho các tỉnh, thành phố trực thuộc trung ương với số lượng là 31.541 giấy phép; trong đó giấy phép cho tàu đánh bắt nguồn lợi thủy sản là 29.408 giấy phép, giấy phép cho tàu hậu cần đánh bắt nguồn lợi thủy sản là 2.133 giấy phép *(Danh sách hạn ngạch giấy phép khai thác thủy sản tại vùng khơi giao cho các tỉnh, thành phố trực thuộc trung ương kèm theo Quyết định này).*

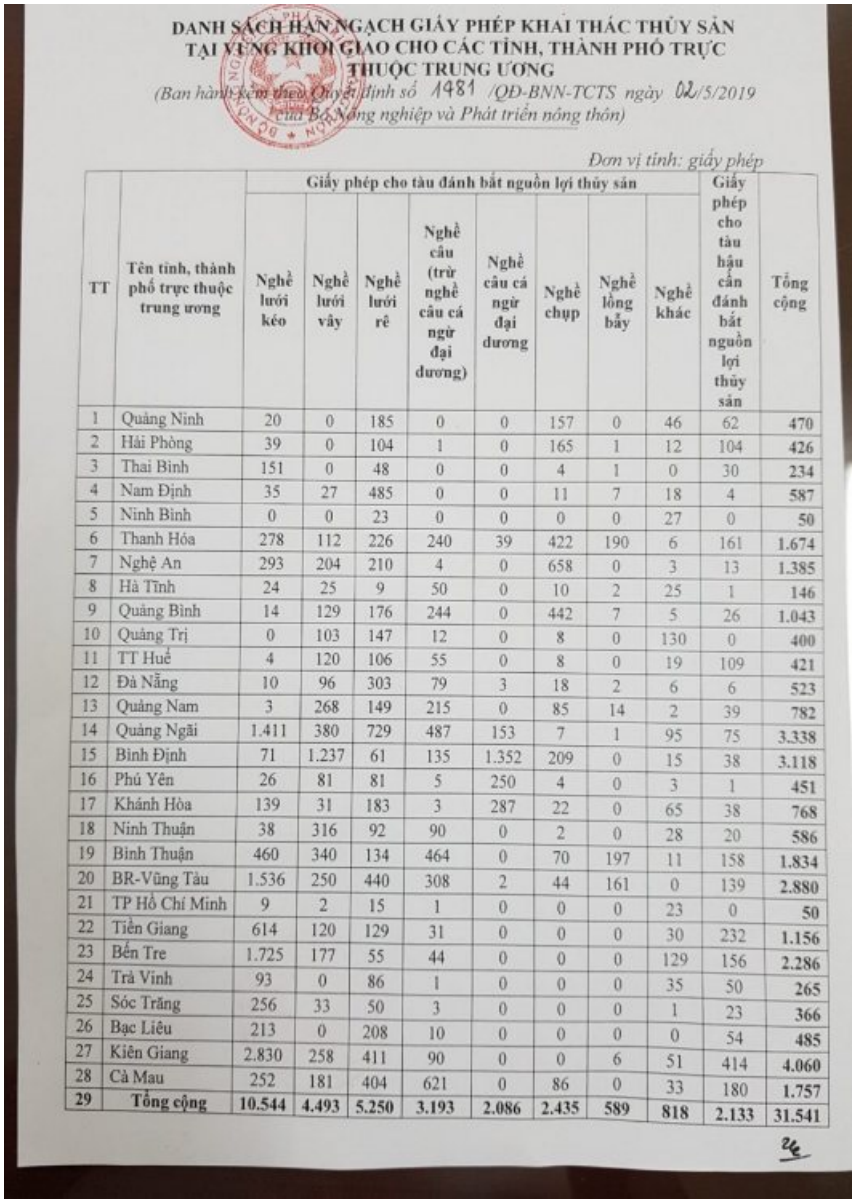
Điều 2. Quyết định này có hiệu lực kể từ ngày ký.

Điều 3. Chủ tịch Ủy ban nhân dân các tỉnh, thành phố trực thuộc trung ương; Chánh Văn phòng Bộ; Tổng cục trưởng Tổng cục Thủy sản; Thủ trưởng các cơ quan có liên quan chịu trách nhiệm thi hành Quyết định này./.

Nơi nhận:
- Như Điều 3;
- Bộ trưởng Nguyễn Xuân Cường (để b/c);
- Sở NN&PTNT các tỉnh, thành phố ven biển;
- TT Thông tin Thủy sản (đăng Website);
- Lưu: VT, TCTS (70 bản).

KT. BỘ TRƯỞNG
THỨ TRƯỞNG

Phùng Đức Tiến



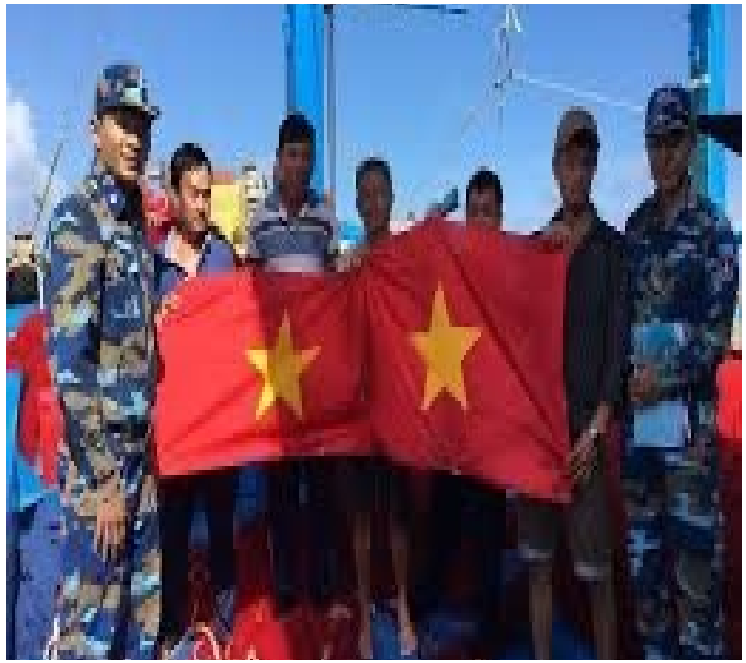
DANH SÁCH HẠN NGẠCH GIẤY PHÉP KHAI THÁC THỦY SẢN TẠI VÙNG KHƠI GIAO CHO CÁC TỈNH, THÀNH PHỐ TRỰC THUỘC TRUNG ƯƠNG

(Ban hành kèm theo Quyết định số 1481 /QĐ-BNN-TCTS ngày 02/5/2019 của Bộ Nông nghiệp và Phát triển nông thôn)

Đơn vị tính: giấy phép

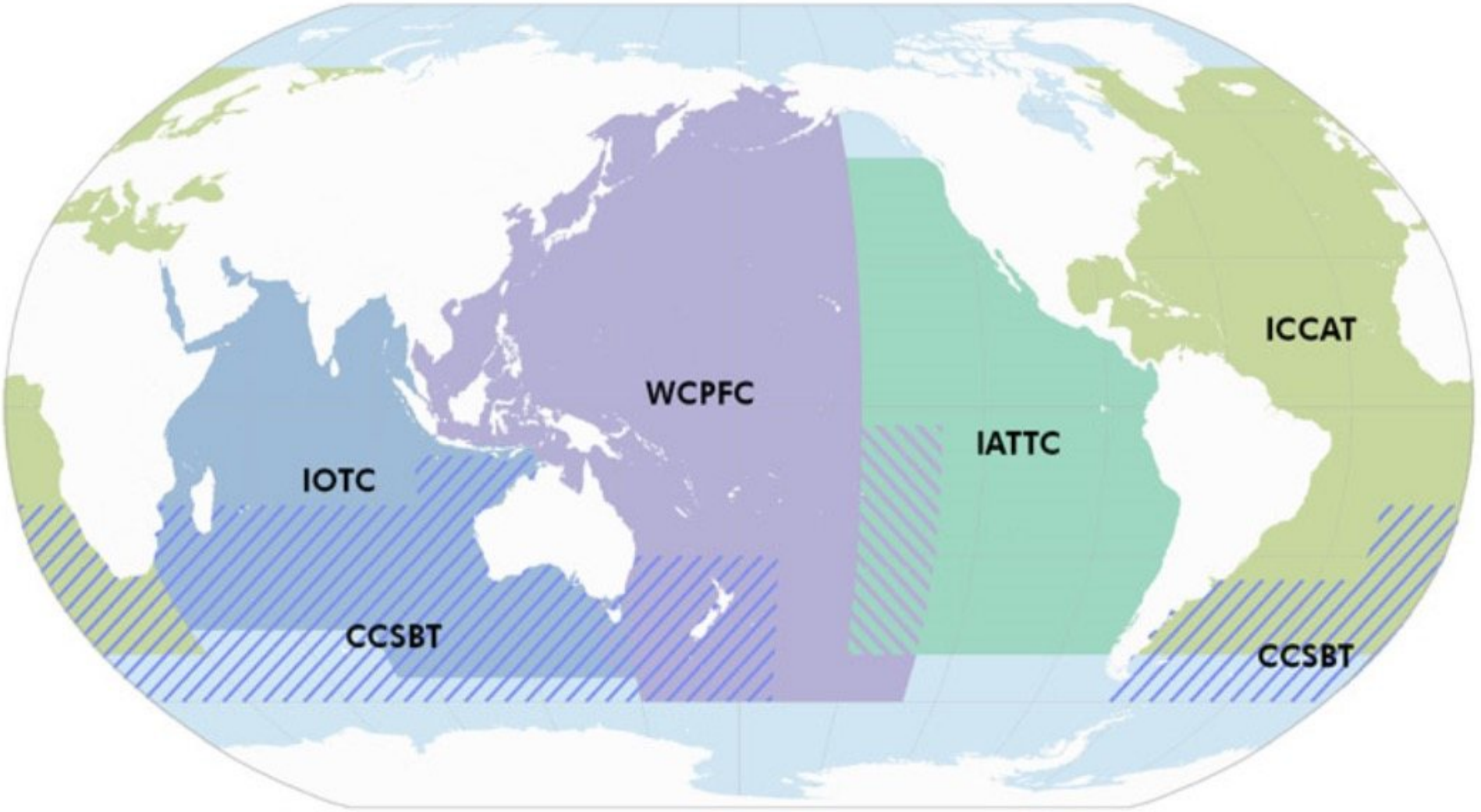
TT	Tên tỉnh, thành phố trực thuộc trung ương	Giấy phép cho tàu đánh bắt nguồn lợi thủy sản								Giấy phép cho tàu hậu cần đánh bắt nguồn lợi thủy sản	Tổng cộng
		Nghề lưới kéo	Nghề lưới vây	Nghề lưới rê	Nghề câu (trừ nghề câu cá ngừ đại dương)	Nghề câu cá ngừ đại dương	Nghề chụp	Nghề lồng bẫy	Nghề khác		
1	Quảng Ninh	20	0	185	0	0	157	0	46	62	470
2	Hải Phòng	39	0	104	1	0	165	1	12	104	426
3	Thai Bình	151	0	48	0	0	4	1	0	30	234
4	Nam Định	35	27	485	0	0	11	7	18	4	587
5	Ninh Bình	0	0	23	0	0	0	0	27	0	50
6	Thanh Hóa	278	112	226	240	39	422	190	6	161	1.674
7	Nghệ An	293	204	210	4	0	658	0	3	13	1.385
8	Hà Tĩnh	24	25	9	50	0	10	2	25	1	146
9	Quảng Bình	14	129	176	244	0	442	7	5	26	1.043
10	Quảng Trị	0	103	147	12	0	8	0	130	0	400
11	TT Huế	4	120	106	55	0	8	0	19	109	421
12	Đà Nẵng	10	96	303	79	3	18	2	6	6	523
13	Quảng Nam	3	268	149	215	0	85	14	2	39	782
14	Quảng Ngãi	1.411	380	729	487	153	7	1	95	75	3.338
15	Bình Định	71	1.237	61	135	1.352	209	0	15	38	3.118
16	Phú Yên	26	81	81	5	250	4	0	3	1	451
17	Khánh Hòa	139	31	183	3	287	22	0	65	38	768
18	Ninh Thuận	38	316	92	90	0	2	0	28	20	586
19	Bình Thuận	460	340	134	464	0	70	197	11	158	1.834
20	BR-Vũng Tàu	1.536	250	440	308	2	44	161	0	139	2.880
21	TP Hồ Chí Minh	9	2	15	1	0	0	0	23	0	50
22	Tiền Giang	614	120	129	31	0	0	0	30	232	1.156
23	Bến Tre	1.725	177	55	44	0	0	0	129	156	2.286
24	Trà Vinh	93	0	86	1	0	0	0	35	50	265
25	Sóc Trăng	256	33	50	3	0	0	0	1	23	366
26	Bạc Liêu	213	0	208	10	0	0	0	0	54	485
27	Kiên Giang	2.830	258	411	90	0	0	6	51	414	4.060
28	Cà Mau	252	181	404	621	0	86	0	33	180	1.757
29	**Tổng cộng**	**10.544**	**4.493**	**5.250**	**3.193**	**2.086**	**2.435**	**589**	**818**	**2.133**	**31.541**

7. Strengthening education and awareness raising on combating IUU fishing for the whole society, especially for administrative management and enforcement agencies of 28 coastal provinces, enterprises and fishermen



