Summary Report for Online Workshop

"Strengthening Capacity for Marine Debris Reduction and Waste Management in ASEAN Region through Knowledge Sharing on Marine Litter"

Date: 24 - 25 February 2021

Time: 11:00-13:30 Jakarta / 13:00-15:30 Tokyo / 4:00-6:30 GMT

To enhance both national and regional actions to tackle marine debris, ASEAN agreed on ASEAN Framework on Action on Marine Debris. In addition, G20 agreed on the Osaka Blue Ocean Vision as well as G20 Implementation Framework for Actions on Marine Plastic Litter in June 2019. These international agreements emphasize the importance of science-based decisions and policies on marine plastic litter and plastic pollution management.

In line with the ASEAN+3 initiative, Japan has conducted the JAIF (Japan-ASEAN Integration Fund) funded project targeting the ASEAN member states to tackle the marine plastic litter. From 2021, the second phase of the project will be started in the selected countries (Cambodia, Myanmar) to develop National Action Plans (NAPs) on marine plastic litter and monitor the leakages into the ocean.

Another significant initiative is the establishment of the Regional Knowledge Centre for Marine Plastic Debris (RKC-MPD) by the Economic Research Institute for ASEAN and East Asia (ERIA). As a key regional clearinghouse on marine plastic debris in ASEAN+3 countries, this information hub has high potentials to accelerate knowledge sharing and capacity development in the ASEAN region.

With this as a background, this workshop is co-organized by the Coordinating Ministry for Maritime and Investment Affairs, Indonesia, and the Ministry of the Environment, Japan, to support the ASEAN+3 Marine Plastics Debris Cooperative Action Initiative for implementation of the G20 Agreements and the ASEAN Framework of Action on Marine Debris, to emphasize science and policy collaboration.

【DAY 1: 24 February 2021】

Opening Session

- Moderator: Premakumara Jagath Dickella Gamaralalage, Deputy Director, IGES Centre Collaborating with UNEP on Environmental Technologies (IGES-CCET)

- **Welcome remark**：Tomohiro Kondo, Vice-Minister, the Ministry of the Environment, Japan (MOEJ)

Summary:

Mr. Kondo expressed appreciation to CMMI Indonesia for partnership and collaboration and to IGES and ERIA for supporting to organize this event. Osaka Blue Ocean Vision is shared by many (86) countries, including ASEAN member states. ASEAN regional action plan is prepared under the Bangkok declaration on MPL and expressed his continuous commitment. ASEAN+3 cooperation is proposed by Japan and launched in 2018. Japan has promoted various efforts in cooperation with ASEAN countries on the MPL issue. Today's workshop is in the same line to accelerate the initiatives. Through the four sessions in two days, the knowledge will be shared among partners and disseminate through the ASEAN Regional Knowledge Center for Marine Plastic Debris (RKC-MPD).

- **Welcome remark :** Nani Hendiarti, Deputy Minister for Environmental Management and Forestry, the Coordinating Ministry for Maritime and Investment Affairs, Indonesia

  Summary: (Canceled because of her personal business matter.)

Session1: Best practices of National Action Plans and output of the JAIF Phase I

This session looked at the current policy status on marine plastic litter in the ASEAN region by introducing the key results and upcoming plans of the JAIF (Japan-ASEAN Integration Fund) funded projects, as well as exploring the best practices taken by the selected ASEAN Member States.

- Moderator: Yasuhiko Hotta, Programme Director, Sustainable Consumption and Production Area, Institute for Global Environmental Strategies (IGES)

- Tatsuya Abe, Ministry of the Environment, Japan

  Summary:

  Mr. Abe introduced Japan's action for plastic litter. Our shared goals are SDGs 14 (ocean conservation) and Osaka Blue Ocean Vision. Japanese action plan for MPL consists of 8 areas. The actions are overseen by the inter-ministerial council with five ministries coordinated by MoEJ. MOEJ issued a guideline for harmonizing microplastic monitoring methods by inviting international experts, and the work is ongoing. MOEJ has started the Plastic Smart campaign to involve private sectors, raise public awareness and share best practices from the private sector.

