



# Enhance the Capacity for Species Identification and Genetic Analysis on Marine Organisms in the Coral Reef Ecosystems in the Western Pacific— Third Phase (DRMREEF- III)

Youn-Ho LEE

Korea Institute of Ocean Science and Technology(KIOST)



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



# Presentation outline

---



- Introduction and justification
- Timeframe and objectives
- Major activities, outputs & outcomes over the last intersessional period (May 2021- April 2023)
- A summary of key achievement since its establishment
- Self assessment on implementation against objectives
- Problems encountered and recommended actions
- Objectives to be achieved, if applicable, over the next intersessional period (May 2023- April 2025)
- Planned activities for May 2023- April 2025

# Justification

---



- The Western Pacific region has the world's highest concentration of coastal marine biodiversity and endemism, and a significant portion of the human population here depends on fisheries for their livelihood.
- To conduct a scientifically credible conservation and rational use of the marine biological resources for sustainable development, it is important to establish and provide baseline information on the extent of the current biodiversity and its dynamics.
- For this, the project aims to build regional and national capacity for species identification with a genetic method, DNA Barcoding and to make an inventory of the marine organisms containing biological and ecological information.

# Timeframe & Objectives



Building on the research network and capacity established over the previous two phases, the project plans to achieve:

- Expanding the inventory and sharing information in WESTPAC marine biodiversity portal
- Monitoring recruitment of the reef organisms by analyzing the larvae and fries at the monitoring site(s)
- Compiling and publishing a WESTPAC marine biodiversity book with information on regional level distribution and the DNA barcode

## Timeframe

April 2019 – June 2023  
(4 years)

## Expected outputs, or outcomes

- Expansion of the WESTPAC Marine Biodiversity Portal
- Publication of books and papers on marine biodiversity and its dynamics in the Western Pacific
- Capacity building on DNA taxonomy, identification of species using DNA sequences

# Major activities, outputs & outcomes

May 2021 – April 2023



## Major activities

- Maintenance and Expansion of the WESTPAC Marine Biodiversity Portal
- Publication of a book and papers on coral reef fishes
- Preparation of publishing a marine biodiversity book entitled ‘Probing into Marine Life with DNA barcode in the Tropical Indo-Pacific’

## Outputs & Outcomes

- Expansion of the WESTPAC Marine Biodiversity Portal
- Publication of a book entitled ‘Reef Fishes of Saint Martin’s Island, Bangladesh, an identification book with DNA barcodes’
- Publication of a couple of papers
- Planning and designing a book entitled ‘Probing into Marine Life with DNA barcode in the Tropical Indo-Pacific’



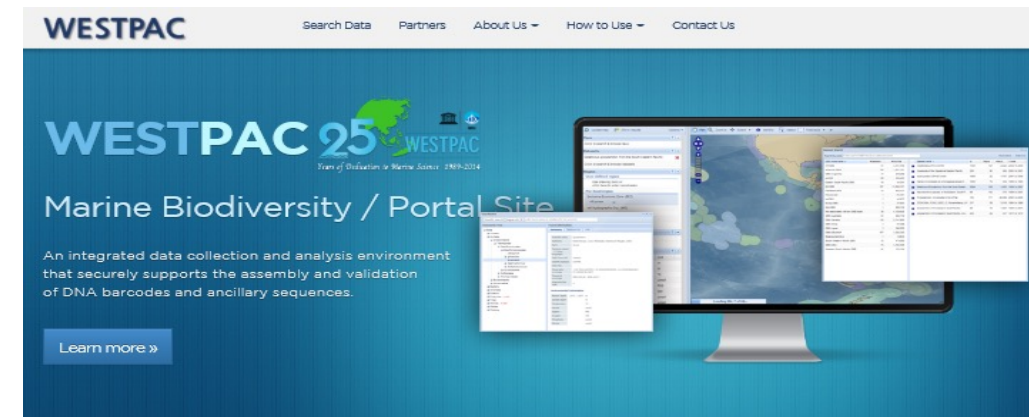
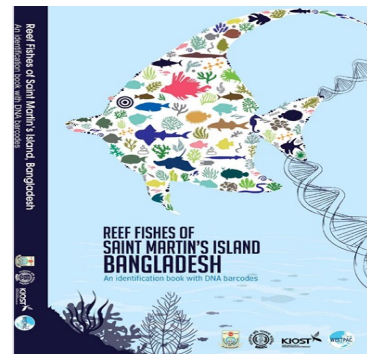
# A Summary of major achievements

Since its establishment– now

- Capacity building on marine species identification using DNA barcode through several workshops



- Establishment of the WESTPAC Marine Biodiversity Portal
- Publication of books and papers on marine life in the WESTPAC region



# Self-assessment about implementation against objectives

---



- The first objective to expand the inventory of marine organisms living in the coral reefs in WESTPAC countries and to share the information among member countries for better assessment of biodiversity has been accomplished successfully.
- The second objective to monitor recruitment of the reef organisms by analyzing the larvae and fries by operation of recruitment monitoring site(s), on the other hand, could not be attempted due to the COVID-19 pandemic situation in the region.
- The third objective to compile and publish a WESTPAC marine biodiversity book with focus on regional level distribution and DNA barcode information is underway for completion by June 2023.

# Problems encountered & recommended actions



to be considered by the 14th Intergovernmental Session of WESTPAC

## Problems encountered

- The prolonged COVID-19 pandemic has hindered gathering and carrying out field research, which has made the second objective to monitor recruitment of the reef organisms not be attempted.
- The pandemic situation has also delayed compiling and publishing the WESTPAC marine biodiversity book.

---

## Actions

- The project period has been extended up to June 2023
- Planning, designing, and writing to publish the WESTPAC marine biodiversity book is in progress.



# Objectives to be achieved, if applicable

Over the intersessional period (May 2023 – April 2025)

(not applicable)



# Planned activities

for the next intersessional period (May 2023 – April 2025)

(not applicable)





# Thank You

Youn-Ho Lee



010-5342-2090



ylee@kiost.ac.kr



<https://www.kiost.ac.kr>