8. INTERNATIONAL COOPERATION

- NON-MEMBER BUT COOPERATING PARTY OF WCPFC
- MEMBER OF REGIONAL PLAN OF ACTION (RPOA) ON IUU

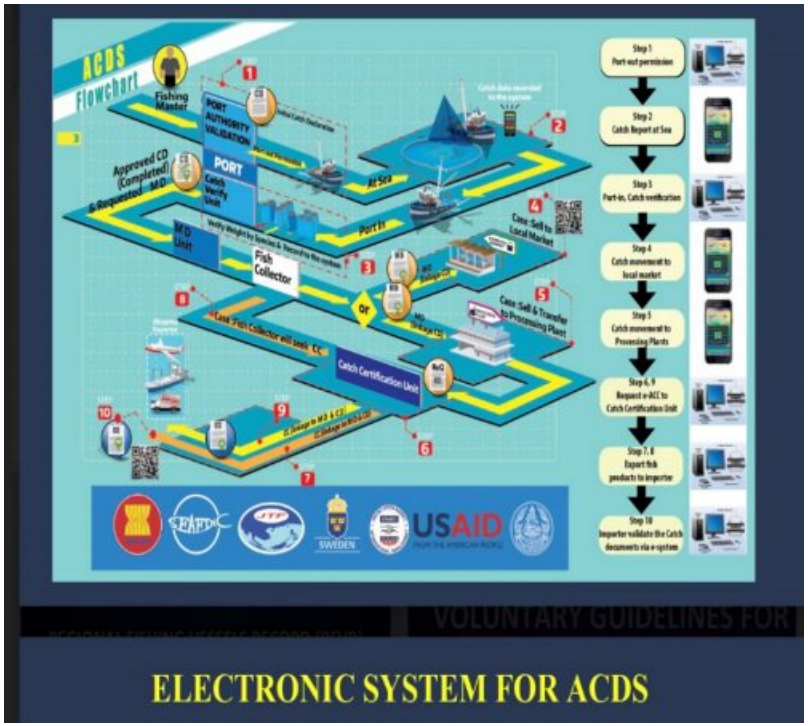


International Cooperation

- Signing MOUs on bilateral cooperation in fisheries sectors and maintaining annual meetings with the Philippines, Brunei, Cambodia and Thailand;
- **Signing the hotline with China, the Philippines**; MOU on Law Inforcement to fight against IUU with US; MOU on IUU with Australia; Declaration on IUU with Indonesia, MOU on IUU hotlines with Brunei.
- **Negotiating to sign hotline with Thailand, Cambodia, Malaysia, Indonesia, Papua New Guinea and Palau**

Actively participate in Multilateral Mechanism by adoption and implementation:

- Joint ASEAN -SEAFDEC Declaration on Cooperation to combat IUU
- ASEAN Catch Documentation Scheme (ACDS)
- Voluntary Guidelines for Catch Documentation Scheme
- Regional Fishing Vessels Record for 24 meters in length and over (RFVR)
- Regional cooperation on Port State Measures
- ASEAN guideline on preventing the entry of fish and fishery products from IUU fishing activities
- Asean Regional Plan of Action for the Management of Fishing Capacity



Challenges on IUU implementation (1)

- **MCS:**

- Disconnecting signal transmission of VMS, constantly losing signal transmission

- Papers based Port in/Port out control

- Lack of SOP, Software of risk assessment for managing and law enforcing fishing fleet

Challenges on IUU implementation (2)

- **Inforcement**

- **Difficulties** in collection of evidence and information about the violations in foreign waters,
- A number of IUU regulations are quite new and demanding, which requires the people to make certain investments, be trained and educated to understand the new regulations and be able to comply with them; meanwhile, the **awareness and literacy level** of quite a number of fishermen **is limited**, resulting in limitations in the use of modern equipment and in the compliance to the regulations
- The sanctions are too high while many people are living with very low incomes and in difficulties, resulting in difficulties in enforcement of the administrative sanctions

Request for Support and Cooperation

- PSMA implementation;
- Formulation and implementation of observer program;
- Establishment network for information dissemination and IUU vessels list, and law enforcement.

Thank you very much

Questionnaire for Workshop Participants

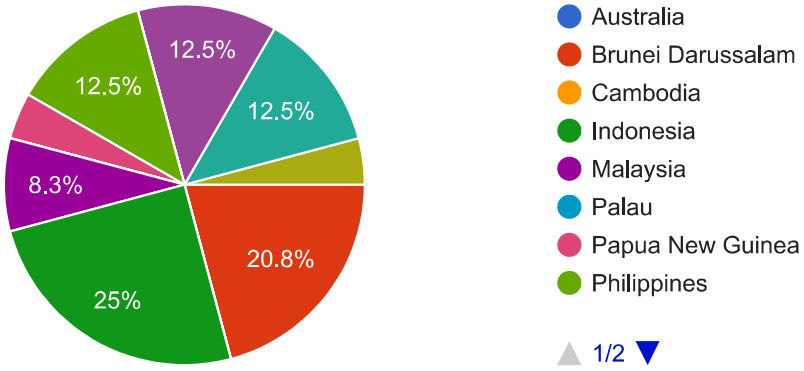
24 responses

Publish analytics

PART I: Personal Details

Country

24 responses



Full Name

24 responses

Kongpathai Saraphaivich

Crejay F. Lacena

Michael Andayog

Insan Budi Mulia

Yenny Maryani

Jaruwan Songphatkaew

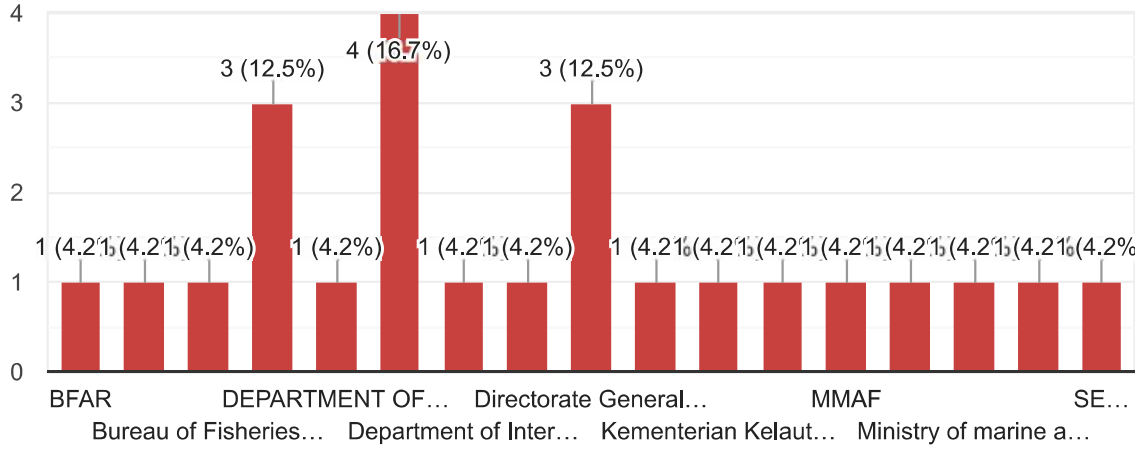
Sahono Budianto

Saiful Bahri

Sandra Victoria R. Arcamo

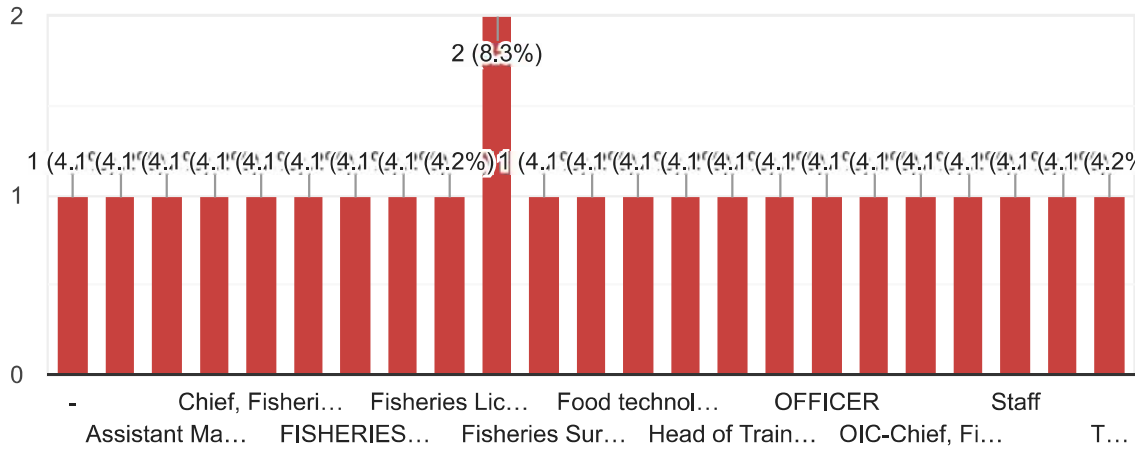
Institution

24 responses



Position/Designation

24 responses



Email

24 responses

kongpathai@seafdec.org

lacenacrejay@gmail.com

mikeandayog@gmail.com

insanskyline@gmail.com

yenny.maryani@kkp.go.id

conyakkee@gmail.com

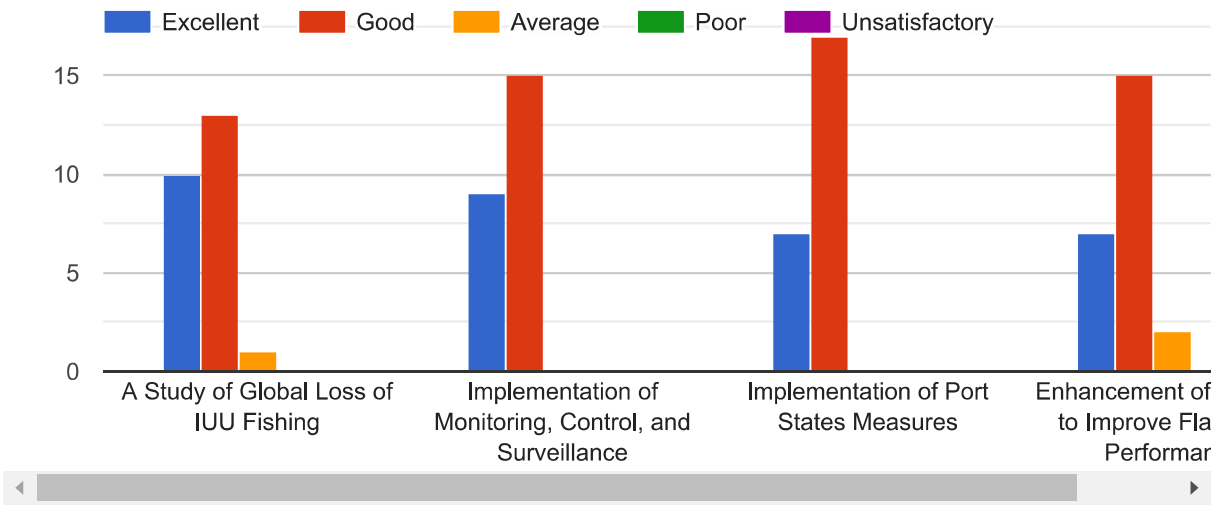
budiantosahono@kkp.go.id

saifulborneo75@gmail.com

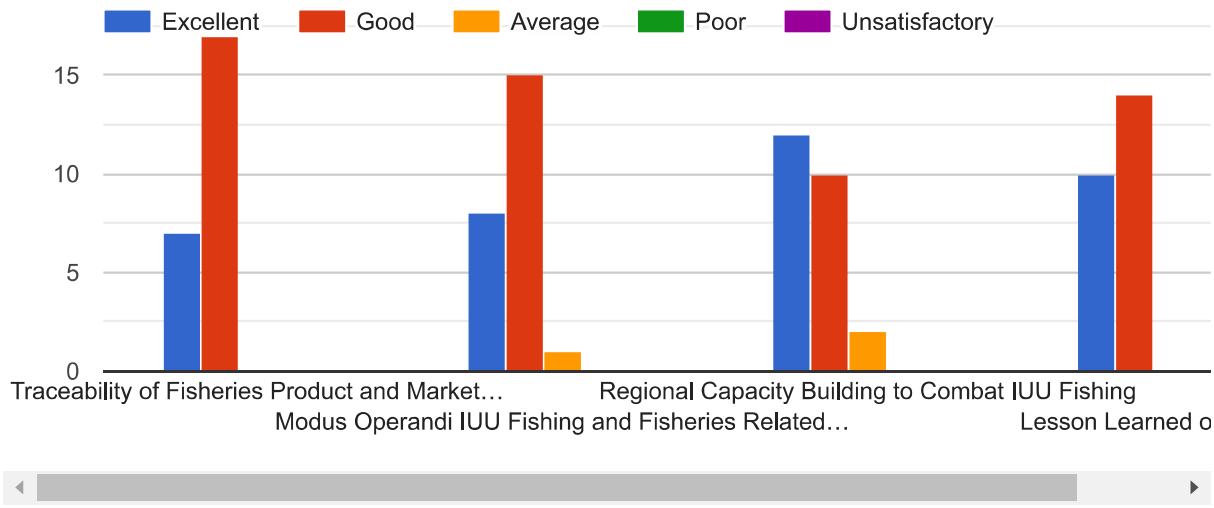
svrarcamo@bfar.da.gov.ph

PART II

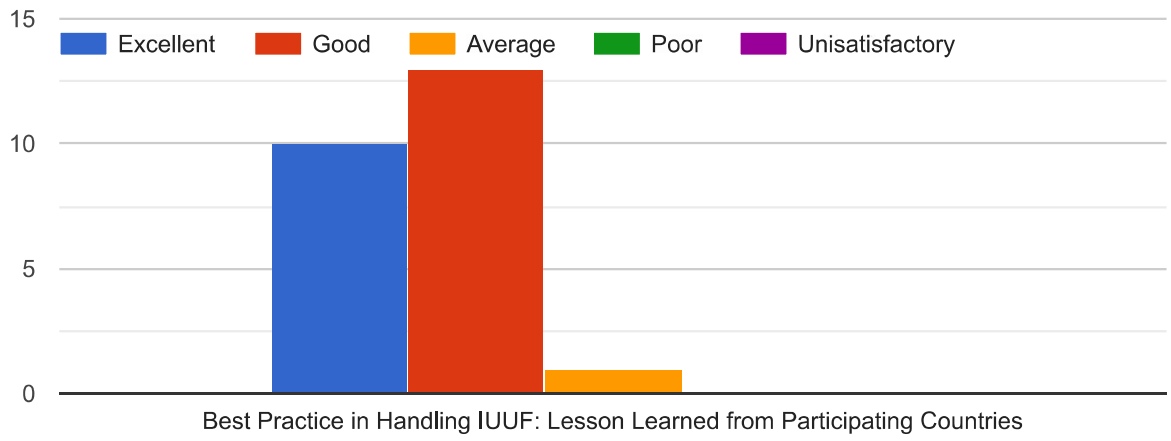
Day One:



Day Two:



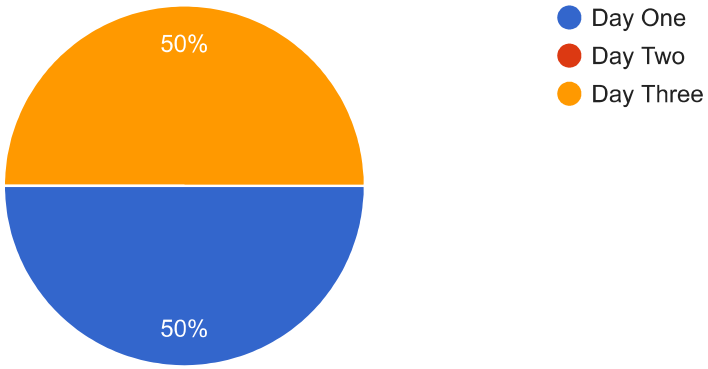
Day Three:



PART III

What was your favourite session?