- Satoshi Sasakura, Director, IDEA Consultants, Inc.

  Summary:

Mr. Sasakura introduced Japan-ASEAN Integrated Fund (JAIF) Phase I (2019 to 2020) project result and Phase II (2021-) proposal. The project mainly consists of NAP (National Action Plan) development and solid waste management. In phase I, the status survey of NAP development was carried, and gaps were identified. Phase II will formulate NAP for countries in need. The basic concept and outline of a typical NAP are developed. (Findings for/state of) solid waste management should be reflected in the action plan. In Phase II, NAP of Cambodia and Myanmar will be developed with the cooperation of UNDP, WB, ADB and other international partners.

- Mr. Rofi Alhanif, Director of Waste and Wastewater Management, the Coordinating Ministry for Maritime and Investment Affairs, Indonesia

  Summary:

  Mr. Rofi introduced the achievement of the Indonesian government NAP for marine debris. Indonesia is pointed/singled out as a large source of MPL generator. The national target is to reduce 70% of plastic leakage by 2025. Five strategies are; stakeholders' awareness, land-based waste management, coastal and marine waste management and clean-up, institutional strengthening, and R&D. Research and development especially focus on biodegradable plastic, and standards for biodegradable and recyclable plastic are underdevelopment. These strategies are implemented with the cooperation of 16 ministries/agencies. It is estimated that 15.3% of leakage has already reduced since 2018 until 2020.

- Mr. Eddy Mazuaansyah, Deputy Undersecretary, Ministry of Environment and Water, Malaysia

  Summary:

  Mr. Eddy introduced the national strategy of Malaysia for MPL. In accordance with "Environmental Sustainability in Malaysia 2020-2030", the target is to reduce MPL by 85% by 2030. Strategies are (1) policy development, (2) technology development by business sector, (3) monitoring and data collection, (4) public awareness, and (5) inclusivity: formalize an informal sector. Roadmap towards zero SUP (2018 to 2030) consists of 3 Phases. Actions include eco-label (biodegradable and compostable packaging only), pollution charge, and operators in food and beverage industries will incorporate no straw by default approach. A circular economy roadmap is under drafting from a life-cycle approach, including EPR. In collaboration with WB, GIZ and others, various projects have commenced, including the "SEA Circular Project". Assessing and measuring the indicators for performance is important for collaboration.

- Ms. Wassana Jangprajak, Environmentalist, Pollution Control Department, Thailand

  Summary:

  Ms. Wassana introduced NAP of plastic waste management in Thailand. Roadmap on plastic waste management 2018-2030 has developed. Its principle is the life cycle approach, 3R, circular economy, public-private partnership, responsible consumption and production, and in Phase 1, the action includes stopping using cap seal, oxo-degradable plastic and microbeads. Based on the Roadmap, Action plan on plastic waste management has been developed. Its Phase 1 includes reducing and stopping using four types of plastics, replacing them with environmental-friendly material, and recycling 50% of seven plastic types by 2022. For the reduction of plastic and post-consumption waste management, challenges and key success factors are identified.

Q&A and Discussion

(Question 1 by Dr. Hotta based on audiences' comments) What kind of effort has been done to improve waste management and marine plastic data in your country?

(Answer by Mr. Eddy, Malaysia) Standardisation and harmonisation are the keys. Individual countries capacity is most important. Target setting at the national level and evaluation methodology are necessary. The issues are set at the national level, and harmonization of information at the regional and global levels can present successful measurements/efforts to global stakeholders.

(Answer by Ms. Wassana, Thailand) We set the roadmap target, collaborate with private sectors' through the voluntary program and with the informal sector through capacity building to support recycling (by junk shop – is this needed).

(Answer by Mr. Rofi, Indonesia) Collaboration is the key. A national baseline development has been conducted in collaboration with WB, the national scientific research agency, and others. For marine based waste, collaboration with the fisherman's association is also done. New approaches are used to measure leakage from the coastal, marine environment and land. We calculate land-based leakage based on untreated waste, waste that goes to the river and ocean and so on. For sea-based leakage, we use data on numbers of ship, harbours, and passengers ferried. Also, for leakage from the fishing activities, we use data on ships and the number of days they sail.

