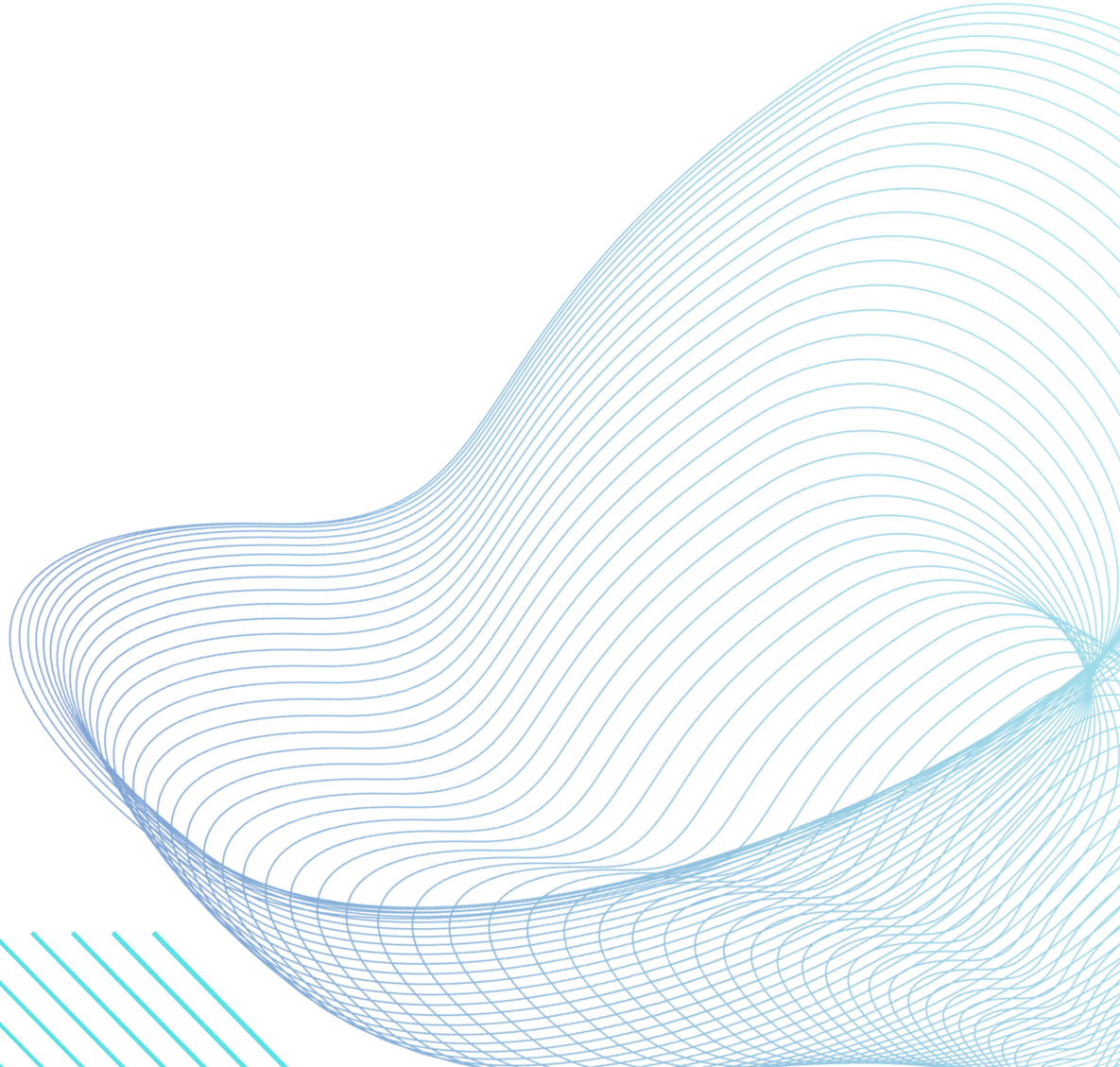
Asia-Pacific Network for Global Change Research (APN) Collaborative Regional Research Programme (CRRP) Award

Establishing a pilot network for microplastic monitoring and analysis in the coastal environment of Southeast Asia

