



# UN 22: Stem the tide of Asia's riverine plastic emission into the ocean

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IOC Sub-Commission for the Western Pacific



Fourteenth Intergovernmental Session of the IOC Sub-Commission for the Western Pacific  
4-7 April 2023, Jakarta, Indonesia



# Presentation outline



- Introduction (previous work summary)
- Decade Action UN22 Introduction and Justification
- Timeframe and objectives for UN22
- Activities and progresses made from 2022-2023
- Objectives to be achieved over the next intersessional period (May 2023- April 2025)
- Plane activities for May 2023-2025

# Introduction (previous work summary)

## A journey to the Decade Action 22



Microplastic research program established (WESTPAC-XI, April 2017)



ASEAN Conference on Marine Debris (22-23 Nov 2017, Phuket)



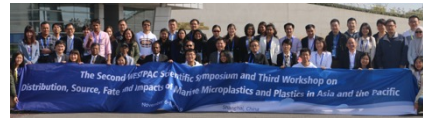
GESAMP WG40 Regional Expert Consultation (15 June 2018, Bangkok, Thailand)



WESTPAC-XII, 2-5 April 2019, Manila, the Philippines



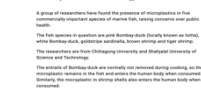
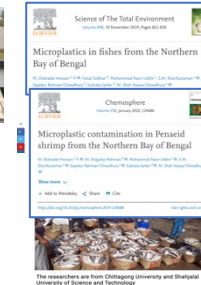
2020



3<sup>rd</sup> Workshop, 6-8 Nov 2019, Shanghai



2021



1<sup>st</sup> workshop, 20-22 Sep 2017, Phuket, Thailand



2<sup>nd</sup> Intl. Symposium on Marine Microplastic Pollution and Control, 24-25 April 2018, Shanghai



2<sup>nd</sup> Workshop, 15-17 Oct 2018, Shanghai

# WESTPAC Microplastic Research programme



10<sup>th</sup> International Scientific Conference : where the story started..



Dr. Shige Takada (Japan)



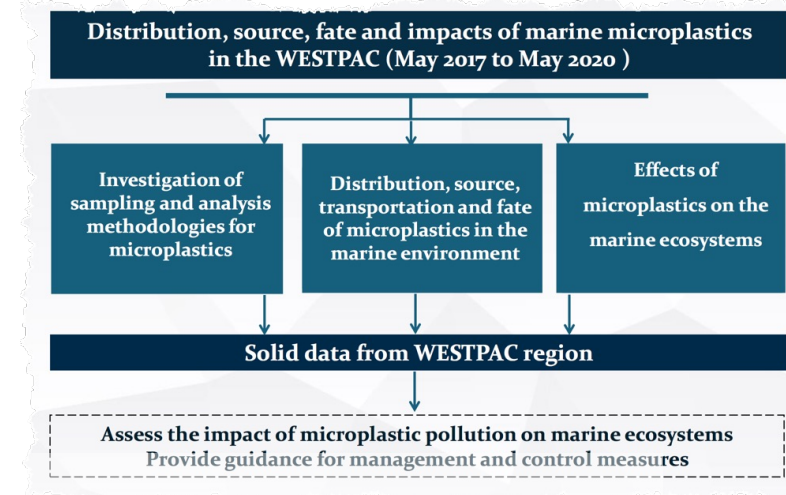
Marine plastics and microplastics: Threat to marine ecosystem



The microplastic session at the 10<sup>th</sup> WESTPAC Marine Science Conference



Inception Workshop on “Distribution, Source, Fate and Impacts of Marine Microplastics in Asia and the Pacific” 20-22 September 2017, Phuket, Thailand