(Qestion 2 by Dr. Hotta) What is the main trigger to main-stream the marine plastic issue?

(Answer by Mr. Eddy, Malaysia) Findings from actual data were important. The transboundary waste transportation issue is another point.

The impact of Jenna Jambeck finding was an eye-opener. Without a baseline, Malaysia could not counter her findings and had to admit and clean the house. Despite the Basel convention, the ASEAN countries are dumping ground for waste from developing countries. These have led to work in a concerted effort. We need to address the issues and have waste management and benchmarks looking at the future population growth too.

(Answer by Ms. Wassana, Thailand) We understand that 80% of MPL is land-based. We also focus on fishing gear management. We work with international conventions.

(Answer by Mt. Abe, Japan) A common understanding of the challenge is the key.

Session 2: Technology, innovation, and actions for prevention and management of marine plastic litter

This session aimed to explore the possible technology and innovation tools towards the pathways to tackling the marine plastic litter by addressing the practical challenges for the ASEAN Member Countries at the city-level, to be followed by the actions taken by international and private sectors.

- Moderator: Kakuko Nagatani-Yoshida, Regional Coordinator for Chemicals, Waste and Air Quality, Asia and Pacific Office, UNEP

- Cheang Kok Chung, Chair of the ASEAN Working Group on Chemicals and Waste / Deputy Director-General of Environmental Protection and Group Director (Clean Environment), National Environment Agency, Singapore

  Summary:

  Mr. Cheang introduced an overview of AWGCW programmes. One of the programmes is transboundary plastic waste trade control. Export of plastic waste from the EU to ASEAN increased 200% since 2015 to 2018. Basel Convention amendment will contribute to better plastic waste management. Basel convection regulates hazardous waste movement; concurrently, it can hinder the movement of legitimate plastic waste trade that can hamper plastic recycling. Building standards within the ASEAN region to complement the

Basel process are undergoing. For better control, the technical guideline of an acceptable level of plastic waste is under development.

- Noy Chek, Deputy Office Chief, Office of public works, transport, environmental sanitation and public order, Battambang City, Cambodia

  Summary:

  Mr. Noy introduced Battambang city case, Cambodia. The city has 160,000 inhabitants and generates 240 t/day of waste, 15% of which is plastic waste, but only 5% of plastic waste are recycled. Pilot projects for waste segregation are conducted at schools, markets, and public areas. There is also a project for waste collection from rivers. These projects are conducted with International and local partners. In the future, the development of a solid waste management master plan and legal enforcement is necessary.

- Tuti Hadiputranto, Chairwoman of Indonesia National Plastic Action Partnership (NPAP)

  Summary:

  Ms. Tuti introduced the activity of Indonesia NPAP. It launched in March 2019 to support 'government's work by a wide range of stakeholders. As 61% of Indonesia's waste is not collected, a system change scenario has been developed, with options for reduction, substitution, collection, safe disposal, and recycling. For the impact areas, five task forces are organized; financing, metrics, innovation, policy, behavioural change, in which a total of more than 60 members are collaborating.

- Bing Chomprasob, Partnership Development & Stakeholder Engagement, Alliance to End Plastic Waste (AEPW)

  Summary:

  Mr. Bing introduced the activity of AEPW. It consists of 52 world-leading companies, including plastic producers, retailers and recycling companies. It has partnerships with governments and other organizations. The four pillars of their activity are infrastructure, innovation, education, and clean-up. Five investment themes are engaging with cities, social behaviour, advanced recovery & recycling, creating value for recyclates, and design for circularity. Its projects, including some projects in Indonesia, will divert 875kt of plastic waste. It continues investing in innovation and technology, including chemical recycling of plastic.