Project Kick-off Meeting

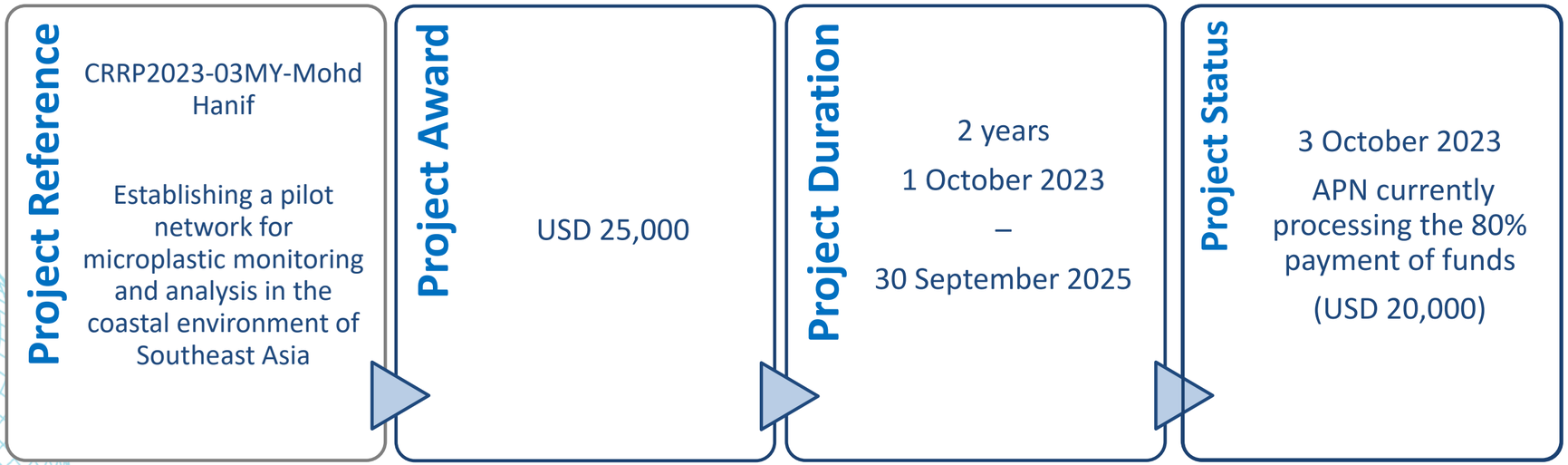
Friday, 13 October 2023



Agenda

1. Project Overview
2. Project Objectives, Framework and Key Deliverables
3. Project Timeline and Milestones
4. APN Reporting Requirements
5. Project Team Roles and Responsibilities
6. Risk Management and Mitigation
7. Communication Plan
8. Next Steps and Action Items
9. Questions and Open Discussion

Project Overview



Our Team

No	Name	Institution	Role
1	Dr. Norfazrin Mohd Hanif	National University of Malaysia	Leader
2	Assoc. Prof. Dr. Sharifah Nabihah Syed Jaafar	National University of Malaysia	Member
3	Prof. Dr. Norfilza Mohd Mokhtar	National University of Malaysia	Member
4	Assoc.Prof. Dr. Saisiri Chaichana	Songkhla Rajabhat University, Thailand	Member
5	Dr. Siriporn Borrirukwisitsak	Silpakorn University , Thailand	Member
6	Dr. Do Thi Thuy Quyen	Vietnam National University Ho Chi Minh City	Member
7	Assoc. Prof. Dr. Yusuke Fujii	Osaka Metropolitan University	Member
8	Prof. Dr. Mohd Talib Latif	National University of Malaysia	Advisor
9	Assoc. Prof. Dr. To Thi Hien	Vietnam National University Ho Chi Minh City	Advisor

Our Technical Expert

No	Name	Institution	Role
1	Prof. Dr. Okochi	Waseda University, Japan	Expert on atmospheric microplastic
2	Prof. Dr. Daoji Li	East China Normal University, Shanghai, China	Expert on marine microplastic and WESTPAC-IOC and Advisory Council member of Alliance to End Plastic Waste
3	Dr. Vahitha Abdul Salam	Queen Mary University of London	Expert on microplastic and health