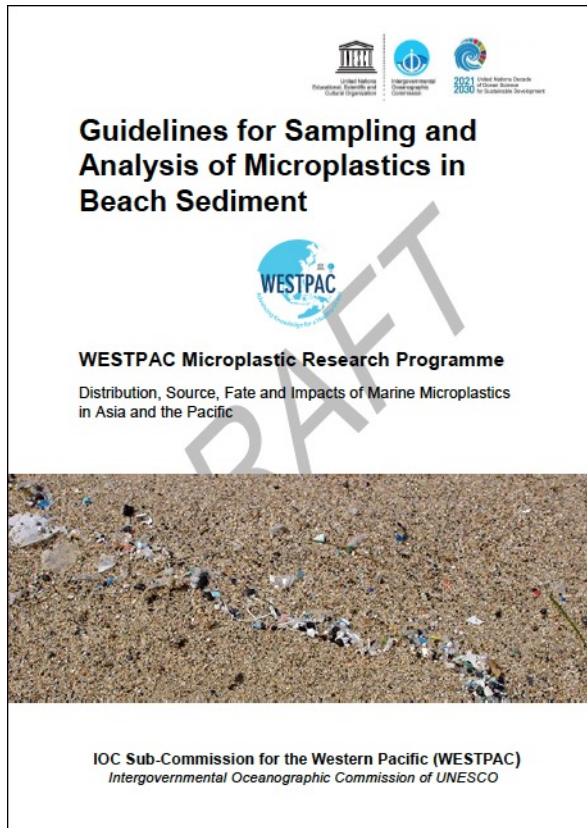


# WESTPAC Microplastic Research programme



Harmonizing standardized methods for microplastic sampling and analysis in beach sediments

Establishment of two open-ended Working Groups (WGs)



Pilot sites selection in beaches



- i. **Microplastics in Surface Water WG:** development of a harmonized method for microplastic sampling and analysis in surface water.
- ii. **Microplastics in Marine Organism WG:** establishing regular communications and keep identifying joint actions among the established network on the effects of microplastics in marine organisms.

# Progresses of Microplastic study in WESTAPC



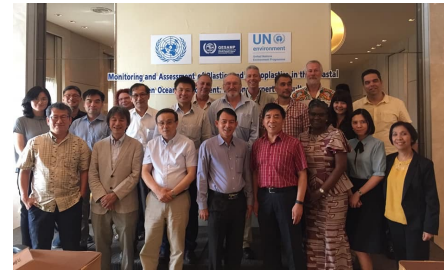
Co-organization of ASEAN Conference on Marine Debris (22-23 Nov 2017, Phuket); the 2<sup>nd</sup> International Symposium on Marine Microplastic Pollution and Control (24-25 April 2018, Shanghai) ; Monitoring and Assessment of Plastics and Microplastics in the Coastal and Open Ocean Environment: Regional Expert Consultation, (15 June 2018, Bangkok, Thailand) ; Reducing Marine Plastic Waste 2019 Shanghai Forum and Seminar on the Global Governance Process of Marine Plastic Pollution (Shanghai)



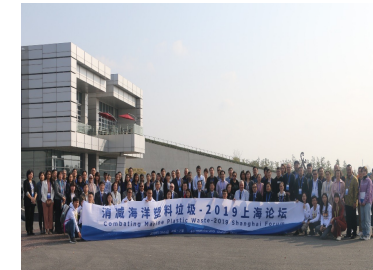
ASEAN CONFERENCE on Reducing Marine Debris in ASEAN Region. A side event on “Research on Marine Debris and Microplastics” (Phuket)



The 2<sup>nd</sup> International Symposium on Marine Microplastic Pollution and Control (Shanghai)



Monitoring and Assessment of Plastics and Microplastics in the Coastal and Open Ocean Environment: Regional Expert Consultation, (Bangkok, Thailand)