24 responses



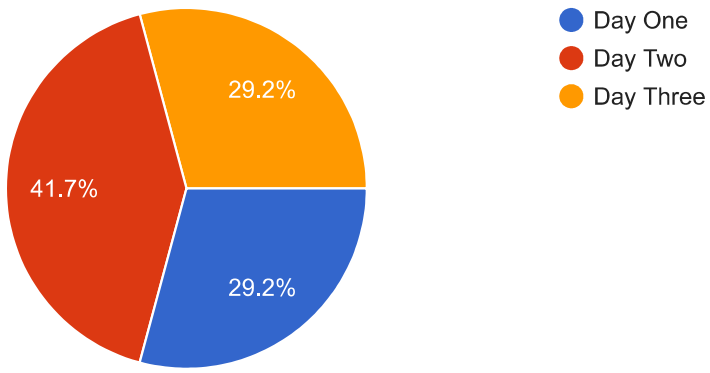
Why was the session your favourite?

22 responses

- update information from each country
- Interesting subject, informative and lively presentations from resource persons
- Indonesian participant presentation
- Terinformasikan bahwa terdapat ketidaktersediaan data terkait IUU Fishing sehingga sangat diperlukan kerjasama yang intensif antar negara, pertukaran data, untuk dapat menentukan kesepahaman langkah strategis yang akan diambil, mengatasi IUU Fishing.
- Implementation of Port States Measures
- Best practice sharing between participants increase active participatory during workshop and enrich information related the current condition of fisheries in the region.
- Because the presentation ia very good and comunicative

In which session did you find the amount of information LEAST useful?

24 responses



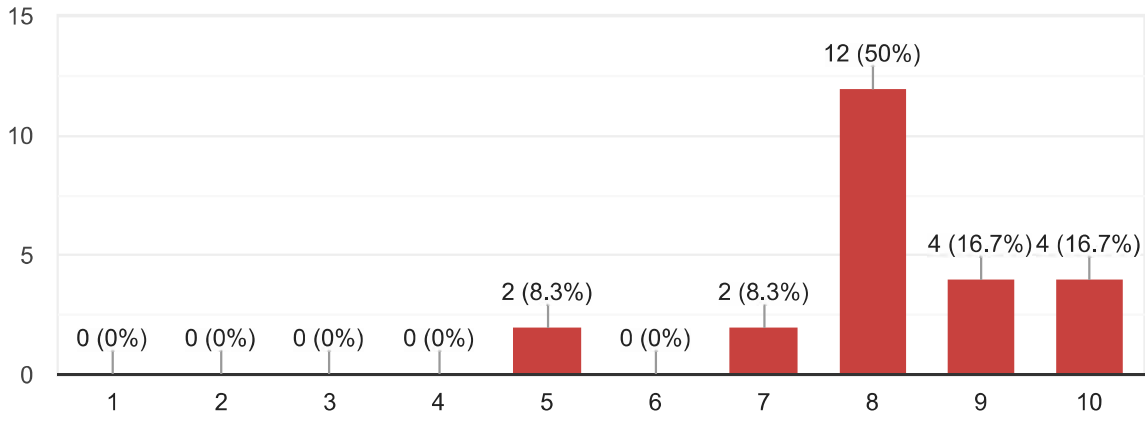
In your opinion, the session was least useful because ...

15 responses

- no further comment
- Some subjects are not relevant to the functions assigned to my office
- Langkah strategis untuk mengefektifkan upaya melawan IUU Fishing adalah good will tiap negara mengimplementasikan kesepahaman/ perjanjian bersama antar negara, didukung dengan kebijakan masing-masing negara.
- Information is very useful, but I just not so familiar with fishery crime.
- MCS implementation is a great part to protect fishery resources
- Because the presenter Topic ia not really completed than other days
- We have regular meetings and updates
- all information useful for country maybe it doing in long term, short team or just in paperwork for future

How well were the workshop's goals met?

24 responses



Most important thing you learned was ...

24 responses

no further comment

MCS tools

lesson learned and update of implementation to combat IUU fishing in each country

the modus operandi on IUUF and its related crimes

Cooperation is a key in combating IUU fishing

Knowing about how to trace fisheries pruduct, knowing about seafdec

Terdapat jaringan/ network kejahatan lainnya yang perlu diwaspadai di balik praktik IUU Fishing

Everything I learned is very important

MCS system

What information will be most useful for your work?

24 responses

monitoring, control and surveillance (MCS)

all information

the presentation on the modus operandi on IUUF

Enhancement of capacity to improve flag state responsibility

How to combat iuu fishing

MCS dapat dimanfaatkan se-efektif mungkin untuk melawan IUU Fishing

PSM implementation and cooperation to combat IUU fishing

MCS, PSMA, IUUF Modus Operandi

The potential of marine

How do you plan on utilising the knowledge obtained from the workshop?

24 responses

all knowledge will apply for my work plan and implementation in the near future

policy formulation

Review, improve and implement policy, guidelines relevant to issuance of fishing license to vessels and gears

I Will share this knowledge to my partner in my office

Diimplementasikan dalam kegiatan pengawasan SDK dengan melibatkan tenaga Polsus PWP3K pada daerah-daerah rawan IUU Fishing, antara lain Provinsi Sulawesi Selatan

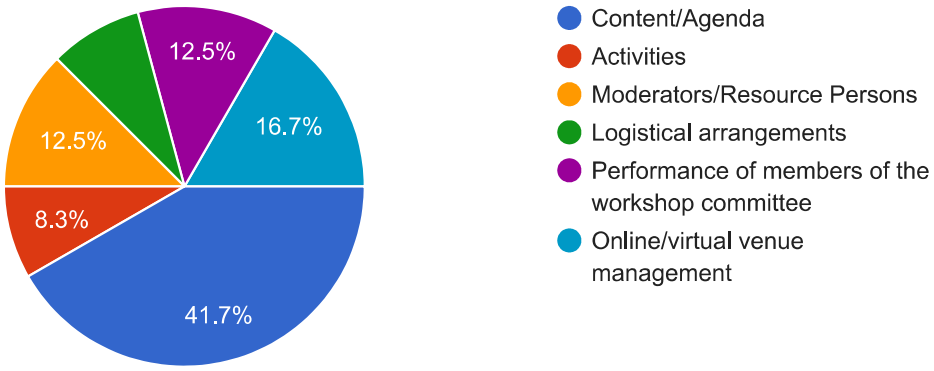
I can use knowledge with my job at DoF to the efficiency of combatting IUU fishing

As reference and guideline when create the policy

I think that I wouldn't have plan to obtained many workshop this time.

Which of the following workshop components would you rate highest?

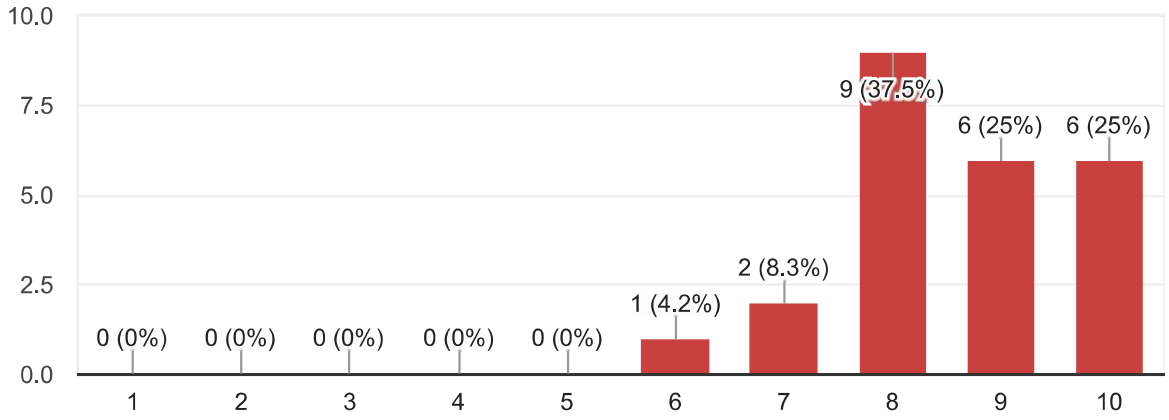
24 responses



PART IV

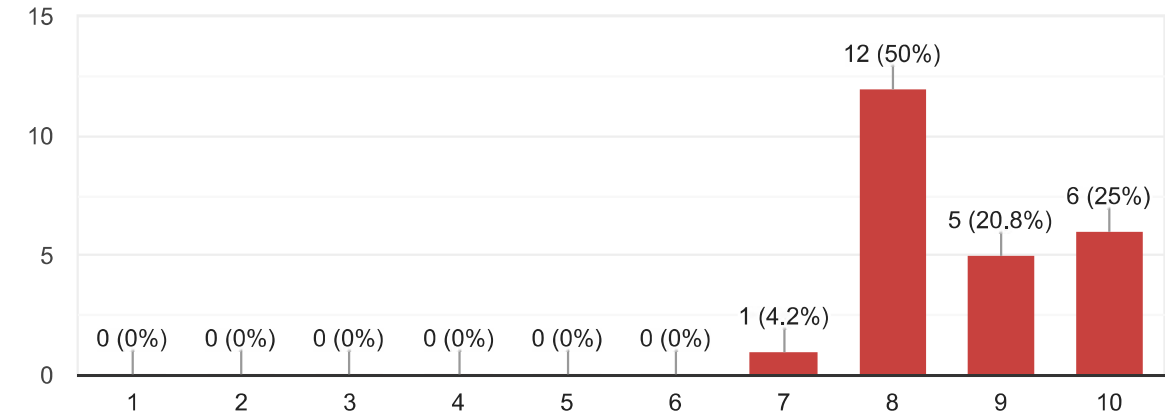
Were the members of the committee well-organised/coordinated?

24 responses



Was the knowledge of the moderators and resources persons sufficient?

24 responses



Let us know how we can improve this workshop by offering one or two practical suggestions:

14 responses

no further comment

.

If you want to organize this program in the future,please do not do it at the same time as working hours

Agar melibatkan pemangku kepentingan dari sisi industri, pemanfaat hasil perikanan

-

Improving participant to more active

Please makes more presentation with an attractive presentation slides so we can feeling enthusiast to follow the presentation next time

to make sure that presenter is eloquent with the topics

Other comments/suggestions:

12 responses

no further comment

Thank you for this opportunity to work and learn with each other

Jadwalkan secara berkala, sebagai salah satu upaya evaluasi atau mengingatkan kembali

-

Great workshop and please develop another workshop/capacity building on MCS/combat IUUF

Thak you for accompany me on this very well presentation for 3 days hope can attend in other well presentation like this.

we hope all country can break chain of pandemic covid-19 and we can workshop together (physical).

"Memerangi *IUU Fishing* dalam berbagai keadaan bukan hanya menjadi tanggung jawab satu negara, kerja sama antar negara merupakan aspek penting yang perlu dijaga dan diperkuat."

Sakti Wahyu Trenggono

"Combating IUU Fishing in various circumstances is not only the responsibility of one country. It is the cooperation between countries that is important in eradicating IUU fishing which needs to be maintained and strengthened."

BIRO HUBUNGAN MASYARAKAT DAN
KERJA SAMA LUAR NEGERI
KEMENTERIAN KELAUTAN DAN PERIKANAN

Jalan Medan Merdeka Timur No.16,
Gedung Mina Bahari I - Lantai 5,
Jakarta Pusat - Indonesia
Telp: 021-386 4293; Ext: 7433/7503
Fax: 021-352 4856; www.kkp.go.id

CONFERENCE REPORT

EPIC "THE ROLES OF ENGINEERING PHYSICS FOR SUSTAINABLE DEVELOPMENT GOALS" – ASTECHNOVA "INNOVATIONS FOR ENERGY SECURITY" 2021 INTERNATIONAL JOINT CONFERENCE

24th – 25th of August, 2021

Co-organised by Non-Aligned Movement Centre for South-South Technical Cooperation, Gadjah Mada University and Indonesian National Agency for Nuclear Energy

No. 223/NAMCSSTC/X/2021

Acknowledgements

This report is based on observation during international joint conference EPIC-ASTECHNOVA 2021 organised by the Universitas Gadjah Mada (UGM) in collaboration with the Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC) and Indonesia National Agency for Nuclear Energy from 24th to 25th of August, 2021.

The organising institutions held the conference to help bridge and accommodate the scope of research and development in the field of renewable energy. A large number of academics, scientists, engineers and worldwide professionals are involved in this conference, who were spreading their latest ideas and experiences through informative research on technological progress, to guarantee national and global energy security.

At the conference, attendees were present, with experts from Bangladesh, Belgium, Germany, Indonesia, Japan, Malaysia, South Korea, United Arab Emirates and the USA. The Conference has included a total of 197 participants from Bangladesh, Canada, Germany, India, Indonesia, Japan, Malaysia, Singapore, South Korea, Taiwan, Thailand and the USA.

In addressing energy security concerns the conference offered numerous new insights and technologies. This was in line with one of NAM CSSTC's aims, as regards affordable and clean energy, relating to Sustainable Development Goals (SDGs) 7. The NAM CSSTC is aware that for all nations, especially developing countries, inclusivity is important. In order to

guarantee energy security, nationally and globally, innovation and technical advancement are thus necessary.

As a result NAM CSSTC is responsible and committed to encouraging energy resource development and use responsibly to address issues related to unequal access to energy across the Member Countries. NAM CSSTC will also continue, through various partnerships, to improve Member Countries' national capacities and their collective self-reliance.