- Akihito Yamashita, Ministry of Economy, Trade and Industry, Japan

  Summary:

Mr. Yamashita introduced a collaboration between the Japanese government and the industrial sector, mainly focusing on marine biodegradable plastic. Japanese govement has just released Bioplastics Introduction Roadmap in January 2021. METI (Ministry of Economy, Trade and Industry), NEDO (New Energy and Industrial Technology Development Organization) and AIST (National Institute of Advanced Industrial Science and Technology) support research, development and standardization of marine biodegradable plastic. CLOMA (Japan Clean Ocean Material Alliance) and JaIME (*Japan* Initiative for Marine Environment) are leading Japanese private sector initiatives active in the field.

- Yuko Koshiishi, Senior General Manager, Corporate Sustainability Division, Suntory Holdings Limited

  Summary:

  Ms. Koshiishi introduced the activities of CLOMA and Suntory. Suntory is a member of CLOMA, and she represented CLOMA. Key actions of CLOMA consist: reduction of plastics, material recycling, chemical recycling, and biodegradability of paper and cellulose materials. CLOMA also supports international cooperation, including in Indonesia. Suntory's action for plastic circulation focuses on weight reduction and bottle-to-bottle recycling of PET bottle.

Q&A and Discussion

(Question by Ms. Yoshida) This session is about technology and innovation; this area is developing. What kind of technology or innovation is still missing to make your solution/mission complete?

(Answer by Mr. Cheang, AWGCW) Let us not wait for some magical solution to solve the problem. Whole suites of measures from upstream to downstream are necessary. Let us focus on implementing these measures and use the tools we already have.
(Answer by Mr. Chek, Cambodia) The technology for waste management is important.
(Answer by Ms. Hadi, NPAP) Innovation in all five areas of action is necessary. We encourage everyone to innovate.
(Answer by Mr. Chomplasot, AEPW) Chemical recycling technology for low-value plastic is needed. There are a lot of flexile films/plastics that are low-value and are not collected. New technology like chemical recycling is unproven. We are sourcing solutions; a lot of work needs to be done.
(Answer by Mr. Yamashita, METI) Japanese companies are developing such technologies.

According to the CLOMA action plan, work on technologies for material recycling, chemical recycling is being developed. It is important to develop the technologies along with the action plan.
(Answer by Mr. Koshiishi, CLOMA) Technology is important, not a magic wand. Along with technology, waste collection and awareness are important. Waste management is essential for a circular economy.

(Question from audience) Are there any sea-based plastic pollution source technologies?
(Answer by Ms. Yoshida) Collection from the sea is not easy, and it may not be suitable for recycling. Plastic waste in the ocean needs separate technology and new investment; few NGOs and companies are working, for example, on recycling technology. Application and feasibility need to be tested in the future, and more development is expected.

【DAY 2: 25 February 2021】

Session 3: Scientific approach for managing leakages and monitoring marine plastics

This session aimed to explore the possible approaches for leakage and monitoring marine litter. It included presentations from international organizations and research institutes on their ongoing efforts, as well as presentations of business work on the innovative approach as a possible monitoring tool.

- Moderator: Shunichi Honda, Programme Officer, UN Environment International Environmental Technology Centre (UNEP IETC)

- Michikazu Kojima, Research Fellow in Economic Research Institute for ASEAN and East Asia (ERIA) / Chief Senior Researcher, Institute of Developing Economies, Japan External Trade Organization (JETRO)

  Summary:

  Mr Kojima gave an overview of the role of science in combating marine plastic issues. He explained that various countermeasures introduced to tackle marine plastic debris could only be effective when proper monitoring of plastic leakage are put in place. In various stages of the policy cycle for MPL, scientific knowledge is needed to counter the challenges innovatively. Those challenges are monitoring plastics in the environment (rivers, oceans etc), impacts on marine ecosystems and human health, reduction of plastics use, use of alternative material, preventing leakage from sources, recycling, waste collection and disposal, collecting plastics from the environmental. It was pointed out that social science is important for consensus building, legal set up, and to provide economic incentives for the countermeasures to be effective., the Regional Knowledge Centre for Marine Plastic Debris (RKC-MPD) was established in ERIA and serves all ASEAN+3 countries to facilitate knowledge-sharing on the marine plastic litter issue. The RKC-MPD website stores, presents, and provides information on government initiatives, best practices and scientific findings.