Our Gov. Agencies Advisor

No	Name	Institution	Role
1	Ganesan Jeyabalan (Principal Assistant Secretary)	Environmental Management Division, The Ministry of Natural Resources, Environment and Climate Change, Malaysia	Providing advice and support to the team on the policy related to plastic pollution and management including other matters related to policy
2	Phaothep Cherdsukjai (Fishery Biologist)	Marine and Coastal Resources Research Center, Upper Andaman Sea, Department of Marine and Coastal Resources, Ministry of Natural Resources and Environment, Thailand	Providing expertise and advice on microplastic analysis and management
3	Ratchanee Puttapreecha (Fishery Biologist)	Marine and Coastal Resources Research Center, Lower Gulf of Thailand, Department of Marine and Coastal Resources, Ministry of Natural Resources and Environment, Thailand	Providing advice on microplastic analysis and management
4	-	Department of Marine and Coastal Resources (DMCR)	National focal point for marine debris and microplastic in Thailand
5	-	Ministry of Natural Resources and Environment, Vietnam	National focal point for plastic pollution and management in Vietnam

Project Objectives

The overall objective of this study is to provide an assessment of the type, level, and source of microplastic in air and surface seawater samples in order to have good scientific evidence to base education, assess its potential environmental risks, and support science-based decision-making.

1. To assess the current status of microplastic monitoring and analysis in the different coastal environments in Southeast Asia countries (Malaysia, Thailand, Vietnam).

2. To develop a uniform methodology for sampling and analysis of microplastics in air and surface seawater samples.

3. To build a pilot network of researchers that foster collaborative research, capacity building and knowledge sharing among researchers that work on microplastic in the coastal environment of Southeast Asia.

Project Framework

OBJECTIVE 1

To assess the current status of microplastic monitoring and analysis in Southeast Asia countries

- Assessing the concentration level of microplastic based on existing dataset
- Reviewing the existing sampling strategies

OBJECTIVE 2

To develop a uniform methodology for sampling and analysis of microplastics in air and surface seawater samples

- Conducting benchmarking and analysis of best practices towards formulating the uniform strategies
- Conducting pilot test using the uniform methodology

OBJECTIVE 3

To build a pilot network of researchers that foster collaborative research, capacity building and knowledge sharing

- Discussing the impact of plastic pollutions, identifying relevant policy processes and appropriate decision-makers for engagement
- Building capacity on controlling microplastic pollution