Reducing Marine Plastic Waste 2019 Shanghai Forum

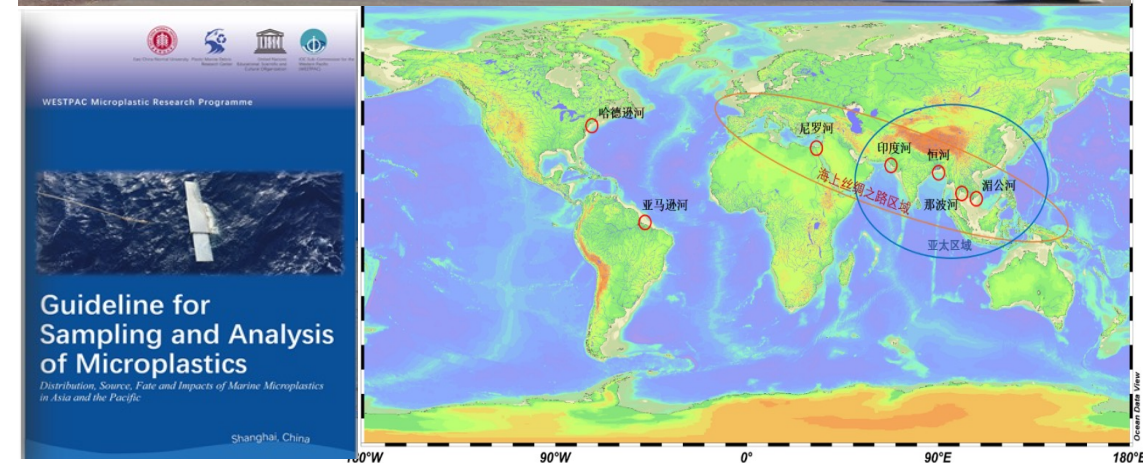


Seminar on the Global Governance Process of Marine Plastic Pollution (Shanghai)

# Progresses of Microplastic study in WESTAPC



2<sup>nd</sup> workshop (15-17 Oct, 2018, Shanghai, China)



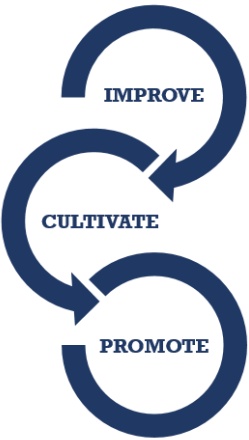
3<sup>rd</sup> workshop (3-4 Nov, 2019, Shanghai, China)

- Established harmonized monitoring methodologies.
- Collaborative monitoring activities in major rivers globally.

# Progresses of Microplastic study in WESTAPC



## Establish UNESCO/IOC Regional Training and Research Center on Plastic Marine Debris and Microplastics



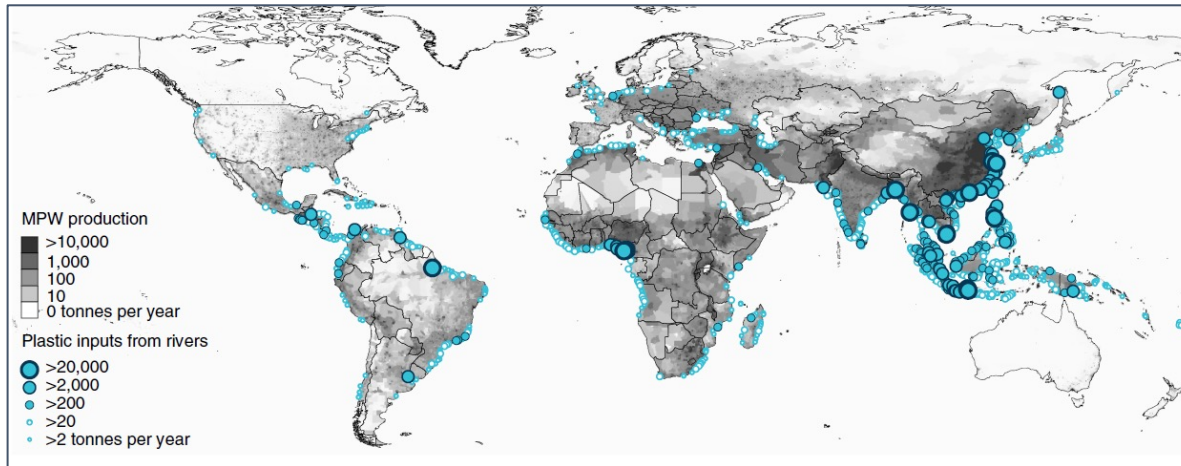
- (1) Improve the research capacity, including sampling, measuring, modeling and assessing abilities, of countries in the Asia-Pacific region, or others
- (2) Cultivate talented young researchers from IOC member states, particularly those from developing countries, or others
- (3) Promote the ability of marine environmental governance by developing countries in the region or others
- (4) networking of the regional experts to provide advice to the member countries on related issue of marine debris and microplastics
- (5) Promoting and launching regional targeted scientific research projects



