



PICES-INDONESIA COOPERATION ON MARINE SCIENCE FOR HUMAN RESOURCES AND CAPACITY BUILDING DEVELOPMENT



Suhendar I Sachoemar

- Research Center for Environmental and Clean Technology National Research and Innovation Agency (BRIN)
- Dept of Agro-Industrial Technology, Institute Technology of Indonesia (ITI)
- Expert Council of Indonesian Research Association (PPI)



WHY PICES-INDONESIA COLLABORATION IS IMPORTANT

- PICES, the North Pacific Marine Science Organization, is an intergovernmental scientific organization that was established and held its first meetings in 1992. Its present members are Canada, Japan, People's Republic of China, Republic of Korea, the Russian Federation, and the United States of America.

The purposes of the Organization are as follows:

- Promote and coordinate marine research in the northern North Pacific and adjacent seas especially northward of 30 degrees North
- Advance scientific knowledge about the ocean environment, global weather and climate change, living resources and their ecosystems, and the impacts of human activities
- Promote the collection and rapid exchange of scientific information on these issues

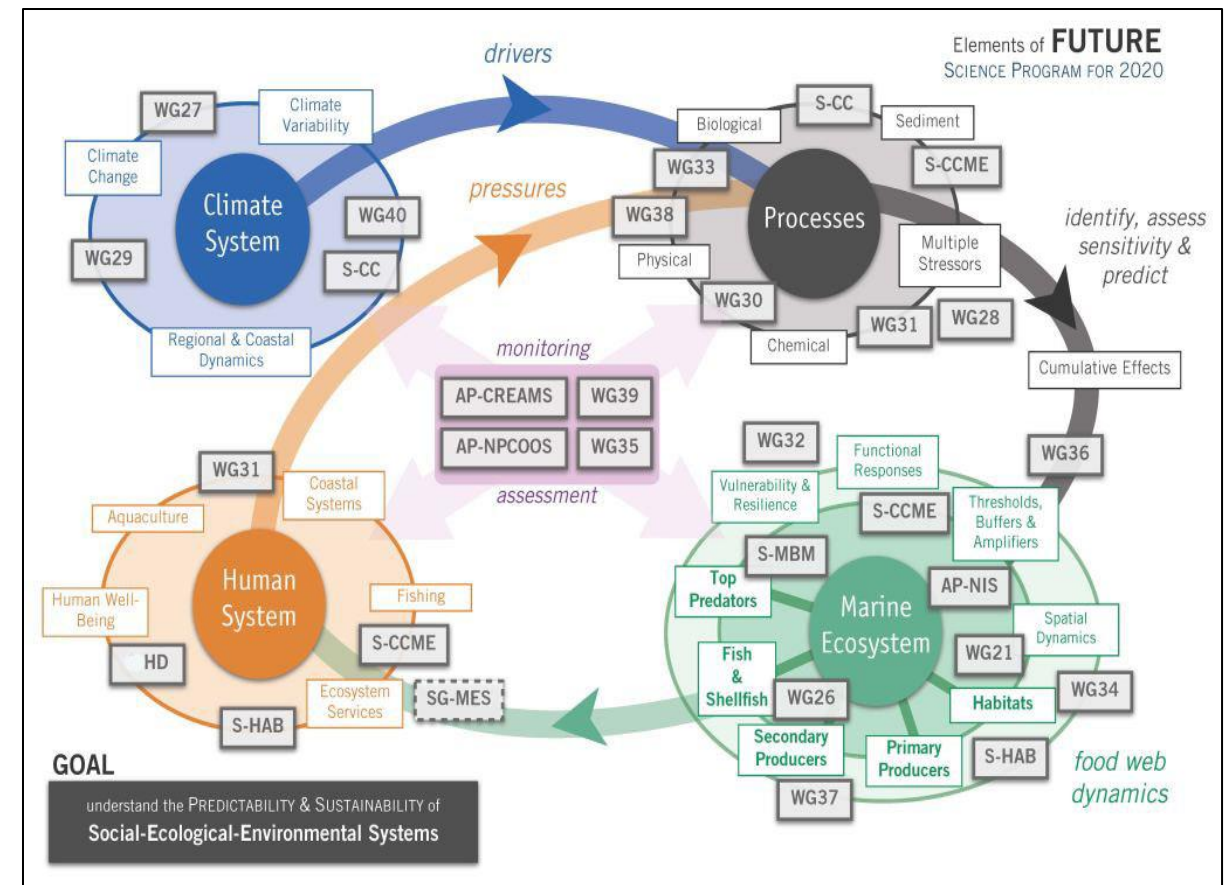
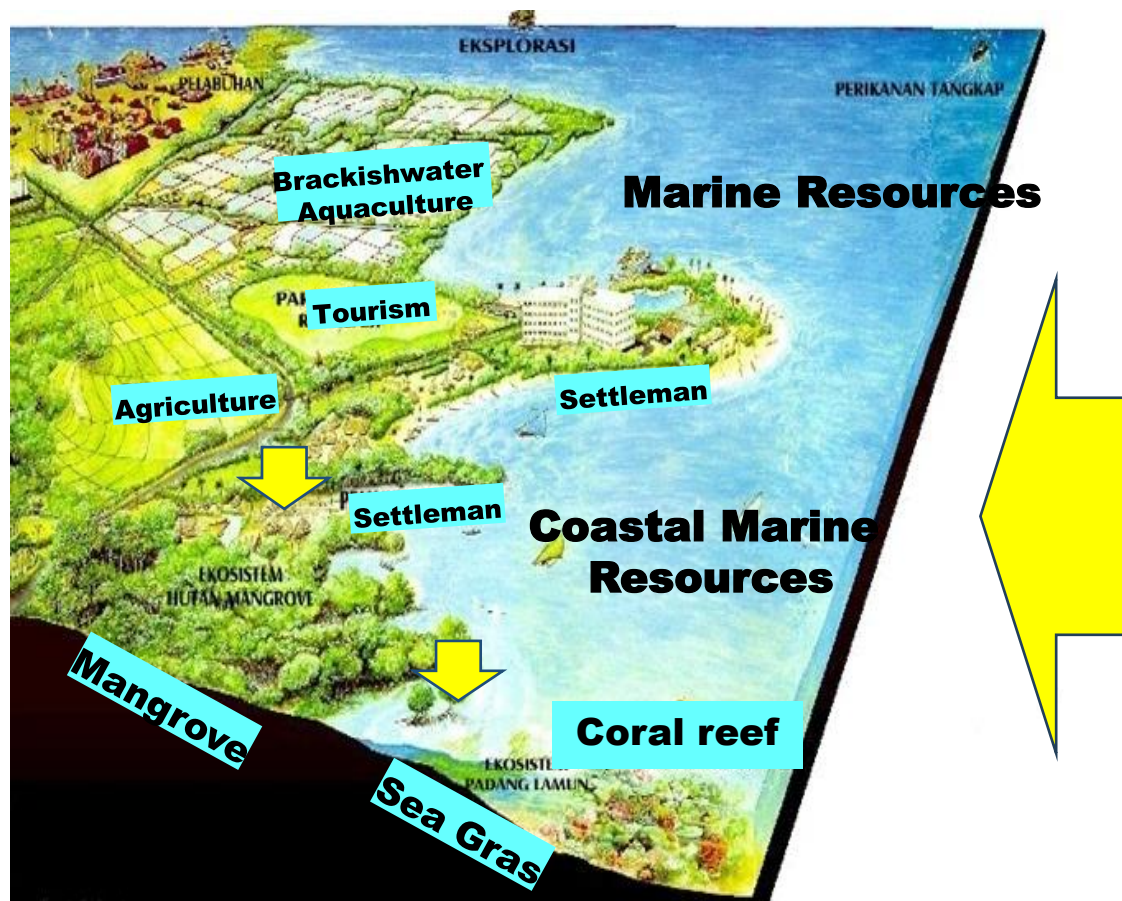
Area Statistics	Value
Marine area	<u>2,915,000</u> km ²
Shelf area	<u>1,847,700</u> km ²
Coastline	<u>95,181</u> km
Land area	<u>1,826,440</u> km ²
Reef area	<u>51,020</u> km ²
Mangrove area	<u>42,550</u> km ²
Reefs At Risk	<u>82</u> %
Socioeconomic Statistics	282.477.584
Population	<u>282.477.584</u> (BPS, 2024)
Coastal Population	70 %

Source : Spalding, M.D., C. Ravilious and E.P. Green (2001) and MMF (2006) and BPS, 2022

- **Indonesia** is the largest archipelagic country in the world consist of 17,000 islands, with 7,000 islands inhabited. Indonesia is located between the continents of Asia and Australia, as well as the Pacific Ocean and the Indian Ocean.
- **The area of Indonesian waters** reaches 5.8 million km² consist of the Exclusive Economic Zone (EEZ) of 2.7 million km² and the territorial sea area of 3.1 million km²(UNCLOS, 1982).