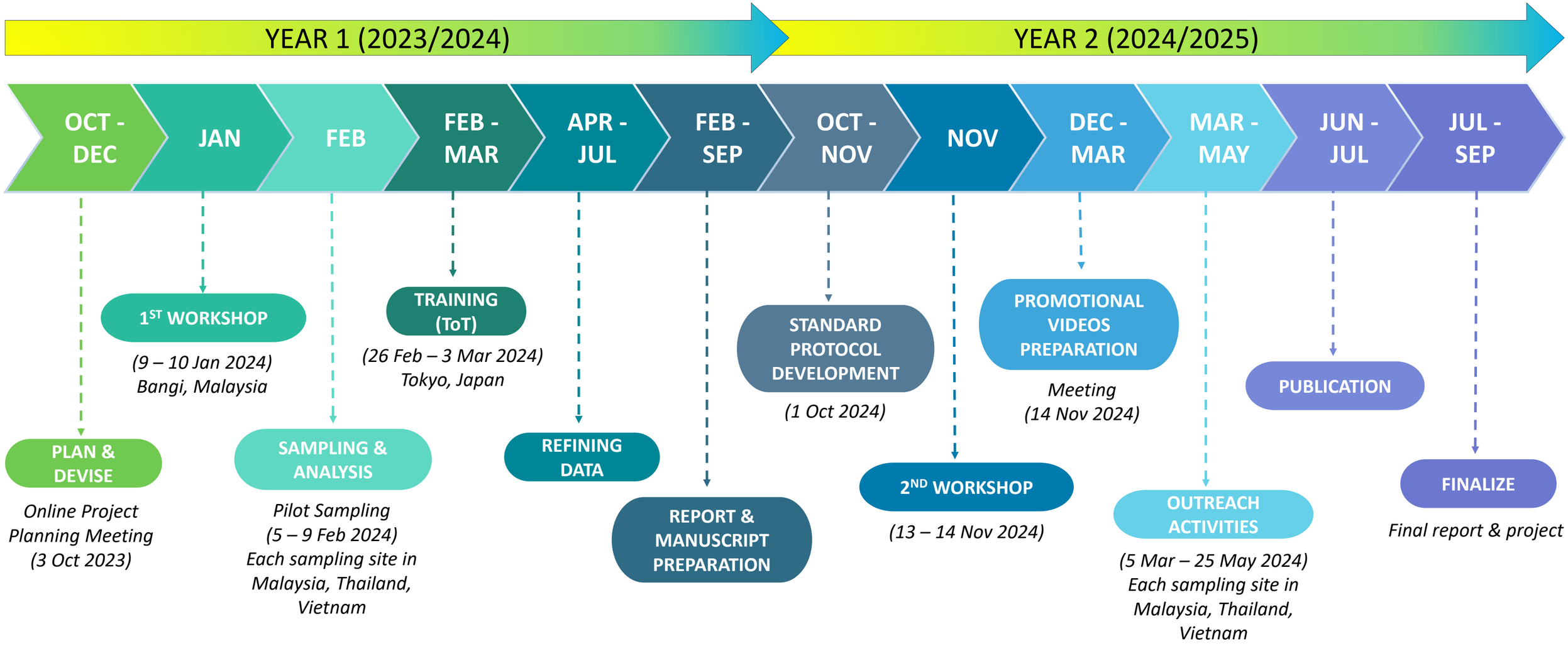
Project Framework

OBJECTIVES	**To access the current status of microplastic monitoring and analysis**	**To develop a uniform methodology for sampling and analysis**	**To establish a pilot network of researchers that foster collaborative research, capacity building and knowledge sharing**
ACTION(S)	• Assessing the concentration level of microplastic based on existing dataset • Reviewing the existing sampling strategies	• Conducting benchmarking and analysis of best practices towards formulating the uniform strategies • Conducting pilot test using the uniform methodology	• Discussing the impact of plastic pollutions, identifying relevant policy processes and appropriate decision-makers for engagement • Building capacity on controlling microplastic pollution
INDICATOR(S)	• The dataset was derived based on past and existing observational campaigns • Overview of the existing sampling and analysis, and identify potential gap	• Recommendations on the best strategies based on a benchmarking exercise conducted • Verification of the concentration level and characteristic of microplastic resulting from using the uniform methodology	• Conduct a number of policy-relevant research and outreach activities during the next five years • Engagement in outreach activities with the local community to educate and raise awareness
VERIFICAATION	• Social media • Publications	• Standard Operation Procedure (SOP) • Multilingual videos on the procedures	• Social media and scientific publications • Survey • Collaboration with local health centres

Project Framework

OBJECTIVES	**To access the current status of microplastic monitoring and analysis**	**To develop a uniform methodology for sampling and analysis**	**To establish a pilot network of researchers that foster collaborative research, capacity building and knowledge sharing**
ACTION(S)	• Assessing the concentration level of microplastic based on existing dataset • Reviewing the existing sampling strategies	• Conducting benchmarking and analysis of best practices towards formulating the uniform strategies • Conducting pilot test using the uniform methodology	• Discussing the impact of plastic pollutions, identifying relevant policy processes and appropriate decision-makers for engagement • Building capacity on controlling microplastic pollution
INDICATOR(S)	• The dataset was derived based on past and existing observational campaigns • Overview of the existing sampling and analysis, and identify potential gap	• Recommendations on the best strategies based on a benchmarking exercise conducted • Verification of the concentration level and characteristic of microplastic resulting from using the uniform methodology	• Conduct a number of policy-relevant research and outreach activities during the next five years • Engagement in outreach activities with the local community to educate and raise awareness
VERIFICAATION	• Publications	• Standard Operation Procedure (SOP) • Multilingual videos on the procedures	• Social media and scientific publications • Survey • Collaboration with local gov. agencies and health centres