- Janet Salem, Economic Affairs Officer, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP),

  Summary:

  Ms. Salem introduced the UN-ESCAP's "Closing the Loop" Project which aims to support (1) cities in ASEAN to use smart technologies to manage plastic waste, and (2) cities to develop policy and investment strategies using circular economy approaches. Project sites are

Nakhon Si Thammarat, Kuala Lumpur, Da Nang and Surabaya. ESCAP, with partners, conducted a baseline assessment on each selected city, designed a digital mapping tool using satellite data, drones, machine learning and crowd-sourced data, and will develop city action plans based on the previous two studies. The project will identify plastic pollution hotspots and measure plastic leakage with precision, utilizing the latest approaches, such as the Plastic Pollution Calculator or digital satellite tools. Some of the findings of the baseline study in Da Nang city were: 1.3% of plastic waste becomes marine litter, 7.2% of plastic waste becomes land pollution, and 0.03% of plastic waste is open burned, 3,218 t of plastic waste is from littering, and plastic bags and plastic films are dominating emissions.

- Fujio Kojima, CEO, Pirika Inc.

  Summary:

  Mr Kojima presented three digital tools developed by Pirikato monitor plastic wastes in the environment. By enabling visualization of previously unseen litter, Pirika, the app, encourages citizens to take part in the clean-up efforts. Takanome, an app for urban litter survey, analyzes visual images to identify on-land litter using sensor technology. Albatross is an app to survey microplastics. It uses an underwater microplastic sampling device, which can replace limitations of boat sampling that are costly and physically limiting. The survey can be undertaken in shallow or narrow waterways. Albatross has been deployed in over 200 locations across ten countries, also used in UNEP's CounterMEASURE project in Asia. In Japan, astroturf was identified as one of the significant sources of waterways pollution. It was also discovered that a large amount of plastic coating used to cover fertilizers flowed into rivers and oceans. Finally, Pirika's strategic cycle was laid from (1) Inventing technology, (2) Expanding scale, (3) Making new discoveries, (4) Raise awareness, (5) Increase budget and invest in new technologies.

- Muhammad Reza Cordova, Researcher, Indonesian Institute of Sciences

  Summary:

  Mr Cordova started off this presentation by pointing out that plastic waste input from land to ocean is the largest in Asia, which is considered a hot spot. Despite marine litter emerging as a critical issue in the Asian region, scientific research publications remain very low compared to other world regions. As few as 145 scientific publications concerning marine plastic debris in ASEAN countries were published between 2017 and 2020. ASEAN countries have to expand their research to evaluate the distribution and the presence of plastic debris in the environment by improving environmental monitoring. Some of the main challenges in ASEAN countries are (1) limited staff capacity and expertise to conduct monitoring, (2) lack

of terminology, guidelines, and reporting tools (3) use of different methods that overestimate or underestimate the quantity, and (4) lack of harmonized monitoring and data evaluation methods. In terms of research gaps, (1) lack of understanding the sources and pathways, (2) physical and physiological impacts of marine debris in biota and marine habitats, (3) interaction of plastic associated contaminants (organic and inorganic) and (4) socio-economic impacts.

- Dida Migfar Ridha, Director of Coastal and Marine Pollution and Degradation Control, Ministry for Environment and Forestry, Indonesia

  Summary:

  Mr Ridha reported on the need for strengthening knowledge management capacity surrounding marine plastic debris. The ad hoc open-ended expert group on marine litter and microplastics (AHEG) discussed existing information barriers in November 2020, which include access to data, research, transparency & education and awareness. As for the challenges with regards to science, those pointed out at the AHEG are scientific knowledge on monitoring, sources inventories and impact assessment. Especially, standardization/harmonization of monitoring data is needed. There is also a need to keep track of efforts undertaken systematically. Collaborative efforts are needed by including various partners from the public to the private sector, setting up an effective reviewing process, setting up joint pilot projects and conducting more country capacity building. Scientific Forum on Marine Litter serves as a platform to discuss how critical research gaps can be filled. The Regional Capacity Center for Clean Seas (RC3S) based in Bali has developed a Knowledge Management Platform to collect, store and manage, knowledge on pollution from land-based activities.