Pangersaning Gusti B.A. from NAM CSSTC has developed this report and thanked the institutions that organised the Conference. Please visit NAM CSSTC's website on csstc.org for more information about the organisation and activities.

Introduction

In this year, together with the 3rd Engineering Physics International Conference (EPIC) 2021 the 6th ASTECHNOVA International Energy Conference took place as a Joint International Conference, at which both conferences share the same virtual location and timetable. The ASTECHNOVA supports the subject of "Innovations for Energy Security," whereas the EPIC promotes "The Roles of Engineering Physics for Sustainable Development Goals".

The world lacks safe, low-carbon and cheap large-scale energy alternatives to fossil fuels. Energy problems that receive the most attention are industry, transportation and greenhouse gas emissions. Regarding the International Energy Agency (IEA), it shows that transportation is the largest energy consumer, more than industrial sector, in both developed and developing countries.

These issues necessitate a shift to a sustainable and low-carbon system in the transport sector. If the transition is not done effectively, however, the process could lead to new challenges, such as infrastructural unpreparedness, a technological lock-in, and a risk for future stranded assets.

The EPIC-ASTECHNOVA 2021 International Joint Conference, in which broad access to, including renewables and instruments, was held from 24th to 25th of August 2021 by Universitas Gadjah Mada, Non-Aligned Movement Centre for South-South Technical Cooperation and Indonesia's National Agency of Nuclear Energy.

The specific aims of the Conference are to:

a. Identify the problem and challenge caused by a fossil fuel shortage and to discuss emerging innovations in order to ensure sustainable international and national energy security;
b. Enhance the potential of research collaboration to meet energy security challenges;
c. Initiate and enhance cooperation between universities, industry and public institutions;
d. Provide for national and global researchers in engineering and nuclear engineering scientific gatherings;
e. Increase the scientific publication of researchers in national and global engineering; and
f. Provide students and younger generations with the opportunities to interact with engineering, physics, and nuclear engineering activists from various countries.

The conference was attended by national and international academics who presented their research to share their expertise in producing innovation to tackle energy security issues.

Discussion

Alternative Building

According to the sources of data, population increased 4-fold throughout the 20th century, the economy increased 20-fold, while energy consumption rose 40-fold. This reveals that the most significant increases have occurred in energy usage. It might potentially cause global competitiveness and future challenges, leading to shortages, worsening of climate change and security.

80% of the total population is predicted to reside in town by 2050 and will contribute significantly to greenhouse gas emissions (GHGs). In order to maintain average warming at 1-2 degrees Celsius, people need to reduce GHGs by 75% by 2050. Indeed, it is yet uncertain how we do that. A number of recommendations to reduce emissions of GHGs include: i) high-performance design; ii) renewable energies; and iii) renewable energy acquisition. It estimates that 50% of energy savings might be saved. Hopefully, the international community's aim to reduce carbon dioxide by 100 percent for buildings by 2030 could be achieved.

Topic presented by participants during the discussion session:

> *The notion that the solution is actually to use alternative building, but also to consider climate change, how can this be overcome?*
>
> *Answer:* The alternative building should depend on the location. Naturally, with rural areas, weather in the metropolitan areas would vary. Thus, the installation in alternative structures, such as the usage of AC or other, also needs to be modified to its location.

Selection of Materials for Green Construction

There are various impacts of climate change worldwide, especially tropical countries. The effect on tropical regions of the global climate change is at danger of significant heat wave increases. Heat risk adaptation methods will definitely lead to an increase in use of AC, an increase in energy consumption, and also an increase in GHG emissions. A plan is needed to develop thermally-adaptive living spaces in tropical climates with minimum costs.

In many Asian countries, such as Bangladesh, Indonesia, India, Malaysia, Mongolia, and Pakistan, there were significant studies and projects to build a sustainable environment.

There are a number of topics presented by participants during the discussion session:

1. *How much is a zero-energy building cost in comparison to traditional construction?*

   Answer: Sometimes costs may be lowered in some aspects. But it also depends on the construction's design and materials.

2. *Can a Smart House be used in various nations with diverse needs?*

   Answer: Yes, the design of the smart house should be adapted to the conditions and requirements of any country. It should certainly depend on a climate.

3. *Is there a better selection of materials for green construction, especially in dense population centres, with respect to green building building materials?*

   Answer: The principle of materials construction is really different. Some materials cannot be utilised anymore since many fuels are consumed. But this type of concept could be revised in the future.

Lessons Acquired from the United Arab Emirates Nuclear Strategy

From 2006 through 2020, nuclear power has increased. In April 2008 the United Arab Emirates (UAE) published a Policy on "The Evaluation and Potential Development of Peaceful Nuclear Energy". This policy is based on the most stringent safety, transparency and security criteria. The country becomes a global paradigm for the development of nuclear energy. Some lessons acquired from the UAE nuclear strategy are: i) strong backing from the government; ii) defined, long-term nuclear energy policy; iii) strong intergovernmental co-operation; and iv) high acceptance of the people.

At the universities of the UAE, notably the University of Sharjah, nuclear energy is also studied as a Nuclear Engineering Academic. It was established in 2012, and has 120 students registered under the Accreditation Board for Engineering and Technology (ABET)

accreditation and the UAE Education Ministry. The institution is actively engaged in research in international partnership to boost nuclear energy in the UAE.

The conclusion is that nuclear energy cannot be avoided in order to promote power in the UAE. For newbie countries the UAE model can be implemented to create the nuclear energy programme.

There are a number of topics presented by participants during the discussion session:

1. *How does the government persuade the people of nuclear energy?*
   Answer: The people of the UAE have a great trust in their government, which is the main aspect of building government-public relations.

2. *Is there an alternative energy plant that can be fused with nuclear power in today's nuclear processing to make it clean?*
   Answer: The key is how to make breaks even, but people still don't have a plasma temperature to get fusion. People are still advancing in this, and maybe fusion will be reliable in around fifty years. It could be the only option in the future to produce clean energy.

Korea's Commitment to Address the Issue of Climate Change

Korea has increased energy consumption and CO_2 emissions discharge. In addition, the energy needed to achieve economic progress is immense. Korea committed itself to a number of policies to address the issue of climate change, from November 2009 to December 2020.

The '2050 Carbon Neutral Strategy of Republic of Korea' strategy has been one of the most recent missions. In this regard, several municipal governments support various practical measures. This national strategy still faces numerous obstacles, such as technology, law, industry and others. Nevertheless, the government continues to work with industry and other sectors to achieve its objectives.

ASTECHNOVA Parallel Session 1: 24th of August, 2021

The main elements relating to new and renewable energy in this session are as follows:

a. The use of technology, especially with the use of solar and wind energy is greatly promoted;
b. Indonesia could focus on utilising technology from the sunray, since sun radiation is widely accessible in Indonesia. Solar could be combined with other technology, such as wind energy;
c. It is estimated that 100% renewable energy usage in the future is possible. We can maximize the energy sources found in various regions in Indonesia, such as installation of wind energy infrastructure located on the southern beach and also installation of giant photovoltaic in Nusa Tenggara. Through these sources, we can produce big source of energy and therefore we can supply our energy demand; and
d. A charcoal can be processed in special forms to create new, comparable energy sources to conventional.

EPIC Parallel Session 1: 24th of August, 2021

The main aspects connected to material science for this session are as follows:

a. Since the most commonly conducted activity is normal walking, researchers have been able to carry on a number of numerical analysis experiments on numeric implants using actual loads;
b. As an electrochemical material a long microrod VSB-5 has been hydrothermal processed successfully;
c. Despite its shortcoming, moulded salt synthesis, such as the high recombination rate of the electron-hole pair, was shown as a photocatalyst; and
d. Triethylamine is a modulator example that can influence the synthesis process by changing the coordination and the development of the crystals.

EPIC Parallel Session 2: 24th of August, 2021

The main aspects connected to materials science for this session are as follows:

a. The replacement of the plastic-based fibre with natural fibres is one of the solutions to reduce the use of plastic fibres;

b. ZnO as a promising material for the application of gas sensor can use its enhanced performance and ZnO-morphology to form the monolayer structure;
c. Advanced Oxidation process is one of the strategies used to reducing the amount of organic pollutants generated by liquid waste; and
d. In the efficiency of Dye Sensitized Solar Cells, titanium dioxide coating on the conductive glass surface plays a significant role.

EPIC Panel Session 1: 25th of August, 2021

Smart Sensors

A sensor is a device which senses quantity changes. Not only should the sensor include the detecting device, but also signal transmission and signal condition. Light, heat, movement, gas and pressure might be the particular quantity. Most of the today's sensors can be connected to the measurement, computation and recording electronic device. Sensors are therefore employed quickly in our lives. As sensor technology advances, it can provide better data to improve operations, efficiency and comprehension.

Industry 4.0 is a future project and part of a high-tech plan that businesses, scientists and decision-makers typically follow. It focused not only on meeting the economic but also on the particular environmental demands of green manufacturing processes. This industry involves transdisciplinary knowledge, which covers mechanical, electrical, scientific and all other artificial intelligence applications (AI). That is why we have to have sensor.

There are several issues mentioned by the participants during the discussion session:

1. *Is it possible for smart sensors to become commonplace and for the transmission process to be marketed?*

   Answer: It would be rather controversial to market, but, of course, there is a high probability that intelligent sensors are the 4.0 industry standard. Since it has many advantages, digital items will become a requirement. However, we must be very vigilant when it comes to digital. We must be smart about which technologies are genuinely important for certain sectors to adopt. Advanced technology will surely

bring a lot of benefits at the huge corporate level, but when it is still small to medium-sized, it seems that it is not working.

2. *How can we assure we are not hijacked by the sensor system we have used?*

   Answer: A high degree of security is the term for preventing it. Someone else can hide the sensor system in order to create a confusion or sabotage it. We need more than one sensor to anticipate it (multi sensors). We can even employ several sensors to measure the same identical item. This allows it to be backed up with other sensors if one of the sensors is problematic.

Fukushima Innovation Coast Framework

The Japanese government has a national programme for the establishment of a new industrial base to reclaim lost industries in the Fukushima coastal area to prevent tsunami and earthquake attacks in Japan, particularly in Fukushima. The initiative "Fukushima Innovation Coast Framework." Japanese academics also build Tokyo Tech "Revitalizics" for Fukushima local area reconstruction and recovery from nuclear disaster that also linked with SDGs point.

Japan will be able to do something towards SDGs every day from now on in the Fukushima area. Renewable energy is something. One of these is the revolutionary Night-time solar heat storage system with a stream generator (CL-CSP). Secondly, there is a daytime novel PV generation system (CRO).

Electric power generation has a large number of sunlight and concentration systems that play a key role in the Cross Linear Concentration System Process (CL-CSP). Even during winter season, CL-CSP has a great concentration efficiency. Meanwhile revolutionary "photovoltaic" power production method is the 'cross-over sun tracking solar system.' The PV generation follows the location of the sun and rotates for high energy.

Structural Health Monitoring

Structural health monitoring benefits in certain ways include ensuring integrity and safety, detection of damage development and prediction of the closure of infrastructure repair. Furthermore, it prevents fatalities and injuries, function loss and the unplanned closure, releases

of inflammable or dangerous gases, causes the petrol tankers to sink into big oil deposits and contributes to financial losses.

Acoustic emission (AE) testing is a non-destructive technique that identifies and monitors the discharge from localised sources of ultrasonic stress waves if a material is stress-deformed. Example AE application is for examination without opening and cleaning of tank floor. Tank floor inspection can also be used for valve leak detection.

The application of AE technologies in structural surveillance can reduce inspection time, but appropriate information of acoustic waves must be available from the AE operator. Due to noise from the surroundings as rain or high gusts, misinterpretations may arise in some circumstances. Apart from the cost of expensive equipment, adequate training should be given.

EPIC Panel Session 2: 25th of August, 2021

Nanomaterial Technologies for Tribo-Electric Nano Generator

Water without chemicals is the hydrophobicity of 2D materials on an insoluble material. On the other hand, water is cheap and clean universal solvent. Consequently, 2D materials without environmental degradation may be created in big volumes at low cost.

MoS2 peaks can be seen during the sonification process by XPS analysis. During the sonication process, oxidation may also occur. Oxidation and functioning of MoS2 have occurred following water dispersion.

Water molecules and hydroxyl groups are absorbed during the dispersion of MoS2 in pure water. MoO3 is also manufactured. Hydroxyl groups and MoO3 vanish after the annealing process. MoS2 is water-dispersed and displays improved functionality. The functionality with oxygen-based groups and MoO3 is credited. Tribo-Electric Nano Generator (TENG) can be improved with water-dispersed MoS2. In the context of sustainable and economical mass production it shows potential for TENG application.

There are several issues mentioned by the participants during the discussion session:

1. *How much energy can be created by using TENG in the renewable energy system?*

Answer: It is difficult to say because it depends on the amount of target we are using. We may compare the growth of power with electrons in our test and the outcome is 4 times more.

2. *Can you forecast the implementation of this notion of renewables in real-life industries?*
   Answer: This is somewhat difficult since a lot of the rare elements that the agency or firm in question needs to obtain. But perhaps an alternative could be considered in future TENG water production.

Ultrafast Lasers

The term 'laser' means Light Amplification by Stimulated Emission of Radiation. A laser is regarded a coherent, optical amplification light-emitting device, one of the varieties is ultra-fast laser. Ultrafast lasers have a small shock wave and so flawless nanostructures can be made without hurting the surroundings in many materials. Ultrafast lasers have significant promise in a dynamic scientific and technological field. The ultra-fast application is very economical for the industry.

Metal Organic Frameworks (MOFs)

The biosensors consist of displays, microcontrollers, amplifiers, biomaterials and transductors. By manipulating MOFs, we cause defects on their surfaces, which open active sites, change the surface and boost catalytic activity.

An example of MOF application is the MOF-based detection of the hepatitis B virus. Hepatitis B is an extremely severe liver and cancer illness. The technique aims to regulate the Cu-MOF nano sphere with amino functional ligand as a platform of biosensing for the detection of antigen surface of Hepatitis B. The usage of dengue fever employing triethanolamine control Cu-MOF morphology for Dengue Virus Serotype 3 (DENV-3) is another example of utilisation of MOFs.