Project Timeline: Year 1



Project Framework

Rationale/Action(s)	Indicator(s)	Verification	Assumption/Risk
Objective 1: To assess the current status of microplastic monitoring and analysis in the different coastal environments in Southeast Asia countries (Malaysia, Thailand, Vietnam)			
1.1 Assessing the concentration level of microplastic collected at different coastal environments based on existing dataset. 1.2 Reviewing the existing sampling strategies and microplastic analysis deployed by each country involved	1.1 Data on the concentration of microplastic in air and surface water collected at different coastal environments. The dataset was derived based on past and existing observational campaigns 1.2 Overview of the existing sampling strategies and microplastic analysis deployed in three different countries and identification of potential gap	– Social media e.g. Twitter that will showcase the status and output of microplastic research conducted in different countries. – Publications e.g. scientific paper that will illustrate the current status of microplastic levels at different coastal environments, the methodology, the gap and future directions of microplastic research in the region	– Commitment of all project partners to provide microplastic dataset and information about their current methodology for sampling and analysis of microplastic.

Project Framework

Rationale/Action(s)	Indicator(s)	Verification	Assumption/Risk
Objective 2: To develop a uniform methodology for sampling and analysis of microplastics in air and surface seawater samples			
2.1 Conducting benchmarking and analysis of best practices towards formulating the uniform strategies for sampling and analysis of microplastic 2.2 Conducting pilot test using the uniform methodology for determining the concentration level and characteristic of microplastic collected at different coastal environments.	2.1 Recommendation on the best strategies based on the benchmarking exercise conducted towards existing methodology for sampling and analysis of microplastic. 2.2 Verification of the uniform method and data on the concentration level and characteristic of microplastic resulting from using the uniform methodology.	– Standard Operation Procedure (SOP) that will illustrate the uniform methodology used during analysis of microplastic – Multilingual videos (English, Malay, Thai and Vietnamese) on the procedures	The capability of researchers to come up with the uniform methodology on microplastic analysis and adopt the methodology to allow harmonisation and intercomparison data of microplastic concentrations and characteristics between countries. The scientific expert from developed nations and advisory panel will be consulted to facilitate the researchers on matters related to the best practices of sampling and analysis of microplastic.

Project Framework

Rationale/Action(s)	Indicator(s)	Verification	Assumption/Risk
Objective 3: To build a pilot network of researchers that foster collaborative research, capacity building and knowledge sharing among researchers that work on microplastic in the coastal environment of Southeast Asia.			
3.3 Discussing the impact of plastic pollutions on air and marine environment and identifying relevant policy processes and appropriate decision-makers for engagement 3.4 Building capacity on controlling microplastic pollution, learning from best-practices in the South East Asia regional context and internationally	– Number of policy-relevant research and outreach activities by researchers in South East Asia in the next 5 years – Engagement with the local community through outreach activities to educate and create awareness on the impact of microplastic pollution in the atmosphere and water to human health.	– Scientific paper, social media, newsletter article or websites. – Survey to explore the local community's knowledge and understandings of microplastics and its impact on health. – Colorectal cancer screening in the community where microplastic samples were collected. – Collaboration with local health centres on potential cases referred to them following screening measures.	Research scientists may not have enough knowledge on policy relevance. The advisory panel from the government agencies will be consulted to facilitate the researchers on matters related to policy. The project will provide enough introduction before starting the discussion.