Q&A and Discussion

(Question 1 by Mr. Honda based on audiences' comments) Can the digital mapping tool developed by ESCAP to assess plastics in rivers be applied to coastal and open sea area? Is the technology developed to be applied in different countries and areas?

(Answer by Ms Salem) It is much easier to detect plastics in the open sea than in the river. Once the prototyping is completed, and the algorithm has learned how to detect plastics, our goal is scale-up the tool. This could happen via the United Nations Decade of Ocean Science for Sustainable Development (2021-2030). ESCAP is also working with multi-stakeholder taskforce with different international space agencies where satellite images can be eventually used to assess the effectiveness of the tool.

(Question 2 by Dr. Honda related to the first question) There is a big gap between advanced monitoring methodologies and the reality of the ground. What do you think of the fact that ESCAP team can put in place high-tech monitoring digital tools, but the majority of other groups cannot afford such technologies? It would be great if, in the future, digital technologies will be more widespread in the world.

(Answer by Ms Salem) This is where space agencies can play a critical role. Suppose the governments can request to UN (environmental path) or through space agencies. In this sense, the International Ocean-Colour Coordinating Group (IOCCG) (https://ioccg.org/) can play a big role. For example, training the algorithm to detect plastic waste is time-consuming, and if different groups try to do the same things, it will duplicate the efforts. If governments can make a request through the UN or coordinating organization such as ERIA, it will be good.

(Question 3 by Mr. Kojima) I believe there are advantages and disadvantages of using ground-level surveys and remote sensing technologies, and such differences should be explained?

(Answer by Dr. Honda) Due to **the** time constraint of the session, the question from Mr Kojima could not be elaborated, but IGES and ERIA will organize a special webinar session on data-driven marine plastic actions at the occasion of the 7th 3R International Scientific Conference (3RINCs) on 16th March 2021, and we hope to further discuss the issue and welcome those who are interested to join us.

Session 4: How to effectively mobilize ongoing initiatives by bi-lateral and multi-lateral cooperation agencies for science, technology and innovation needs of ASEAN member states

This session had its goal to map out the current status of international cooperation on marine plastic litter in the ASEAN region, as well as identify and discuss whether these actions are in line with the current situation and actual needs of the ASEAN countries which were shared at the Day 1 session.

- Moderator: Premakumara Jagath Dickella Gamaralalage, Deputy Director, IGES Centre Collaborating with UNEP on Environmental Technologies (IGES-CCET)

- Anjali Acharya, Senior Environmental Specialist, The World Bank
  Summary:
  Mr Acharya laid out the World Bank's support to strengthen analytics, enhance capacity and mobilize partnerships to tackle marine plastics. The WB finances projects across the different

stage of the waste stream. For upstream: plastic diagnostics, policy reform, finance, technologies, in the midstream: improving plastic circularity, solid waste management, looking specifically on innovative technologies and business models, for downstream: loans for clean-up of rivers and beaches. The World Bank works across the board with a wide range of sectors, not just with the environmental sector but with the transport and agriculture sector. For ASEAN + China + Pacific Islands region, the WB has secured $ 9 million trust fund resources and developed analytics that feed into policy support. As for policy support, the WB is either supporting the existing national action plans or helping to develop one. Finally, for the financing and identifying investments, upon the request of the ASEAN Secretariat, the WB is developing the Regional Action Plan (RAP) for ASEAN, and the document is in its final stage. To support RAP, a financial program named Southeast Asia Regional Program on Marine Plastics (SEA_MaP) was established for five years (2021-2026) and secured $20 million from the WB regional grants, and is looking for co-financing/parallel financing with the private sector.