To conclude, MOFs are highly capable of directly being used as a sensitive biosensor material. Its physicochemical features include morphology determine the performance of MOFs itself. The modular use such as TEA, TEOA and PVP is possible to modify MOF morphology.

There are several issues mentioned by the participants during the discussion session:

1. *What is the Cu-BDC selected for HBsAG in antigen hepatitis or DENV3? How do someone choose an appropriate MOF for any particular sensing application?*

   Answer: Because the MOFs have metals and certain metal data are regarded to be used, we are therefore using MOFs. However, numerous kinds of metal can actually be used. We follow the existing facts and assess the advantages and downsides. We know that MOFs has a large surface, so it has greater in sensing too.
2. *How is it possible for MOFs to be used for COVID-19?*

   Answer: In fact, we tried to use three electrochemical sensor approaches for COVID-19. This COVID-19 virus does, however, have a problem with its speed. Sometimes compared with other academics or researchers with significantly greater resources, we have difficulties keeping up with the speed. We actually have good results, but we have to be able to perfect the system we employ for pretty considerable period.

Transition to Green Energy

Germany has an energy transition target which began, step by step, with the goals being 50 percent less primary energy use, and closure of the final nuclear power plants, commencing in 2020 and schedule to end in 2050. Weather-based, expensive storage and delivery of concentration sources in Northern Germany, but consumption in Southern Germany, present the obstacles of using green power in Germany. Digitalisation for energy transition is one of the approaches needed now in Germany to tackle these issues.

Demand response is a shift in energy consumption by end users in reaction to changes in electricity prices over time or in incentives paid to lead to a lower consumption of electricity. The aim of the reaction to demand is to move peak demand to the peak period of renewable energy availability, i.e. energy waste reduction.

This topic concerns numerous aspects from the SDG: i) Affordable and Clean Energy (SDG 7); ii) Responsible Consumption and Production (SDG 12); and iii) Climate Action (SDG 13).

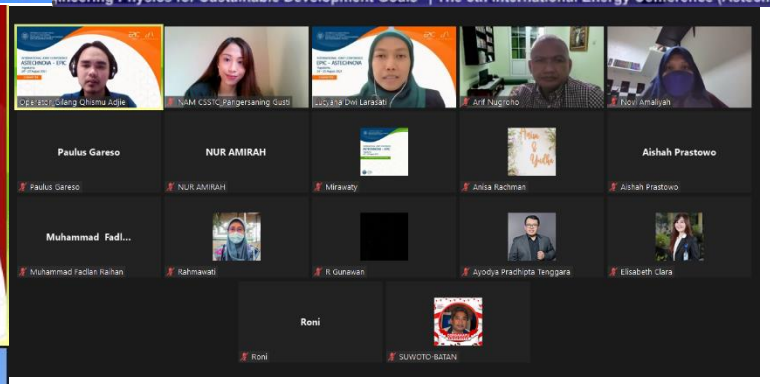
EPIC Parallel Session 2: 25th of August, 2021

The essential aspects connected to material science for this session are:

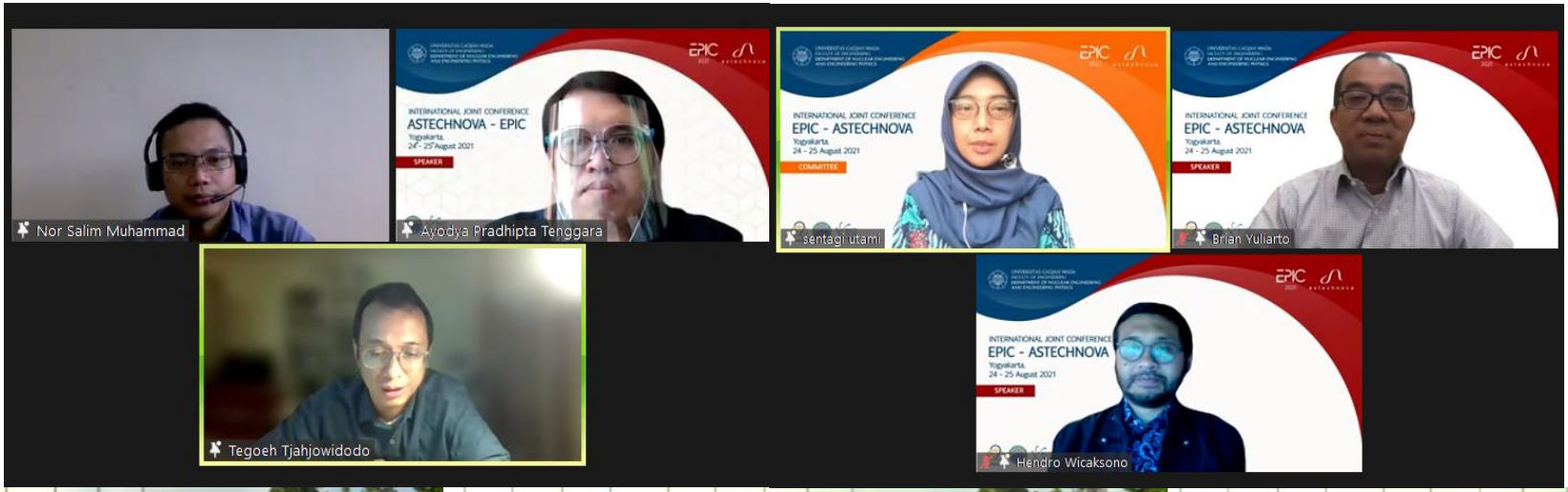
a. The potential of a Fe2O3-LaFeO3-La2O2 to be utilised as a material gas sensor, especially for ethanol gases;
b. Development of biodegradable and biocompatible products as a material is very important for reduction of environmental pollution; and
c. The adsorption approach is utilised to alleviate environmental contamination produced by waste dyes and the mesoporous surfactant MCM-48 is promising for application as a dye absorber.

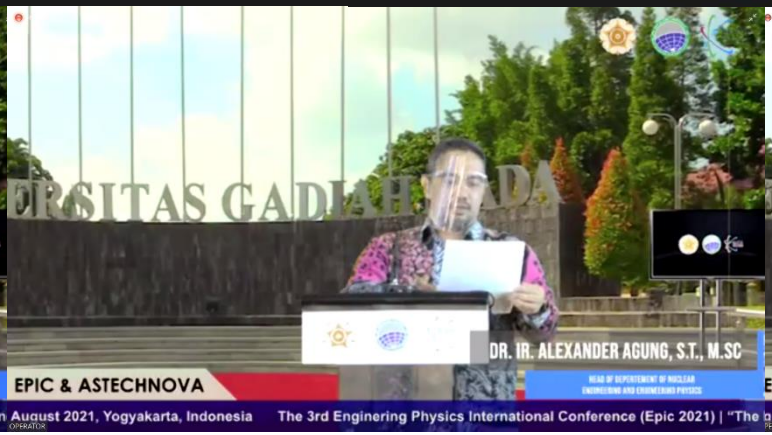
PHOTO DOCUMENTATION

Day 1: 24th of August, 2021



Day 2: 25th of August, 2021





No.:189/NAMCSSTC/IX/2021
Date: 13th of September, 2021

Programme Activity Report: Online Training Course on Principals and Applications of Integrated Pest and Disease Management for African, Caribbean and Latin American Countries on 25th to 27th of August and 31st of August to 2nd of September, 2021

List of Trainers/Facilitators (*alphabetically sorted*):

Dewi Melani, S.Si, MP

Mrs. Dewi Melani has four years of experience providing training on integrated pest and disease management, sustainable agriculture, and farming entomology. She holds a BA in Biology and Master's Degree in Crop Sciences/Plant Protection. She is now teaching at the Indonesian Centre for Agricultural Training of Ketindan, Ministry of Agriculture Republic of Indonesia. She is trained to cultivate soybeans and train of trainers. She published scientific journals and books on bio-pesticides, farm entomology, pest and disease management and agricultural ecology.

Dr. Juniawan, S.P., M.Si.

Dr. Juniawan has been a staff of the Ministry of Agriculture Republic of Indonesia for more than 30 years. He holds a bachelor's degree in agriculture, a master's degree in dryland agricultural systems and a PhD in plant pest and disease. He is now teaching at the Indonesian Centre for Agricultural Training of Ketindan. He has published scientific papers on cloves leaf oils inhibition testing, biological fertilizer testing and fruit fly dynamics in horticultural areas.

Lutfi Tri Andriani, SP., MP.

Mrs. Lutfi Tri Andriani has 11 years of experience providing training on sustainable agriculture, plant disease, plant pathology, integrated pest and disease management agroecosystem. She holds a Master's Degree in Plant Sciences. She is now teaching at the Indonesian Centre for Agriculture Republic of Indonesia. She published scientific journals and books on ecological control of plant pest organisms and usage of plant growth promoting bacteria.

List of Countries (*alphabetically sorted*):

No	Country	Number of Person(s)
1	Barbados	2
2	Belize	5
3	Burundi	3
4	Colombia	4
5	Costa Rica	3
6	Ecuador	2
7	Ethiopia	1
8	Guatemala	4
9	Madagascar	4
10	Malawi	1
11	Mauritius	4
12	Panama	3
13	Rwanda	6
14	Senegal	1
15	South Africa	1
16	Suriname	8
17	Tanzania and Zanzibar	1
	Total	53

Distribution of Participants' Background

No	Background	Percentage
1.	Government	56.61%
2.	Higher education institution	16.98%
3.	Private sector	26.41%

Programme Activity Report

Online Training Course on Principals and Applications of Integrated Pest and Disease Management for African, Caribbean and Latin American Countries on 25th to 27th of August and 31st of August to 2nd of September, 2021

Background

The global population demands that the farmers grow more crops on current agricultural area. For farming returns to increase, agricultural technology needs to be constantly improved to minimise crop losses and to safeguard the environment. The method to overcome these issues is Integrated Pest Management (IPM). IPM means taking into account all existing strategies of pest control and other measures to discourage the growth of pests, while minimize the harm to health and the environment. This is crucial to the agriculture industry's long-term future.

To this end, a "Online Training Course on Principals and Applications of Integrated Pest and Disease Management for African, Caribbean and Latin American Countries" was organised by the Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC), in collaboration with the Ministry of Foreign Affairs and the Ministry of Agriculture of the Republic of Indonesia. The course was split into regional lots. The training for Africa was conducted from 25th-27th of August, 2021 and for Caribbean and Latin American Countries from 31st of August to 2nd of September, 2021.

A variety of digital approaches, including e-learning and video resources, have been employed for training purposes to generate interactive engagement between trainers and participants. A wide variety of government, academia, business sector and other institutions were trained, from Barbados, Belize, Burundi, Colombia, Costa Rica, Ecuador, Ethiopia, Guatemala, Madagascar, Malawi Mauritius, Panama, Rwanda, Senegal, South Africa, Suriname and Tanzania and Zanzibar.

Furthermore, it increased participants' knowledge on: i) the urgent nature of agroecosystem ecology as the basic element of integrated pest management; ii) tactics and methods of control of IPM; and iii) the use and prevention of pest and disease by botanical pesticide.

Discussion

Soil Testing

Integrated Pest Management (IPM) is to carefully analyse all available approaches for pest control and to integrate the suitable measures to hinder the growth of pest populations and other measures. IPM stresses the growth of a healthy crop that disrupts agroecosystems as little as possible and promotes natural pest management.

The basic components of IPM are: i) the prevention of pests; ii) the monitoring of pests and mechanisms for naturally occurring control; and iii) intervention, when methods of control are required. Farmer is therefore the major decision-maker in the implementation of IPM strategies. Ecological pest management can be employed to strengthen the resistance of pest and plant diseases in two methods, namely below ground and above ground.

Compost addition and beneficial microbial (such as mycorrhizas and *trichoderma sp.*) are employed as a soil test for the underground applications, but for overground applications plant diversity and natural enemies (such as refugia) are used. IPM is economically viable and sustainable based on the environment.

The participants from Madagascar and Ethiopia delivered questions during the discussion about any alternative way for measuring soil's nutrition as soil testing and vermicomposting do not exist in their countries. Any compost freely available in every country can still be utilised as an alternative to feed the soil. The android application produced by Bumi Aji (www.BumiAji.co.id) for soil testing can be utilised, but can only be used for the particular farm. One of the Mauritius participants also questioned about controlling the fight against fruit pests. Apart from using a trapped pheromone plant, a methyl eugenol-containing botanical pesticide is also employed in order to prevent the fly attack. Methyl eugenol from the basil and *carica* papaya plants can be isolated.

Colombian participants asked about additional materials to replace fish paste for pest management. Dried fish can be replaced as resources that can be obtained more easily in American countries. Surinam participants also explored the usage of mycorrhizae in field plants that have been recently transplanted. Before using on newly transplanted plants, *mycorrhizaes* are plucked into plant roots with the addition of water.

Employment of Botanical Pesticides

IPM aims to employ all the required techniques and tactics to manage populations below economically detrimental levels and prevent bad effects on the environment, humans and wildlife. The many control strategies employed in IPM are cultural, physical, biological and chemical.

The method of cultural control is preventive measures which use agricultural practices to limit the number of pests. Physical methods of control include strategies to limit the access of pests to the croup through attack and destruction of pests. The employment of living organisms to lower the populations of pests is a bio-control strategy, often known as natural enemies. Decisions on control strategies are applied based on the type of pest and disease attacking the crop.

Botanical pesticides are organic plant pesticides, sometimes termed secondary metabolites. The attractiveness of synthetic chemical pesticides for pest management has long been reported as botanical pesticides offer little danger to the environment and human health. Many plants can be employed under two conditions for the botanical pesticides, the plant needs a bitter taste and a strong smell.

In the discussion, it is well known to be botanical pesticides for a portion of papaya (seed and leaf). It can be produced with a ratio of 1:4, 1 with plant material and 4 with water. In addition, secondary plant metabolite is covered as well. The is already a secondary metabolite in the plant, but not on all the plants. The secondary metabolite cannot therefore adequately defend the plant from pests and diseases.