Project Timeline: Year 1

Appendix 1. Detailed Timeline Project Activities	Year 1 (2023/2024) (from 1 October 2023 – 30 September 2024)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept
Project Planning Meeting												
Devise and implement communications and networking plans among team members												
The first workshop on analysis of the current status of microplastic monitoring and analysis in the coastal environment of Southeast Asia including benchmarking and analysis of best practices towards formulating the uniform strategies for sampling and analysis of microplastic												
Pilot sampling and analysis												
Training of Trainers (ToT)												
Refinement of the data and output of the project												
Preparation for report and manuscript writing												

Date/Venue	Event	Estimated no. of participants
3 October 2023	Online project planning meeting	10
9 -10 January 2024 *Bangi, Malaysia*	Workshop on analysis of the current status of microplastic monitoring and analysis in the coastal environment of Southeast Asia including benchmarking and analysis of best practices	10 project members (in-person) 3 experts and 3 government agencies representative (online)
5-9 February 2024 *each sampling site in Malaysia, Thailand and Vietnam*	Pilot sampling	10
26 February – 3 March 2024 *Tokyo, Japan*	Training of Trainers (ToT)	8

Project Timeline: Year 2

Appendix 1. Detailed Timeline Project Activities	Year 2 (2024/2025) (from 1 October 2024 – 30 September 2025)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept
Standard protocol development for microplastic assessment												
The second workshop on data comparison and finalising protocol development												
Preparation of uniform methodology manual and multilingual (English, Malay, Thai and Vietnamese) promotional videos												
Engagement with the local community through outreach activities to educate on the health and environmental impact of microplastic pollution in the atmosphere and water												
Preparation for publication												
Final report and project recommendations/dissemination												
APN project & financial reporting												

Date/Venue	Event	Estimated no. of participants
1 Oct 2024	Standard protocol development for microplastic assessment	10
13 – 14 Nov 2024 *Malaysia*	The second workshop on data comparison and protocol development	10 (in person), 6 (online)
14 Nov 2024 *Malaysia*	Meeting for preparation of uniform methodology manual and multilingual promotional videos	10
5 Mar – 25 May, 2025 *each sampling site in Malaysia, Thailand and Vietnam*	Engagement with the local community through outreach activities	30

APN Reporting Requirements

No	Item	Dateline
1	Annual Financial Statement and Financial Breakdown	One month after the end of each year
2	A Monitoring Report	Two months after the end of each year
3	Final Project/Activity Report	After the end of the official term of the Contract.
4	Financial Report for the entire duration of the Project/Activity	One month after the end of the Contract
5	Science Bulletin Manuscript	After the Project/Activity completion
6	Self-Evaluation Project/Activity Review Questionnaire	After the Project/Activity is finished

The APN Secretariat will provide detailed information on the content and formats of reports, manuscripts and questionnaires, including timelines for their submission.

Project Team Roles and Responsibilities

- **Norfazrin Mohd Hanif** - responsible to oversee and coordinate the whole management process of the project as well as providing technical advice and support on the air sampling method and analysis.
- **Sharifah Nabihah Syed Jaafar** - identify and characterize the micro- and nano-plastics by using the spectroscopy approach.
- **Norfilza Mohd Mokhtar** -responsible for health screening related to digestive diseases and educating the community surrounding areas of sampling on the potential health threat related to microplastics.
- **Saisiri Chaichana** - providing advise on the water sampling method and analysis as well as oversee the management processes of the project in Thailand and facilitate the engagement with the stakeholders.
- **Siriporn Borrirukwisitsak** - provide technical support on water sampling and analysis and characterizing the microplastic. She will also facilitate the engagement with the stakeholders as well as oversee the management processes of the project in Thailand.
- **Do Thi Thuy Quyen** - advise on the sampling and analysis process of microplastic in the air and surface water as well as oversee the management processes of the project in Vietnam.
- **Yusuke Fujii** - provide support for sampling of atmospheric microplastic and conduct pretreatment of atmospheric microplastic. He also will facilitate the training and analysis process with the expert i.e. Prof. Okochi from Waseda Uniersity.

Project Team Roles and Responsibilities

Year 1

Date/Venue	Event	Estimated no. of participants	Coordinator
3 October 2023	Online project planning meeting	10	UKM
9 -10 January 2024 *Bangi, Malaysia*	Workshop on analysis of the current status of microplastic monitoring and analysis in the coastal environment of Southeast Asia including benchmarking and analysis of best practices	10 project members (in-person) 3 experts and 3 government agencies representative (online)	UKM
5-9 February 2024 *each sampling site in Malaysia, Thailand and Vietnam*	Pilot sampling & analysis	10	All
26 February – 3 March 2024 *Tokyo, Japan*	Training of Trainers (ToT)	8	?