FRAMEWORK TRANSFER KNOWLEDGE AND CAPACITY BUILDING PICES-INDONESIA



PICES-INDONESIA COLLABORATION ACTIVITIES

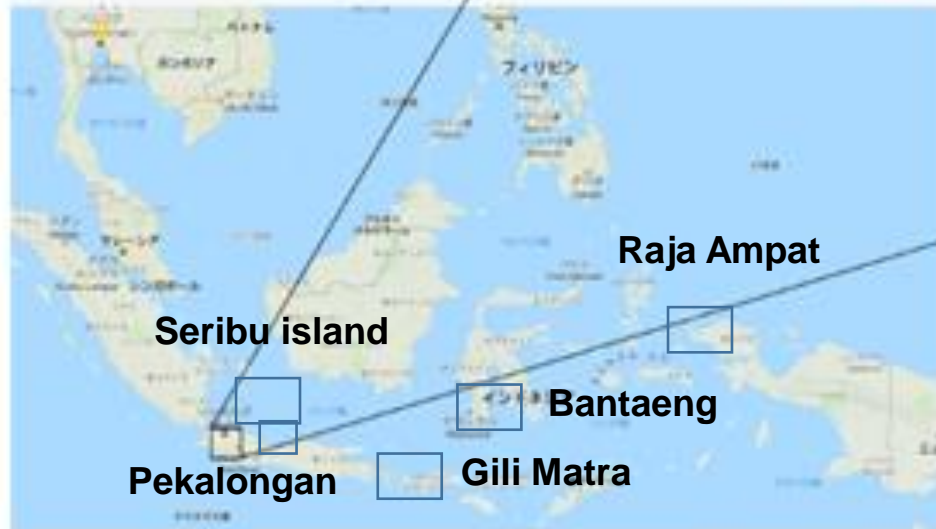
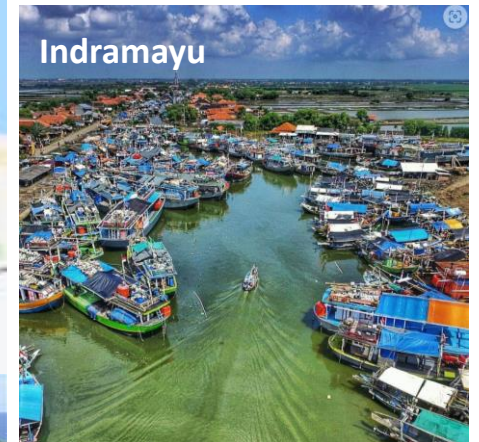
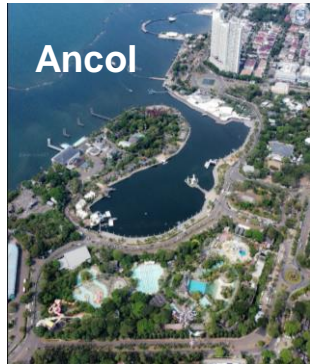
YEAR	PROGRAM	ACTIVITIES
2012-2017	Marine Ecosystem Health : Satoumi	<ul style="list-style-type: none">• Introduction Satoumi through Marine Ecosystem Health and Human Well-being Program as a concept to develop sustainable fisheries and coastal management in Indonesia• Workshop 100 person and Training 50 person in Jakarta and Karawang 2013, Pekalongan 2014, Jakarta Muara Gembong and Indramayu 2017
2017-2020	FishGIS	<ul style="list-style-type: none">• Building capacity for coastal monitoring by local small-scale fishers• Workshop 100 person and Training 50 person in Serang Banten 2017, Workshop 100 person and Training 50 person Jakarta and Seribu Islands 2018, Workshop 100 Person and Training 50 person, Workshop 100 person and Training 50 person, Serang Banten and Pelabuhan Ratu 2019.
2020-2023	Ciguatera	<ul style="list-style-type: none">• Building local warning networks for the detection and human dimension of Ciguatera Fish Poisoning in Indonesian communities• Ciguatera Research Survey in Gili Matra Lombok 2022, Workshop 100 person and Training 50 person in Lombok January 2023
2023-2026	FishPhyto	<ul style="list-style-type: none">• Creating a phytoplankton-fishery observing program for sustaining local communities in Indonesian coastal waters• General Lecture at Institut Teknnologi Indonesia (ITI)-Hybrid 100 person, Training 50 person in Lombok July 2023, Research Survey in Gili Matra 2024, General Lecture at Institut Teknnologi Indonesia (ITI) 2025

The overall goal of the project is to :

(1) provide local communities with the operational capacity and knowledge to manage fisheries resources and ensure sustainable seafood safety in Indonesia, and

(2) identify research needs for deploying these tools in PICES member countries.