# Decade Action UN22 Introduction and Justification

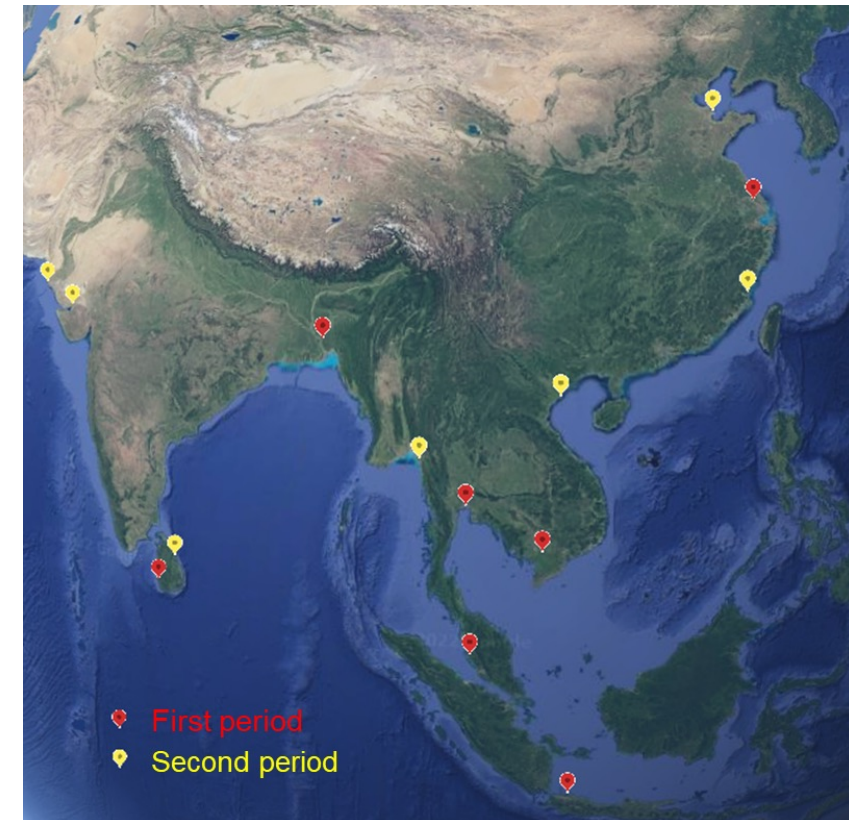


(Background and why this programme/project is needed for the UN Ocean Decade)



- Lack of in-situ data to provide evidence-based information
- Engagement of local government, communities in combating plastic pollution
- In line with priority interests of national/local governments and researchers

- Account for 60% mismanaged plastic waste (MPW) in Asia, and 80% Asia's river export of plastic to the sea



# Timeframe and objectives for UN22

(Specific, Measurable, Achievable, Relevant, and Time bound)