- Anna Oposa, Partnerships and Engagement Specialist, The Asian Development Bank (ADB)
  Summary:
  Ms Oposa presented the ADB project named ‘Promoting Action on Plastic Pollution from Source to Sea in Asia and the Pacific’. The project period is five years (2019-2014) and provides $13 million in grants to fulfil the objective of reducing marine plastic pollution and restoring river and ocean health. Participating countries are Indonesia, Philippines, Thailand and Viet Nam focusing on various stakeholders (national to local), and the project is currently at the phase of identifying the implementation partners. Outputs are (1) support action plans and policies, (2) plastic pollution reduction-related investment, (3) promote knowledge exchange and regional cooperation. ADB has identified different types of partnership engagement with decision-makers and knowledge partners. A consultation will start to identify stakeholders and the category in which they belong.
  To promote technology and innovation, ADB is organizing the first Healthy Oceans Technology and Innovation Forum this year (2-day virtual event) for Asia and the Pacific.

- Hideaki Matsuoka, Japan International Cooperation Agency (JICA)
  Summary:
  Mr Matsuoka explained that JICA’s approach to combat marine waste is first and foremost focused on supporting solid waste management on land in developing countries, which are estimated to produce large amounts of plastic waste. Two concrete projects experiences were presented: Through the first project in Bangladesh (Dhaka), JICA helped expand district

authority and improve collection system (technical cooperation), supplied compactor, improved final disposal sites (grants scheme) and conducted awareness-raising activity (volunteer scheme), which resulted in waste collection rate going from 44% in 2004 to 80% in 2017. The second project, named J-PRISM carried out in Pacific Island Countries, JICA promoted 3R+Return scheme, whereby a deposit fee was included in the price of beverage plastic bottles and redeemed once the bottles were returned to a collection center, which succeeded in increasing the collection rate. JICA projects principles are (1) evidence-based, (2) development of waste management systems, (3) promotion of alternative materials, (4) awareness-raising (5) encouraging networking and co-learning among different countries in the region.

- Lena Kampe, Advisor, German Society for International Cooperation (GIZ)
  Summary:
  Ms Kampe explained that GIZ is working in the ASEAN region and some of the projects focus on waste management, sustainable use of plastics, and Reduce-Reuse-Recycle and others. The project highlighted on this occasion, however, was the Rethinking Plastics project. The project covers seven counties (Indonesia, Vietnam, China, Philippines, Thailand, Singapore, Japan), has started its activities two years ago (3 years: 2019 – 2022) with a budget of 10 Million EUR funded by the EU and the German Gov. and implemented by GIZ and Expertise France. The project supports the international aspects of the EU Plastics Strategy and focusses on a transition to sustainable consumption and production of plastic. Six areas of actions are (1) Support of policy dialogues between the EU and partner countries, (2) Plastic waste management, (3) Sustainable consumption and production of plastic, (4) Reducing litter from sea-based sources, (5) Green procurement policies, and (6) Awareness raising. The project supports more than 20 pilot projects in five Asian countries, implemented by NGOs and universities, and some of the results will be published on the GIZ website soon.

Q&A and Discussion

(Question 1 by Dr. Premakumara) Two discussions points of this session are (1) to understand the current status of international cooperation and (2) to verify if the cooperation is in line with the needs of ASEAN countries. Most countries have national action plans or are developing one, and it is time to move on to the implementation on the ground. So the first question would be: More than 60% of plastic leakage is estimated to come from small and medium cities (in Indonesia) are burned due to lack of waste management services. Does your organization provide support to small cities and rural area?

(Answer by Ms Acharya) The World Bank is working mainly with the Governments and the private sector, but we recognize that it is important to work with the local authorities and communities. With the regional program SeaMAP, there will be some grants specifically designed for small community level. We are looking at pilot projects that we can fund, not just in big cities but also in small communities.

(Answer by Ms Oposa) For ADB, project sites are recommended by the national government side, so it will depend on what are the priorities of the national governments.

(Answer by Ms Kampe) In the case of GIZ, projects sites can be a mix of urban and rural areas. Locations are decided with the political partners' priorities. For other projects I mentioned at the beginning of the presentation, some of the sites are rural communities.

(Answer by Mr Matusoka) JICA recognizes the importance of supporting rural area, but the support request comes from the recipient countries' government, and our resources are limited. So, good coordination with other cooperation organizations to demarcate our roles and target area will be important.