SCIENCE AND TECHNOLOGY DISEMINATION



IMPLEMENTED AGENDA 2022-2026

I. SURVEY ACTIVITY (GILI MATRA)-2022

1. 23-28 May (Transition from Wet to Dry Season)-PICES
2. 1-5 August (Dry Season) – BRIN
3. 10-16 October (Transition from Dry to Wet Season)-BRIN
4. 12-18 December (Wet Season) - PICES
5. 20-25 February (Wet Season) - PICES



Gili Matra



II. WORKSHOP AND TRAINING (January 22-27)-2023

- PICES Delegation Arrival
- Field Orientation Gili Matra : January 23
- Field Orientation South Lombok Bay : January 24
- Audience to Secretary Governor West Nusa Tenggara
- Workshop and Training : January 25-27

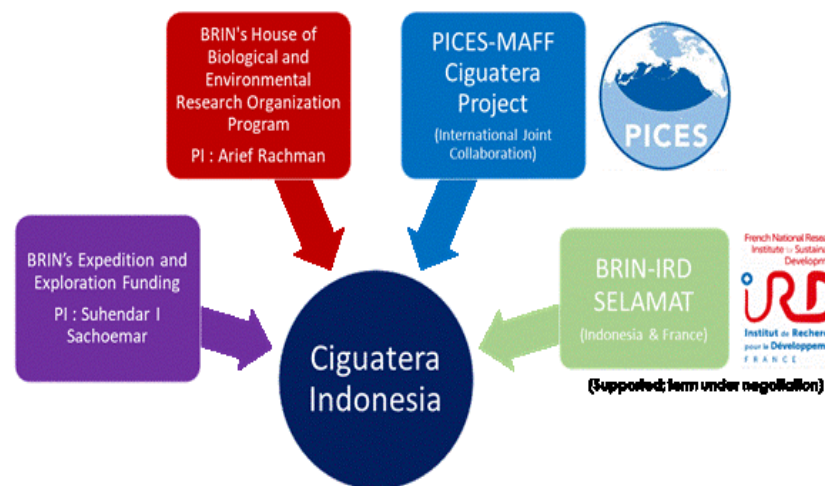
III. CIGUATERA ADVANCED SURVEY (2023-2026)

- Deep Benthic Algae Observation- Gil Matra
- Ciguatera at Gili Nanggu

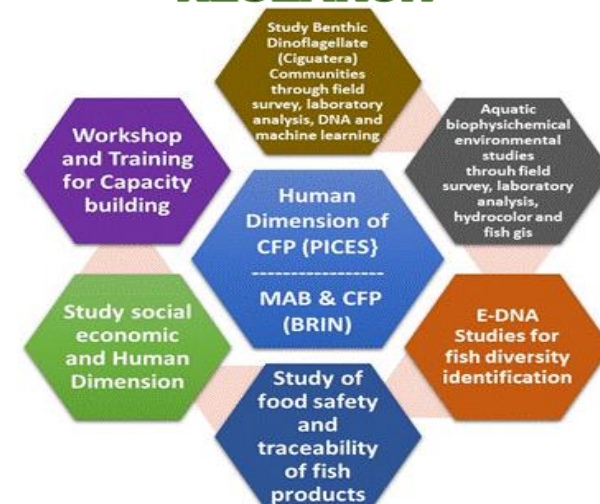
IV. PST and Scientific Meeting

- The end of June 2023 (Offline) : PST Meeting at Lombok and Seminar on Ciguatera, Coastal Marine Environment, Marine Food Safety and Marine Agroindustrial Development at Research Center for Science and Technology (Puspiptek), Serpong, Jakarta, the day before.
- The end of September 2023 (Hybrid) : The First International Joint Seminar on Ciguatera and Sustainable Coastal Marine Resources Management (Iscom), Advanced Technology In Chemical Engineering (Icatce) And Green Technology For Value Chains (Green Vc)