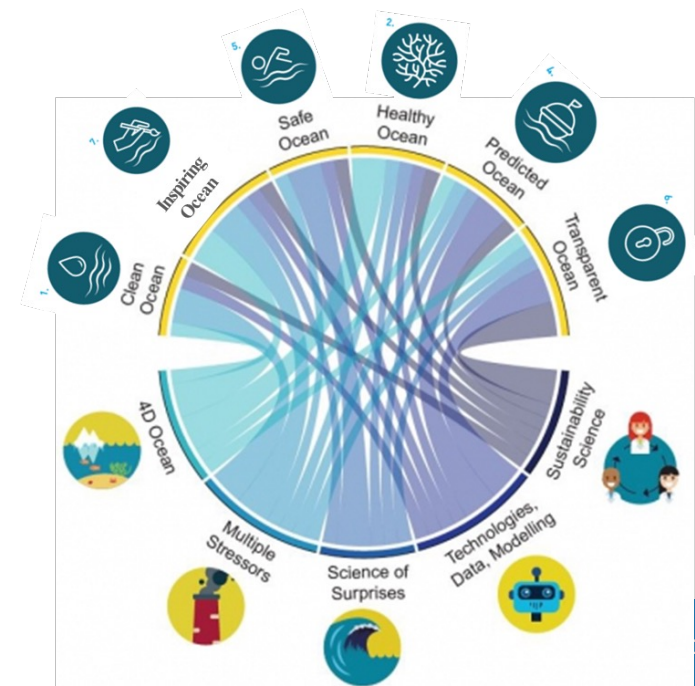
What were expected to achieve over the project timeframe?

- Develop a better understanding of the sources, pathways, fluxes, leakage and accumulation hotspots of river plastic and microplastics via co-designed field samplings, site visits, analysis, and modeling.
- Catalyze management, infrastructure, technological and behavioral solutions to reduce riverine plastic waste, via the conduct of joint research, capturing and sharing of lessons learned and best practices, technology innovation, and engagement of local authorities, NGOs, business and private sectors, and other stakeholders if relevant.
- Develop research capacity of young scientists and students in developing countries for marine plastic and microplastic research and monitoring.



## Timeframe

2022.06– 2028.12  
(6 years)



# Activities and progresses made from 2022-2023



(the activities and progresses have been made since it was registered as the UN Ocean Decade programme/project to April 2023)

## Activities and progresses

- On 20 May 2022, brainstorming online meeting.
- A series of virtual meetings were held between 9 August and 15 October 2022, to further detail the project and define clear objectives for each stage of the research.
- On December 2, 2022, online discussion on river plastic and microplastic monitoring and estimation of oceanic influx.
- In terms of capacity-building, the project leader is currently supporting the training of two doctoral students each from Vietnam and Thailand, and one postdoctoral researcher from Pakistan.

The Western Pacific has been recognized as a hotspot area for riverine plastic waste. Current monitoring and studying riverine plastic waste in the region remain limited.

This incubator is intended to discuss the current limitations in the monitoring of riverine plastic waste and promote collaborative, co-designed, solution-oriented research and monitoring actions in the region based on harmonized methodologies. Besides, the latest policy and technology development will be shared and discussed. The incubator welcomes the participation of ocean stakeholders interested in and committed to combatting plastic pollution.

**Speakers**

- Patrick Yeung, Ocean Program Expert for WWF China
- Wijarn Simachaya, President of Thailand Environment Institute
- Lixin Zhu, East China Normal University
- Daoji Li, East China Normal University, China
- Lonneke Holierhoek, The Ocean Cleanup
- Ivonne Milichristi Radjawane, Institute Technology Bandung, Indonesia
- Vo Tran Tuan Linh, Institute of Oceanography (VNO), Vietnam