Participants questioned about the biological management of potato disease bacteria. Potato diseases typically occur in soil, so a healthy soil is necessary. Participants can add some natural enemies such as pathogens to the soil to control the disease in the soil. The *piparaceae* family plant can be utilised in potato disease for the control of microorganisms. In addition, participants questioned the stage growth of pesticide application plants. The applications must be made at the early stage of the plant as a botanical pesticide is used for prevention. In three stages, which are five days after plant, 20 days after plant and 30 days after plant, the botanical pesticide is applied.

Effectiveness of the Application of Botanical Pesticides

Many forms of diseases harm crops, depending on the plant type. Each of the symptoms and causes are different. Therefore, each disease should also be treated accordingly.

Several therapy approaches, such as pharmacologic control, biological control and physical control, are available. The application of botanical pesticide is one of the recommended therapies. The use of the botanical pesticide relies, however, on the pest and disease that are eliminated. Six things must be taken into account for the effectiveness of the application of botanical pesticides in preventing pests: i) the proper target; ii) the right quality; iii) the right type of pesticide; iv) the right timing; v) right dose and concentration; and vi) right way to application. The problem of pests and diseases can be resolved.

It is recognised in the discussion that eugenol compounds are utilised as a control mechanism to prevent the bacterial and fungal growth in the plant. Antibiotics are no longer required to control the wilt of bacteria. Eugenol chemicals are composed of several plant types, in particular plants belonging to the *eugenia* and *syzygium* genus. It is also known that a pathogen is able to live on many different plant kinds, hence it is impossible to locate a truly pathogen-free plant. The various ways used to treat the pathogen are sterilisation, injection, infusion, spraying and botanical pesticides.

Evaluation

At the end of the event, the organisers conducted a survey with 48 random participants. The results of the survey are the following:

- 90% of respondents said the topic and the content of training comply with participant's country policies;
- 92% of respondents said the contents were relevant to participant country's development;
- 92% of respondents said the training contributed to their education, professional and personal growth;
- 75% of respondents said the agenda was clearly specified;
- 76% of respondents said the contents were well arranged and easy to follow;
- 92% of respondents said the activities related to the goals of training;
- 93% of respondents said the training enhance participant's knowledge;
- 95% of respondents said the training kept them engaged and interested;
- 91% of respondents said the topic and the training materials of training made them satisfied;
- 92% of respondents said the trainers were familiar with the topics of training;
- 91% of respondents said the trainers were well-prepared;
- 89% of respondents said the capacity of lecturers to discuss and answer question made them satisfied;
- 85% of respondents said the English proficiency of lecturers was enough;
- 88% of respondents said the training time allocation was enough;
- 91% of respondents said the training personnel provided adequate support with programme changes (such as schedule and Learning Management System/LMS); and
- 74% of respondents said the management of the Zoom Meeting was convenient.

Based on the above results, 88% respondents found that the training was very impressive.

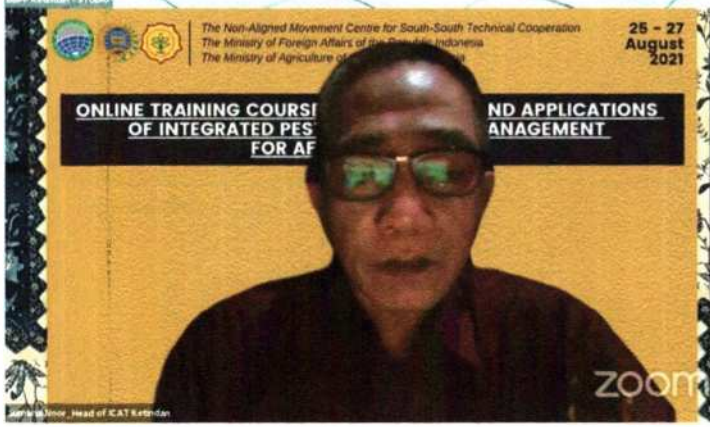
Conclusion

The organisers make the following findings throughout the training organisation:

- Knowledge has been gained by participants on environmental IPDM, integrated pest and disease control strategies, and plant and horticultural diseases.
- The participants also learnt to produce and process various fertilisers while maintaining the environment.
- IPM methods are based on the type of pests and diseases to be removed. For students and farmers, most of the approaches discussed throughout the programme are easy to apply.
- Acquired know-how enables participants with researchers and farmers and local communities to establish an effective integrated pest control programme.
- This training takes the last option of chemical pest control and supports the use of IPDM for safety of the consumer of agricultural products, beneficial organisms and the environment.

PHOTO DOCUMENTATION

African countries (25th to 27th of August, 2021)



American countries (31st of August to 2nd of September, 2021)

No.: 233/NAMCSSTC/X/2021

Date: 21st of October, 2021

Programme Activity Report: Online Training Course on Hydroponics for African, Caribbean and Latin American Countries on 24th of September to 4th of October, 2021

List of Trainers/Facilitators (*alphabetically sorted*):

Abd. Rohim, S.P., M.P.

Abd. Rohim has received several training sessions on the field of quality management system for training facilities and seeding. He is an Associate Expert Lecture at the Ministry of Agriculture of the Republic of Indonesia (MoA)'s Indonesian Centre Agricultural Training-Lembang. In various international activities, he has been an international speaker for the training of farmer's trainers, for the tissue cultural training, for the workshop on added value and the dispatch of experts to the Philippines, Taiwan and Uzbekistan.

Fiadini Putri, M.Sc.

Fiadini Putri has more than ten years' experience in training and teaching human resources working in agriculture. She is an agronomist and horticultural specialist. She has extensive professional experience in horticulture, global trends, research, inorganic nutrients and secondary metabolites of plants. She trains in acclimatisation as part of tissue culture technology.

Sani Hanifah, SP., MP.

Sani Hanifah has over 15 years of experience in training and teaching agricultural human resources. She is an agronomist. She has extensive professional experience in horticulture and tissue culture. As part of tissue culture technology, she trains in tissue culture media.

List of Countries (*alphabetically sorted*):

No	Country	Number of Person(s)
1.	Belize	6
2.	Burundi	4
3.	Colombia	4
4.	Costa Rica	1
5.	Ecuador	2
6.	Gambia	2
7.	Guatemala	4
8.	Guyana	1
9.	Kenya	4
10.	Madagascar	8
11.	Mauritius	3
12.	Nigeria	1
13.	Panama	10
14.	Rwanda	11
15.	Senegal	1
16.	Suriname	4
17.	Tanzania and Zanzibar	1
	Total	67

Distribution of Participants' Background

No	Background	Percentage
1.	Government	55.22%
2.	Higher education institution	17.91%
3.	Private sector	26.87%

Programme Activity Report

Online Training Course on Hydroponics for African, Caribbean and Latin American Countries

24th of September to 4th of October, 2021

Background

Hydroponics is a technology often employed in the cultivation of soilless plants, stressing the need to cater to plant nutrition. It is frequently used to support big farming systems and to give significant environmental, economic and social relevance. The agriculture of the future is now seen as hydroponics. However, it is not easy to manage most hydroponics.

As a result, a virtual training programme entitled "Online Training Course on Hydroponics for African, Caribbean and Latin American Countries" was organised by the Non-Aligned Movement Centre for South-South Technical Cooperation and the Ministry of Foreign Affairs in cooperation with the Ministry of Agriculture of the Republic of Indonesia. The training is separated into two regional batches given the time zone difference. The trainings took place, for Africa, 27th to 28th of September, 2021; for Caribbean and Latin American countries from 29th to 30th of September, 2021.

The courses focused on management and maintenance of hydroponics. Experts from the ICAT in Lembang were present for the virtual training session to offer training materials and to discuss the Q&A session with participants. Besides actual engagement with trainers, e-learning and video resources had been used.

Many government officers, academics and private sectors from Belize, Burundi, Colombia, Costa Rica, Ecuador, Gambia, Guatemala, Guyana, Kenya, Madagascar, Mauritius, Nigeria, Panama, Rwanda, Senegal, Suriname, Tanzania and Zanzibar received training.

On topics such as: i) the installation of hydroponic system; ii) the nutrition for hydroponic plants; iii) seedling of hydroponic plants; and iv) hydroponic planting and maintenance the key areas for discussion were improved understanding and experience.

Discussion

Hydroponic Systems

The plant type to be cultivated shall dictate hydroponic installation. Various systems may be utilised for hydroponic systems, i.e.: 1) wick system; 2) deep flow technique (DFT) system; 3) nutrient film technique (NFT) system; 4) aeroponic system; and 5) drip irrigation system. Each system has its own strengths and weaknesses and must thus be adapted to the context and conditions when selecting hydroponic systems.

Wick system is a hydroponic system that distributes a nutrient solution to plants using a wick with capillary system. DFT system is a hydroponic system that places roots in a circulating nutrient solution with a depth of about 4 cm, while NFT system is technique by flowing and circulating nutrient solution to the roots of the plant. Drip irrigation system is a technique that provides a supply of nutrient solution droplets to the roots of the plant at a very low speed (2-20 litres per hour). Aeroponic is a hydroponic system that provides a supply of nutrient solution to the hanging parts of the plant roots without planting media by misting. Of the various hydroponic systems, wick system is the simplest and does not require electrical energy, but it is prone to making plants underdeveloped because the root does not get oxygen intake. Regarding the optimal use of water and nutrients, drip irrigation system is more efficient. Meanwhile, in order to minimize pest and disease attacks, the suitable hydroponic installation to be applied is the aeroponic system.

One of the participants in the discussion from Gambia wondered whether a hydroponic system may be implemented in the open space. The expert says that hydroponic technology may also be used in open areas, but must take into account plant humidity, temperature and type. The drip irrigation system is recommended. However, it will be more efficient to put the hydroponic plants in the greenhouse in conjunction with plant and disease care and any other considerations.

Other Belize participants asked about the hydroponics advantages over traditional farming. The hydroponic system is known to be better than conventional farming since fertilizer concentrations can be measured. In the control of plant pests and diseases, the hydroponic system is also better.

Nutritional Mechanisms

Hydroponic has various benefits and it can up to 3-10 times enhance productivity. It needs 20 times less water and less pesticide than soil-based farming. However, certain hydroponics are not cheap and require continuous surveillance. The development of a hydroponic garden requires technical competence, for the plant death occurs quickly if the system fails.

Hydroponic nutrient solution has the same function as soil fertilizers. Adequate concentration of all nutrients throughout the life cycle of the crop is the key to the successful management of the fertiliser programme. Electrical conductivity (EC) and hydrogen potential (pH) are two things which strongly affect hydroponics. Hydroponic plants need certain parameters for critical nutrients. First, without the plant the lifecycle cannot be completed. Secondly, the function of the elements cannot be substituted for another. Finally, the element participates in the growth and reproduction of the plant directly.

In addition, hydroponic nutrients, namely macro and micro nutrients, are categorised into two main components. In order to achieve best results, the composition of nutrients is needed for the hydroponics system.

It is well recognised in the discussion that the pH and EC of the nutrition solution must be regularly monitored. From the beginning of planting to harvest the nutrient solution volume must be maintained.

In response to Kenyan question about the management of aquaponic pests and diseases, drawing on the experience of ICAT, the pH balance is critical in aquaponic plants, fish and bacteria.

Additionally, in response to the Burundi participants who was interested in antagonistic nutritional mechanisms, antagonistic nutrient is a plant-not absorbing component if other components, such as salt and potassium, exist.

Consideration in Cultivating Plant Hydroponically

Seedling, transplantation, cultivation and harvesting are the hydroponic cultivation process. Before plants are cultivated hydroponically, several things must be considered: 1) plants according to geographical conditions; 2) climatic conditions; 3) plants with economic value; and 4) selection of quality seeds.

Seed selection is the first thing to perform in hydroponic cultivation. Good seed quality is vital to optimum production. Seeds of good grade look lively, fresh and nice physically. The age of the plant to be cultivated must also be taken into consideration. E.g. lettuce, and *pakchoy* seeds should be seeded for 14-21 days, while chilli and tomato for 21-30 days. Hydroponics media also play a significant role in the process of plant growth. The medium needs a loose, fertile structure and water can be absorbed well.

The medium should also be able to store water content in order for plants to obtain sufficient nutrients from the water content stored in the media. In addition, the process of harvesting should be gently carried out. The harvest season of each plant must therefore be varied according to plant type. In order to limit the risk of wilting and harm to plants, harvesting at night is recommended.

In response to the one of the Nigerian participants question about a specific, fruit and vegetable hydroponic system, NFT, DFT and wick system should be used for vegetables. Drip irrigation technique for fruit plants is the most appropriate. It is also well-known to cut out the plantlet to release it from viruses as a mother plant before planting. This is also done for cost efficiency apart from sterilising.

Evaluation

By the end of the event, 46 participants attended a survey by the organisers. Survey results are as follows:

- 91% of respondents said the topic and content of training comply with participant's country policies;
- 93% of respondents said the contents of training were relevant to participant's country;
- 90% of respondents said the training contributed to their education, professional and personal growth;
- 74% of respondents said the agenda was clearly specified;
- 74% of respondents said the contents were well arranged and easy to follow;
- 93% of respondents said the training kept them engaged and interested;
- 94% of respondents said the activities related to the goals of training;
- 85% of respondents said the training time allocation was enough;
- 90% of respondents said the management of the Zoom Webinar was convenient;
- 93% of respondents said the trainers were well prepared;
- 94% of respondents said the trainers were familiar with the topics of training;
- 92% of respondents said the trainers have mastery of teaching methods;
- 92% of respondents said the trainers have ability to use of training facilities;
- 88% of respondents said the guideline to operate Learning Management System (LMS) was easy to understand;
- 89% of respondents said LMS was easy to operate;
- 92% of respondents said the availability of LMS makes the learning process easier;
- 88% of respondents said computer equipment in their workplace compatible with LMS; and
- 85% of respondents said the internet access in their workplace is available and can be used to access LMS.

Based on the above results, 88% respondents found that the training was very impressive.

Conclusion

Throughout the organisation of the training, the organisers draw these conclusions:

- Participants obtained knowledge and skills on hydroponics, particularly on type of hydroponics installation, nutritional aspects required for hydroponics, calculation of hydroponics nutrient solution and maintenance of hydroponics.
- Participants will execute and share knowledge of the training in their projects and professions.
- The training encourages participants to install hydroponic system in their respective countries for social empowerment.