(Comment by Dr. Premakumara) Hopefully, the governments will also focus on small cities and rural areas as the data clearly show where the plastic leakage is happening. The governments have to make a data-driven decision as to where to put the international partners 'funding.

(Question 2 by Dr. Premakumara) Continuing from the second session, it was noted that the plastic issues are still new to the relevant nations. So when we discuss technologies and innovations, what are the ones that are working?

(Answer by Ms Oposa) For the ADB project, one specific example would be the improved technologies (recycling and sorting facility with scanning and robotic technology) proposed in Vietnam to increase the value of used plastics.

(Answer by Ms Acharya) The World Bank is certainly looking at innovation, but it also has to be customized to the local context. In this regard, we are looking at pilot projects that can be scaled up in the local context. We do not want to create technologies that will end up being a stranded asset.

(Answer by Mr Matusoka) In Japan as well, we have many new technologies, especially coming from the private sector. But to echo the comment from the WB, the technologies have to be adaptable in different countries in a short time. We need to bring appropriate technologies that

are sustainable regardless of whether they are advanced or not. In that sense, JICA's role is to match existing technologies and the local context and try to find a sustainable solution.

(Answer by Ms Kampe) GIZ is not so much focused on technologies but more on processes and good practices. Good practices should be replicated and scaled-up.

(Comment by Dr. Premakumara) Appropriate terms for the technologies are important, and then projects have to be piloted and up-scaled with available funding.

(Question 3 by Dr. Premakumara) We learned today that we have a lot of analytical frameworks and methodologies to understand where plastic waste goes, but having many methodologies and technologies available, governments are faced chalange in applying and monitoring them. What are the thoughts of the international partners on it?

(Answer by Ms Acharya) The WB is putting together with Leeds university a toolkit which will come out in one month. The toolkit will allow assessing which methodologies are best suited for a specific context. The WB would like to coordinate among different development partners and agencies as well as institutions like ERIA to see how to gather information on the existing methodologies. But we hope that the toolkit will be useful. Secondly, in the coming weeks, WB and UNEP will put together a 2-day workshop specifically on metrics and methodologies. We look forward to welcoming many participants.

Closing Session

- Moderator: Premakumara Jagath Dickella Gamaralalage, Deputy Director, IGES Centre Collaborating with UNEP on Environmental Technologies (IGES-CCET)

- **Closing remark:** Tomohiro Kondo, Vice-Minister, the Ministry of the Environment, Japan (MOEJ)

  Summary:

  Mr Kondo thanked the Indonesian counterparts, participating organizations, as well as the organizer of the workshops for the successful two days webinar. Mr Kondo pointed out that at the opening remark the day before, he hoped that this webinar would contribute to bringing positive change to our fight against marine plastic litter. Approximately 100 active participants from across 9 ASEAN member states, the US government, and international organizations (UNEP, ESCAP, ADB, WB, ERIA, AEPW and CLOMA) attended the sessions, which demonstrate the commitment and the keen interest with regards to marine plastic debris in

ASEAN region. Four sessions across two days left many important lessons to learn from, and Japan has renewed its commitment to tackling this issue together with the partners. Finally, Mr Kondo expressed his gratitude to all the participants and hoped that this webinar provided mutual learning opportunities to everyone.

- **Closing remark:** Dr Nani Hendiarti, Deputy Minister for Environmental Management and Forestry, the Coordinating Ministry for Maritime and Investment Affairs, Indonesia
  Summary:
  Dr Hendiarti expressed her appreciation to all the speakers for sharing their knowledge on the marine plastic issue to enhance regional cooperation on the marine plastic issue. Mutual learning is important, and throughout the sessions, very insightful presentations were made, which will enhance the capacity to understand the sources of waste. It is also important to form new behaviour and a new culture around the circular economy and sound environmental technologies, including waste to energy technology. The marine plastics issue is a cross-boundary issue, and collective action is important. With the help of the partners, regional actions have to be taken in the future. Indonesia is open to collaboration for innovation and technologies, joint research and development, and other activities that can combat marine plastic litter. Dr Hendiarti reiterated her gratitude for all the participants and partners involved in the webinar.