**Date & Time**  
26 November 2021  
1030-1230  
(UTC+7, Bangkok time)

**Registration**

**Incubator Program**

**Convener**  
Daoji Li, East China Normal University, China

Zoom 会议

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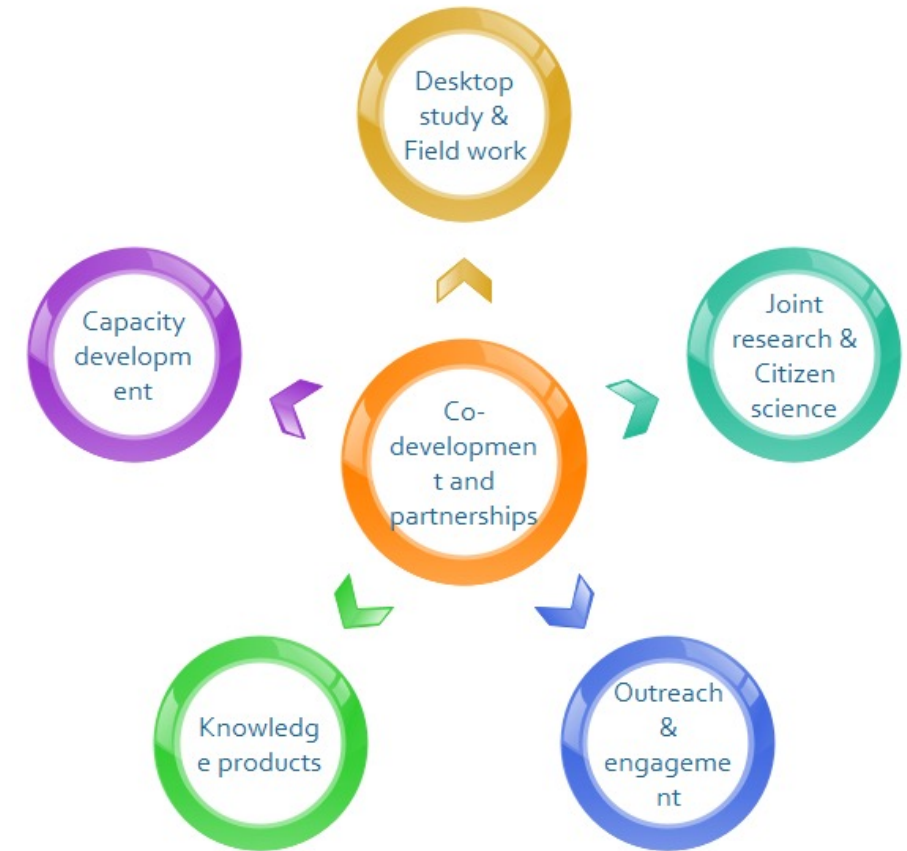
Participants visible in the grid:

- IOC Sub-Commission for the Western...
- Jiayi Xu ECNU
- DMCR\_patcharaporn.Y
- ION-Ho Van The
- Zulfigar Yasin
- Aileen Tan
- Daoji Li
- Agung Dhamar Syakti
- Somkiat Khokattiwong
- DMCR\_Phaothep
- Vo Tran Tuan Linh - Institute of OC
- Deetha Amarathunga
- ECNU - Chunhua...
- zhao yinsong

# Objectives to be achieved over the next 2 year (May 2023-April 2025)



- (1) By June 2023, a set of standardized methodology developed for riverine plastic and microplastic monitoring and flux estimate.
- (2) Starting from 2023.07, baseline studies on the status of riverine plastic pollution and countermeasures (waste management), research capacity and engagement. Pilot rivers in China, Thailand, and Vietnam.
- (3) 2023.07-2024.12, assessments on distribution and leakage hotspots, major sources, transport, fluxes of plastics and microplastics in pilot rivers.
- (4) By 2024.12, at least 100 young scientists and students in Asia countries trained to do riverine plastic and microplastic related research.



# Plan activities for May 2023-April 2025



Program	Activities	Objectives	Expected outputs/outcomes	Date and place	Funding Required		Remark
					IOC	Other sources (i.e. from national or international)	
	1. International workshop on harmonizing methodology for riverine plastic and microplastic monitoring	Develop standardized methodology for riverine plastic and microplastic monitoring and flux estimate.	A set of standardized methodology developed for riverine plastic and microplastic monitoring and flux estimate.	April 20 <sup>th</sup> , 2023 Online	0	20,000 RMB From East China Normal University	
	2. Training workshops for the riverine plastic and microplastic sampling,	Based on the methodology established, train young scientists and students in the Asia-Pacific region on the using of the methodology	At least 50 young scientists and students will be trained.	June 26-28 <sup>th</sup> , 2023 Sanya, Hainan, China	0	50,000 RMB From East China Normal University	
	3. Filed sampling in pilot rivers	Collect <i>in situ</i> riverine plastic and microplastic data in pilot rivers	At least three pilot rivers will be sampled and the data will be obtained.	July 2023, Dec 2023, Selected pilot rivers	0	100,000 RMB From East China Normal University	
	4. International workshop	Share experiences and discuss the project progresses; Make plan for the future.	A project progress report	May 2024 Sanya, Hainan, China	Depends on IOC's budget	50,000 RMB From East China Normal University	
	5. Training workshop on the transport of plastic and MPs in rivers.	Train young scientists and students in the Asia-Pacific region on the modeling the transport of plastic and microplastic in rivers.	At least 50 young scientists and students will be trained.	Oct 16-18 <sup>th</sup> , 2024 Sanya, Hainan, China	0	50,000 RMB From East China Normal University	