PHOTO DOCUMENTATION

No.: 339/NAMCSSTC/XII/2021

Date: 29th of December, 2021

Programme Activity Report: Online Training Course on Food Packaging and Labelling for African, Caribbean, Central American and South American Countries on 25th of October to 5th of November, 2021

List of Trainers/Facilitators (*alphabetically sorted*):

Estu Hariyani

Estu has more than 10 years of experience on delivering agricultural training for related human resources. She specialises in food labelling, especially in food labelling requirements. She holds a Master of Food Science and Technology from Brawijaya University. She is currently a lecturer in the Indonesian Centre for Agricultural Training of Lembang – the Ministry of Agriculture of the Republic of Indonesia.

Dr. Fiadini Putri, M.Sc

Fiadini Putri has more than 10 years' experience in training and teaching human resources working in agriculture. She is an agronomist and horticultural specialist. She has extensive professional experience in horticulture, global trends, research, inorganic nutrients and secondary metabolites of plants. She also trains, as part of food labelling and food packaging training, in the overview of food labelling. Currently she works at the Indonesian Centre for Agricultural Training of Lembang, the Ministry of Agriculture of the Republic of Indonesia as Lecturer. Fiadini has completed PhD in agronomy and horticulture at the Bogor Agricultural Institute.

Imtiaz Hussain, PhD, MSc (Hons), BRC (CA), MIFST, RPFAM, RFoodSM

Hussain is Technical Lead Auditor and Food Technologist at the Halal Food Authority, UK. Since 2008 he has been professionally involved in the fields of food technology and quality assurance. He also has technical skills in microbial products connected to Halal certification and Halal Product Research. Hussain obtained Master of Science and a Bachelor of Science both from University of Agriculture of Pakistan – and a Ph.D. from University of Reading, UK in Food Science & Technology.

Dr. Ir. Leli Nuryati, M.Sc

Leli is the Director for Indonesia Center for Agricultural Training, Ministry of Agriculture of the Republic of Indonesia. She has expertise in developing human resources and building capacity, based on her formal education with a Ph.D. in

Management. She has also completed a training on advocacy for agricultural and rural statistics from the SIAP headquarters in Japan. Leli coordinates dozens of training centres in agriculture in Indonesia, including one in horticultural crops.

Ir. Saptoningsih, M.P.

Saptoningsih has more than 30 years of experience in training human resources in agriculture. She is specialised in food packaging, particularly in packaging types and designs. She has a Master's Degree in Nutrition from Gadjah Mada University. She currently works as a training on food processing at the Indonesian Centre for Agricultural Training – the Ministry of Agriculture of the Republic of Indonesia.

List of Countries (*alphabetically sorted*):

No	Country	Number of Person(s)
1.	Belize	2
2.	Burundi	1
3.	Colombia	2
4.	Costa Rica	1
5.	El Salvador	1
6.	Ethiopia	1
7.	Gambia	2
8.	Honduras	2
9.	Kenya	2
10.	Madagascar	3
11.	Nicaragua	1
12.	Panama	1
13.	Rwanda	6
14.	Suriname	1
15.	Tanzania & Zanzibar	1
	Total	**27**

Distribution of Participants' Background

No	Background	Percentage
1.	Government	40.74%
2.	Higher education institution	14.81%
3.	Private sector	37.04%
4.	Others	7.41%

Programme Activity Report
Online Training Course on Food Packaging and Labelling for African, Caribbean, Central American and South American Countries
25th of October to 5th of November, 2021

Background

Agriculture is one of the sectors that has a high demand in the society. Regardless of the conditions of the COVID-19 pandemic, agriculture will always be an important sector and definitely has the potential to be developed with various methods. The process of distribution in agriculture has evolved in methods which can maximise its final output. One of methods that is being developed in the community and potentially can be applied to a wider area is the process of labelling and packaging of food.

Non-Aligned Movement Centre for South-South of Technical Cooperation (NAM CSSTC), as an institution that further assists developing countries to achieve the development goal, considers the development of agricultural methods as a way to meet the high demand for food in the society. Developing countries in African, Caribbean, Central American and South American regions have natural resource potential, especially in agriculture, which can support food resilience in the society.

As a result, the NAM CSSTC and the Ministry of Foreign Affairs in cooperation with the Ministry of Agriculture of the Republic of Indonesia – in collaboration with Halal Food Authority (HFA), United Kingdom – organised a virtual training programme titled "Online Training Course on Food Packaging and Labelling for African, Caribbean, Central American and South American Countries." The training is separated into two regional batches given the time zone difference. The trainings took place, for Africa, 25th to 29th of October, 2021; for Caribbean, Central American and South American countries from 1st to 5th of November, 2021.

The courses focused on food packaging, food labelling and halal-labelling. Experts from the ICAT in Lembang and the Halal Food Authority, United Kingdom were present for the virtual training session to offer training materials and to discuss the Q&A session with participants. Besides actual engagement with trainers, e-learning and video resources had been used.

Dozens of government officers, academics and private sectors from Belize, Burundi, Colombia, Costa Rica, El Salvador, Ethiopia, Gambia, Honduras, Kenya, Madagascar, Nicaragua, Panama, Rwanda, Suriname, Tanzania and Zanzibar received training.

On topics such as: i) halal labelling; ii) fundamental of packaging; iii) type of packaging; iv) design of packaging; v) fundamental of labelling; vi) food labelling; and design of labelling the key areas for discussion were improved understanding and experience.

Discussion

Applying for Halal Certification

The market has a lot of promise for halal products. People in non-Muslim countries want to buy halal certified products. As an example, consider mouthwash. Mouthwash containing alcohol is not permitted in Islam or Muslim countries. The alcohol in mouthwash is harmful to one's health and can cause damage to one's mouth. Following this, everyone, whether Muslim or non-Muslim, switched to non-alcohol mouthwash.

Secondly, although New Zealand is not a Muslim country, lambs are slaughtered in Islamic manner since they are exported to Muslim countries. Halal certification increases producer confidence, reduces suspicions, and improves trust.

Those who want to seek for halal certification for their products could do so through the HFA. For non-Muslim clients, filing certification is not tough. If a corporation wishes to apply for halal certification, it must first file a form prepared by the HFA. There is a requirement or information that they must offer from there.

The HFA has also created a very extensive manual for the client. The goal of the manual is to ensure that the HFA and the body applying for certification are on the same page.

Polymer Packaging

Food packaging is critical for protecting food from contamination and promoting it.

There are numerous methods for packaging food. One of them is using polymer. Because polymer contains chemical substances, when the product is placed in the polymer, the polymer can protect the product from microbial, water, and other impurities. It also acts as an oxygen barrier outside of the package. When the package is not used, there may be a reaction or respiration for fruit items, for example, and it may deteriorate more easily. Polymer has the ability to extend shelf life because of protections it offers.

To package children's products, people can now find a form of polymer that does not contain BPA on the market. It becomes an option for parents to select the sort of polymer that will be used for their babies' foods or milks. It is simple to find food containers that are BPA-free.

Wax Coating for Exported Fruits

During the presentation, ICAT Lembang professionals demonstrated the wax coating procedure. There is a basic wax emulsion 12 percent composition that contains bee wax, trietonolamin, oleic acid, and hot water. If producers want to export, a minimum of 6% is acceptable, since it can enhance shelf-life of fruits by 3 to 5 weeks. However, they must also pay attention to the regulations of the country from which they export.

Labelling Guide

Food labelling is essential for consumers' decision-making prior to purchasing food products. The foundation of proper food labelling is regulation to prevent misinterpretation.

Consumers should follow the current worldwide consumer guide on food labelling: CODEX ALIMENTARIUS. It has established a general food labelling standard. They provided food labelling in the form of a statement identity. In Indonesia, a statement of identity includes the brand name as well as the type of processed food. However, in other countries, such as the United States, brand names are not always crucial. Form of processed food predominates. In short, for the international food labelling guide, all countries have the same point, but the application and interpretation vary, for example, on the statement of identity. They have various points that need to be addressed on the identity.

Allergen information for foods such as wheat, milk, soy, almonds, and so on is also important on the label. Another fact that certain material may cause allergies must be indicated on the label. It should be noted on the label for chips or cookies that may include nuts, eggs, or milks that cause allergen.

Barcode may also be included. In Indonesia, there is a company called CSI that produces barcodes. People may create barcodes for their company's items. They can also pay in advance and use the barcode for a year. For QR code, people can construct their own. They may create it using the QR Code Generator.

Evaluation

By the end of the event, 20 participants attended a survey by the organisers. Survey results are as follows:

- 86% of respondents said the topic and content of training comply with participant's country policies;
- 89% of respondents said subject matter of training and its contents are relevant to participant's development issues;

- 87% of respondents said the training topics and content are significant for their work;
- 90% of respondents said they clearly understand the training goals at the outset of the event;
- 95% of respondents said the curriculum/agenda was clearly specified;
- 96.25% of respondents said the contents were well arranged and easy to follow;
- 92% of respondents said they perceive that the training goals have been met;
- 93% of respondents said after the training, their level of knowledge grew;
- 93% of respondents said the training kept them engaged and interested;
- 90% of respondents said they have achieved their goal of accomplishment;
- 94% of respondents said they are satisfied with the topic of the training;
- 93% of respondents said they are satisfied with the training materials;
- 93.75% of respondents said the organisers facilitated contact between participants;
- 86% of respondents said the schedule and time appropriate for training;
- 91.25% of respondents said the management of the Zoom Meeting was convenient;

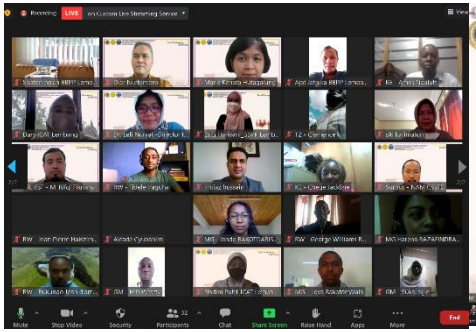
Based on the above results, 91.28% respondents found that the training was very impressive.

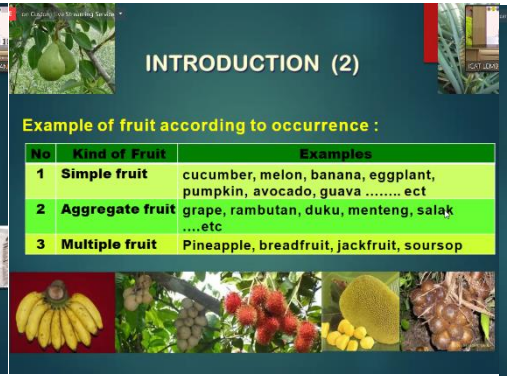
Conclusion

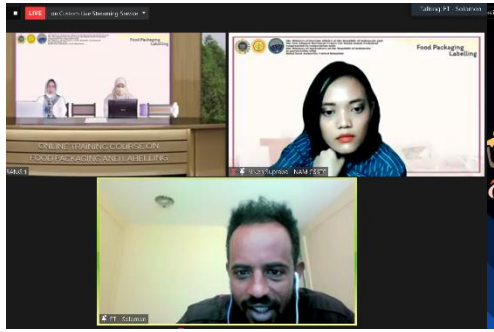
Throughout the organisation of the training, the organisers draw these conclusions:

- When it comes to food, very few people in certain developing countries read the labels; a culture must be built around this;
- Most African countries are designing paper-based packaging that is environmentally friendly. They suggest if there is a technology for packaging permeable items in such materials can be developed;
- All imported and exported food must be properly packaged. Concerning exportation, developing countries need collaboration with other countries' customers, namely for fruit and vegetable post-harvest losses and crop insect control;
- Practice is required for a site visit to Indonesia for practical learning, especially using the sealing machinery as demonstrated in the video;
- Participants are particularly interested on the topics of materials used in packaging, halal package design and labelling criteria and usage of web-based application to design food label.

PHOTO DOCUMENTATION



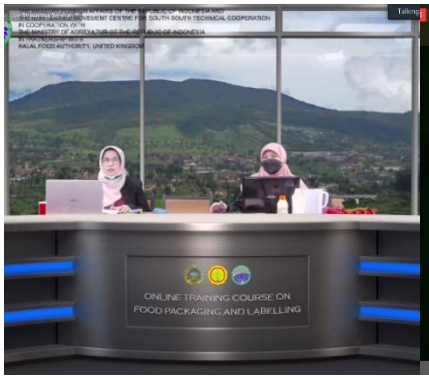


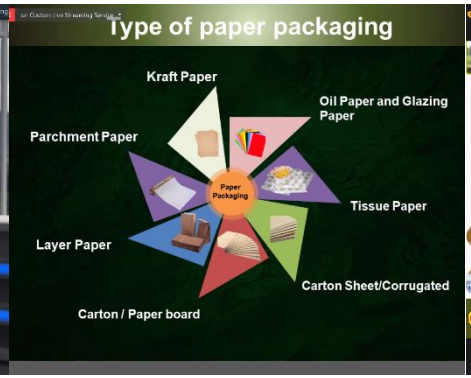



Online Training Course on
Food Packaging and Labelling

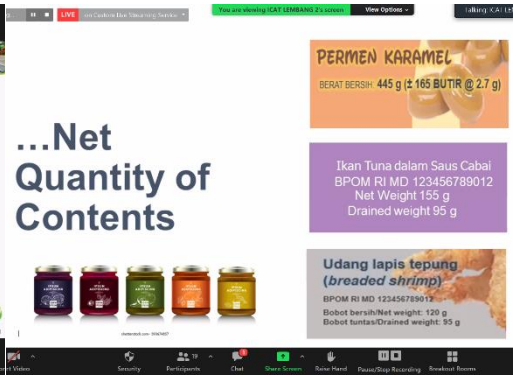
Food Packaging
Labelling

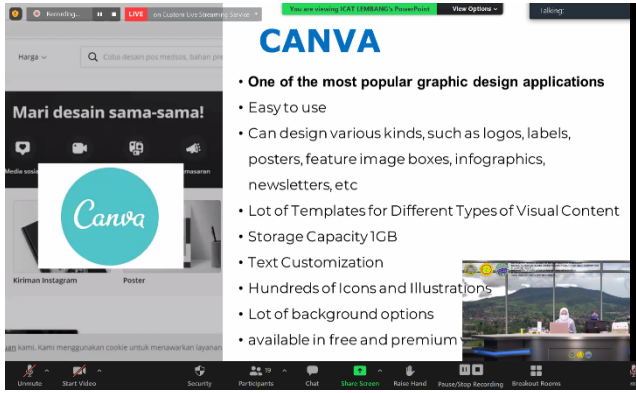

Food Packaging & Labelling
• Packaging terminology &Types of Packaging
• Food grade packaging
• Food labelling, Law & information
• Packaging suitability
• Packaging migration & stimulants
• Halal Food labelling & information
• Halal Packaging & halal food industry challenges
• Halal packaging production environment, Storage & distribution