Project Team Roles and Responsibilities

Year 2

Date/Venue	Event	Estimated no. of participants	Coordinator
1 Oct 2024	Standard protocol development for microplastic assessment	10	?
13 – 14 Nov 2024 *Malaysia*	The second workshop on data comparison and protocol development	10 (in person), 6 (online)	UKM
14 Nov 2024 *Malaysia*	Meeting for preparation of uniform methodology manual and multilingual promotional videos	10	UKM
5 Mar – 25 May, 2025 *each sampling site in Malaysia, Thailand and Vietnam*	Engagement with the local community through outreach activities	30	?

Risk Management and Mitigation

1. Potential risks that could affect this project e.g. technical, financial, operational, and external risks

2. Risk assessment and planning

Communication Plan

Internal

- Platform: WhatsApp Group and email
- Frequency of meet-up: Once a month? Fix day and time?
- Sharing platform: Google Drive

External

- Project Website
- Twitter
- APN Website

Next steps & Action items

No	Item	Action	PIC
1	Letter to technical experts and local government agencies	- To prepare a letter to indicate the involvement	Fazrin
2	Appointment of RA	- To conduct interview, potentially 19th / 20th Oct 2023?	Fazrin, Nabihah and Prof. Filza
3	Website	- To apply to UKM for a website to be hosted within UKM facility (http://ewarga.ukm.my/daftarweb/)	Fazrin
4	Update from each coordinator of activity	- To provide an update on the planned activity/budget/ promotional of the activity etc. during next meeting	All

iCACGP-IGAC 2024 Conference

Atmospheric Chemistry: From Local Knowledge to Global Sustainability

9 - 13 September 2024 | Kuala Lumpur Malaysia

Organised and supported by :

INTRODUCTION

The 16th International Commission on Atmospheric Chemistry and Global Pollution (iCACGP) Symposium and 18th International Global Atmospheric Chemistry (IGAC) Science Conference (iCACGP-IGAC Conference 2024) is scheduled to take place at the World Trade Centre Kuala Lumpur (WTC KL) in Kuala Lumpur, Malaysia, from 9th to 13th September 2024. The IGAC Early Career Short Course has been an essential component of the conference since 2004, with a particular emphasis on early-career scientists and scientists from developing nations. The Early Career Short Course is scheduled to take place from 6th to 8th September 2024.

CONFERENCE THEMES

Atmospheric Chemistry: From Local Knowledge to Global Sustainability

Session 1: Air Quality Impacts
Session 2: Atmospheric Chemistry: Climate and Weather Impacts on Air Quality
Session 3: Chemistry Processes and Mechanism Fundamentals
Session 4: Atmospheric Chemistry in the Changing Earth System
Session 5: Recent Campaigns and New Developments in Observations and Modelling
Session 6: Panel Discussion of Current Challenges and Future directions in Atmospheric Chemistry for Sustainable Solutions

IMPORTANT DATES

Abstract Submission: 1 January 2024 – 30 April 2024
Acceptance Notification: 1 June 2024
Early Bird Registration: 1 January 2024 – 30 June 2024
Normal Registration: 1 July 2024 – 31 August 2024
Early-Career Programme: 6 – 8 September 2024
Conference Day: 9 – 13 September 2024

REGISTRATION FEE

On-Site Participant

EARLY BIRD REGISTRATION	PRICE	NORMAL REGISTRATION	PRICE
International Participant		**International Participant**	
Regular	USD 550	Regular	USD 650
Low-Income Country	USD 450	Low-Income Country	USD 500
Student	USD 350	Student	USD 400
Local Participant		**Local Participant**	
Regular	RM 1500	Regular	RM 1800
Student	RM 800	Student	RM 1100

Online Participant

EARLY BIRD REGISTRATION	PRICE	NORMAL REGISTRATION	PRICE
Regular	USD 150	Regular	USD 200
Student	USD 90	Student	USD 115
Low-Income Country	USD 25	Low-Income Country	USD 50

Website : icacgp-igac2024.com **Contact us** : igac2024@gmail.com
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Thank You