United Nations Educational, Scientific and Cultural Organization



UNESCO-China Funds-in-trust



United Nations Educational, Scientific and Cultural Organization



From the People of Japan



United Nations Educational, Scientific and Cultural Organization



Korea Funds-in-Trust



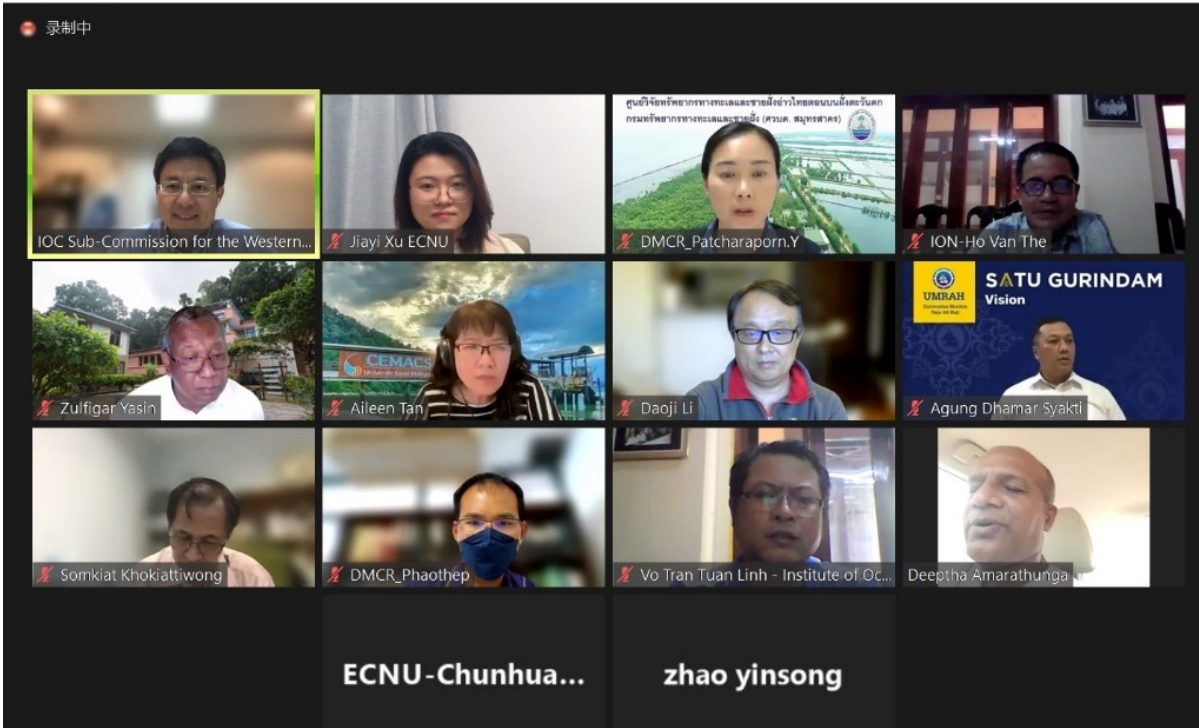
United Nations Educational, Scientific and Cultural Organization



THAI National Commission for UNESCO  
สำนักงานเลขาธิการคณะกรรมการแห่งชาติว่าด้วยการศึกษา วิทยาศาสตร์ และวัฒนธรรม แห่งสหประชาชาติ (ยูเนสโก)



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# Thank You

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