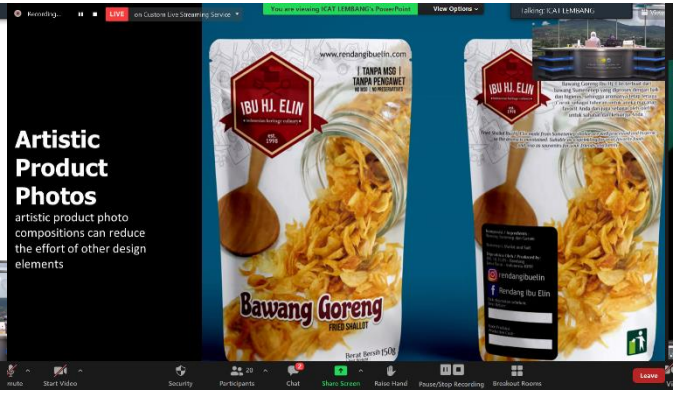

ONLINE TRAINING COURSE ON
FOOD PACKAGING AND LABELLING


Type of paper packaging
Kraft Paper
Oil Paper and Glazing Paper
Parchment Paper
Paper Packaging
Tissue Paper
Layer Paper
Carton Sheet/Corrugated
Carton / Paper board


PREREQUISITE OF FOOD LABELLING
Indonesian Center for Agricultural Training (ICAT) Lembang
BADAN PENYULUHAN DAN PENGEMBANGAN SUMBER DAYA MANUSIA PERTANIAN
KEMENTERIAN PERTANIAN


...Net Quantity of Contents
PERMEN KARAMEL
BERAT BERSIH: 445 g (± 165 BUTIR @ 2.7 g)
Ikan Tuna dalam Saus Cabai
BPOM RI MD 123456789012
Net Weight 155 g
Drained weight 95 g
Udang lapis tepung
(breaded shrimp)
BPOM RI MD 12345678901
Bobot bersih/Net weight: 120 g
Bobot tuntas/Drained weight: 95 g


CANVA
• One of the most popular graphic design applications
• Easy to use
• Can design various kinds, such as logos, labels, posters, feature image boxes, infographics, newsletters, etc
• Lot of Templates for Different Types of Visual Content
• Storage Capacity 1GB
• Text Customization
• Hundreds of Icons and Illustrations
• Lot of background options
• available in free and premium
Mari desain sama-sama!
Canva
Kiriman Instagram
Poster


Artistic Product Photos
artistic product photo compositions can reduce the effort of other design elements
IBU HJ. ELIN
Bawang Goreng
FRIED SHALLOT


SISTER SAY

No.: 333A/NAMCSSTC/XII/2021

Date: 21st of December, 2021

Programme Activity Report: Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC) Sponsorship of the "International Certificate Course for Coconut Development Officers," 4 October – 5 November 2021

List of Trainers/Facilitators (*alphabetically sorted*):

1. Dr. A D N T Kumara
2. Dr. Athula Nainanayake
3. Dr. Auchithya Dissanayake
4. Dr. C S Herath
5. Dr. C Yalegama
6. Mrs. D Hewapathirana
7. Mrs. D K R P L Dissanayake
8. Dr. D M D I Wijebandara
9. Ms. H R Fernado
10. Dr. H T R Wijesekara
11. Dr. I M S K Idirisinghe
12. Dr. Jayantha Senanayake
13. Dr. K Mohotti
14. Mrs. K V N N Jayalath
15. Dr. Lalith Perera
16. Ms. M K F Nadeesha
17. Dr. M K Meegahakumbura
18. Dr. N A Tennakoon
19. Dr. N S Aratchige
20. Mr. Rathnayake
21. Mr. Roshan Silva
22. Mr. Ruwan Samarasinghe
23. Mr S A S T Raveendra
24. Mrs. S Udumann

25. Dr. Sanathanie Ranasinghe
26. Ms. T H Chandrathilake
27. Dr. Uwasara Dissanayake.

List of NAM CSSTC-Sponsored Participation (*alphabetically sorted*):

No	Name	Institution	Country
1.	Sive Thea	Prek Leap National Institute of Agriculture	Cambodia
2.	Burhanuddin	Indonesia Friends of Coconut	Indonesia
3.	Cazal Elise	Association Arbofruits	New Caledonia
4.	Cuong Truong Tri	Betrimex JSC	Vietnam

Distribution of Background

No	Background	Percentage
1.	Government	0%
2.	Higher education institution	25%
3.	Private sector	75%

Programme Activity Report

Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC) Sponsorship of the "International Certificate Course for Coconut Development Officers"

4 October – 5 November 2021

Background

Although coconut producing countries are devoted to raising awareness about social welfare and the impact of harmful coconut product advertisements, it is acknowledged that many agencies face a number of obstacles.

A training is required to recognise problems such as skilled labour, smallholder processing, and a lack of enthusiasm among future generations, as well as existing Senile plants, fluctuating copra prices, and the COVID-19 pandemic. Capacity building helps countries overcome these challenges.

Furthermore, given the numerous applications of coconut, extensive coconut training areas assist boost the well-being of a larger portion of the population. Improving coconut producers' capacities and know-how to make value-added coconut products also assist coconut-producing countries to meet their national development goals.

To that end, the Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC) was offering sponsorships to participants from Cambodia, Indonesia, New Caledonia and Vietnam in participating in the International Coconut Community (ICC) and the Coconut Research Institute (CRI) of Sri Lanka's "International Certificate Course for Coconut Development Officers."

Evaluation

Following the completion of the training series, participants were requested to complete a self-assessment, which yielded the following results:

- Prior to the programme, participants admitted to having limited abilities in conducting training on coconut development. Participants believed that their talents at the intermediate/medium level as a result of the training.
- One of the participants stated that their ability to provide direction to employees or juniors had improved from medium to high level.
- After completing the course, one participant reported an increase in understanding on the issue of coconut growth from a low to a high level.

- In terms of trainers/facilitators' quality, participants gave the following ratings:
  - Participants gave a score of 70% for trainers' and facilitators' area of expertise;
  - Participants gave a score of 70% for trainers' and facilitators' sensitivity to the cultural differences of participants from different countries;
  - Participants gave a score of 70% for trainers' and facilitators' attentiveness.
- BEFORE the training, the participants reported an average score of 47.5 percent for their knowledge and abilities in the coconut development subtopics that were taught, which included improvement and breeding, organic fertiliser certification, pest and disease control, and counselling. Participants reported an average score of 72.5 percent for their knowledge and abilities in similar subtopics AFTER attending the programme. There is a 25% rise as a result of this.
- The participants rated the difficulty level of the training material a score of 80% for its appropriateness with the knowledge they need.
- Participants rated the training materials 90 percent for its applicability in their sector of work.
- The participants assigned the training material a score of 70% for its compatibility with the skill requirements of the job/designation/position.
- The participants reported an average of 80% confidence in growing coconuts by themselves.

Conclusion

Throughout the organisation of the training evaluation, the NAM CSSTC draws these conclusions:

- During training, participants experience Zoom fatigue. As a result, a longer lag time of at least 1.5 hours between one material and the next is required for the implementation of the next virtual training session.
- Given the scope of the topics covered in the programme, each topic requires a longer length for successful learning.
- Participants intend to carry out the following actions as part of their action plan:
  - Managing seedlings, plant pests, and coconut production through intercropping;
  - Applying knowledge of replanting in their country and pass on knowledge learned through extension programmes to extension professionals in their country.

Furthermore, they will employ the model offered by the trainers and facilitators, for example, as a trial run for planting coconut land spanning 10-100 hectares.

- One of the benefits of this course is the vast and in-depth knowledge supplied. The absence of practical exercises, given that the events were held digitally, was perceived as a disadvantage by the participants. Aside from that, there is a brief period of time set aside for discussion between participants and trainers/facilitators.

PHOTO DOCUMENTATION

OBSERVER MISSION REPORT OF

NON-ALIGNED MOVEMENT CENTRE FOR

SOUTH-SOUTH TECHNICAL COOPERATION

REGIONAL AND MUNICIPAL ELECTION OF

THE BOLIVARIAN REPUBLIC OF VENEZUELA

2021

No. 265/NAMCSSTC/XI/2021

INTRODUCTION

Venezuelans voted in the country's Regional and Municipal elections on November 21, 2021.

Several international news outlets, notably the Washington Post, are covering the election. This election is significant for Venezuela's political situation because opposition parties register as candidates during the election, and scores of international observers watched the voting procedures firsthand.

Delegations from Non-Aligned Movement Centre for South-South Technical Cooperation (NAM CSSTC) resolved to deploy an Observation Mission at the invitation of the President of the National Election Commission (NEC) Venezuela. On November 14, 2021, the Mission landed in Caracas, Venezuela. It consisted of three observers (Diar Nurbintoro, Niken Supraba and Eddy Supriyatno). The delegates had stayed in the nation till November 23rd, 2021.

Each of the three NAM CSSTC delegations was overseeing five polling stations: Escuela Municipal Juan Manuel Cajigal, Colegio Canigua, UENB La Union, Colegio Claret, and Luceo Nacional Alejo Fortique, which each had over 1,000 registered voters.

This report focuses on the voting procedures on election day.

OBJECTIVE AND METHOD

The goal of the NAM CSSTC deploying an Observation Mission is to observe the Regional and Municipal Election system and participation in an impartial manner, including observing accountability and transparency – in such a way that it will lead to peace as part of the effort to achieve the Sustainable Development Goals (SDGs).

The process employed in preparing this report is based primarily on the findings of the NAM CSSTC delegation deployed on election day.

PRELIMINARY OBSERVATIONS AND FINDINGS

- The Venezuelan governing system grants autonomy to municipalities and regions, which may explain why this election has special significance for both the political parties that ran for seats and the voters.

- There was serenity at the polling locations where NAM CSSTC delegates were stationed.

- Voters turned out in large numbers at the Escuela Municipal Juan Manue Cajigal voting site.

- Elders, as well as persons with disabilities, also came to vote at polling locations.

ELECTORAL ADMINISTRATION

- Polling station personnel include NEC employees assigned to the station as well as military personnel to ensure order during the election. The NAM CSSTC delegates also heard from the Committee that in some polling places, one citizen is sometimes appointed to participate in election administration.

- The roles of each employee (especially those from the NEC) are as follows: Collect the voter's identity card, enter the ID number into a machine to verify, assist the voter in entering their thumb fingerprints at the machine, and collect fingerprint ink when the voter exits the voting table.

- The election employs a machine for voting, and after electing a candidate, the voter receives a small piece of paper that he or she must place inside a box. The small document contains information about the candidate who was elected by the voter. Later, the paper would be counted on the spot. This is to see if there is a match between the machine's result and the outcome based on the paper.

- After which the box would be properly kept in a special location.

VOTER REGISTRATION

- This election is only open to Venezuelan citizens of voting age.
- The voter list was displayed on a wall in front of the polling station building. It listed the voters based on the number on their ID card.

MEDIA

The NEC provided the media with the opportunity to cover the voting process. The delegations spotted media at the polling site in El Hatillo. There were no restrictions for media, and they were able to shoot video and audio footage.

WITNESS/OBSERVER

- Each political party running for office is permitted to voluntarily deploy a witness to observe voting processes.
- The NEC designates citizen(s) to verify the validity of the result for the verification of votes on the box of reception.
- International observers are arriving from Asia, Africa, Europe, and America. They are members of political parties and legal profession in their respective nations (e.g. Lawyers). Some are also policymakers, while others are NEC members in their respective countries.
- The participation of international observers during the Regional and Municipal Elections Monitoring is a remarkable move done by the Venezuelan administration – and this will serve as a tool to assure the election's openness and credibility.

SENSITIZATION

The voters that arrive at the station appear to be familiar with the procedure. They know what to present at the counter, and no one has any problems utilizing the machine. Prior to the election, it

appears that the government provided appropriate sensitization to citizens about how voting works.

FINDINGS ON ELECTION DAY

- Military troops and police officers assigned to polling places voted early in the morning, before their duties began.

- There were no noteworthy incidents at any voting place, according to the NAM CSSTC delegates. There was a machine error at the La Union polling station, but the authorities were able to rectify the problem immediately.

- The NAM CSSTC delegates witnessed a 1.5-hour delay in opening polling stations due to station preparation, which resulted in voting taking place much later.

- The NAM CSSTC delegates noted that the committee was sympathetic to the requirements of the elderly and individuals with disabilities (motor issues), since they were permitted to sit rather than stand while waiting in line. The NEC has made a great decision.

- The voters' secrecy/privacy regarding the candidates they chose was properly safeguarded.

- The NAM CSSTC delegations observed a visible presence of military personnel at the voting place. They were dressed formally, and some were armed with defensive weapons. They stayed away from the station by standing at the front gate or further away.

- When the NAM CSSTC delegates arrived at the polling centre at 5.30 p.m., the President of the NEC Venezuela announced that the voting would be extended until 7 p.m. due to the delay in starting the voting in the morning.

CONCLUSION

- The NAM CSSTC delegates are pleased that the election was held in a peaceful environment. Despite the fact that several registered voters were absent throughout the counting.

- Although certain voting processes differed greatly from those of other nations, the NAM CSSTC delegates believe that there is no “one-size-fits-all” solution. Each law and regulation must be born of or drawn from the people’s customs/traditions and culture. As long as there are no objections from Venezuelans, voting operations in Venezuela are as perfect as they can be.

- The NAM CSSTC delegations congratulate all elements involved in the election’s organization: The government, including the NEC Venezuela, for the peaceful election process in Miranda, the role of military personnel in ensuring security and serenity at polling stations, and the role of police in ensuring the safety of international observers.

PHOTO DOCUMENTATION