FUNDING AND SCIENTIFIC SUPPORT



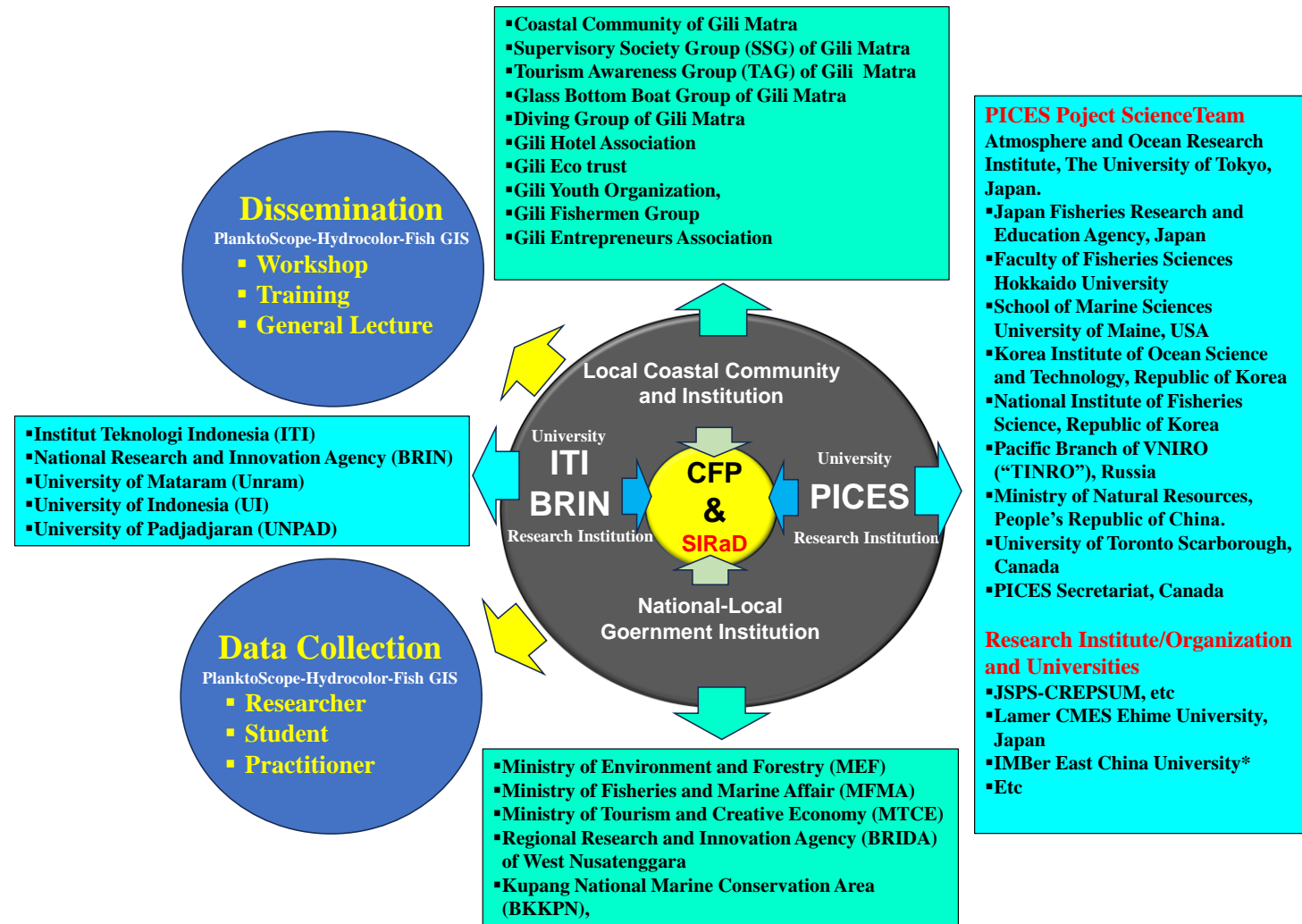
SCOPE OF CFP RESEARCH



STRATEGIC PLANNING AND IMPLEMENTATION

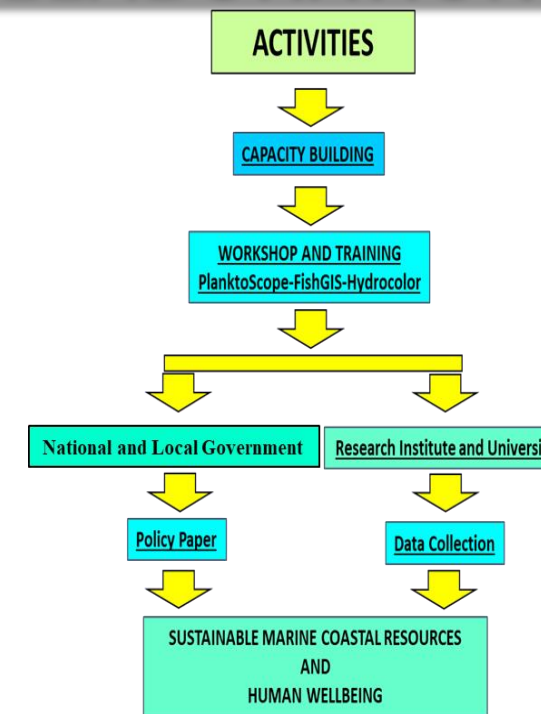
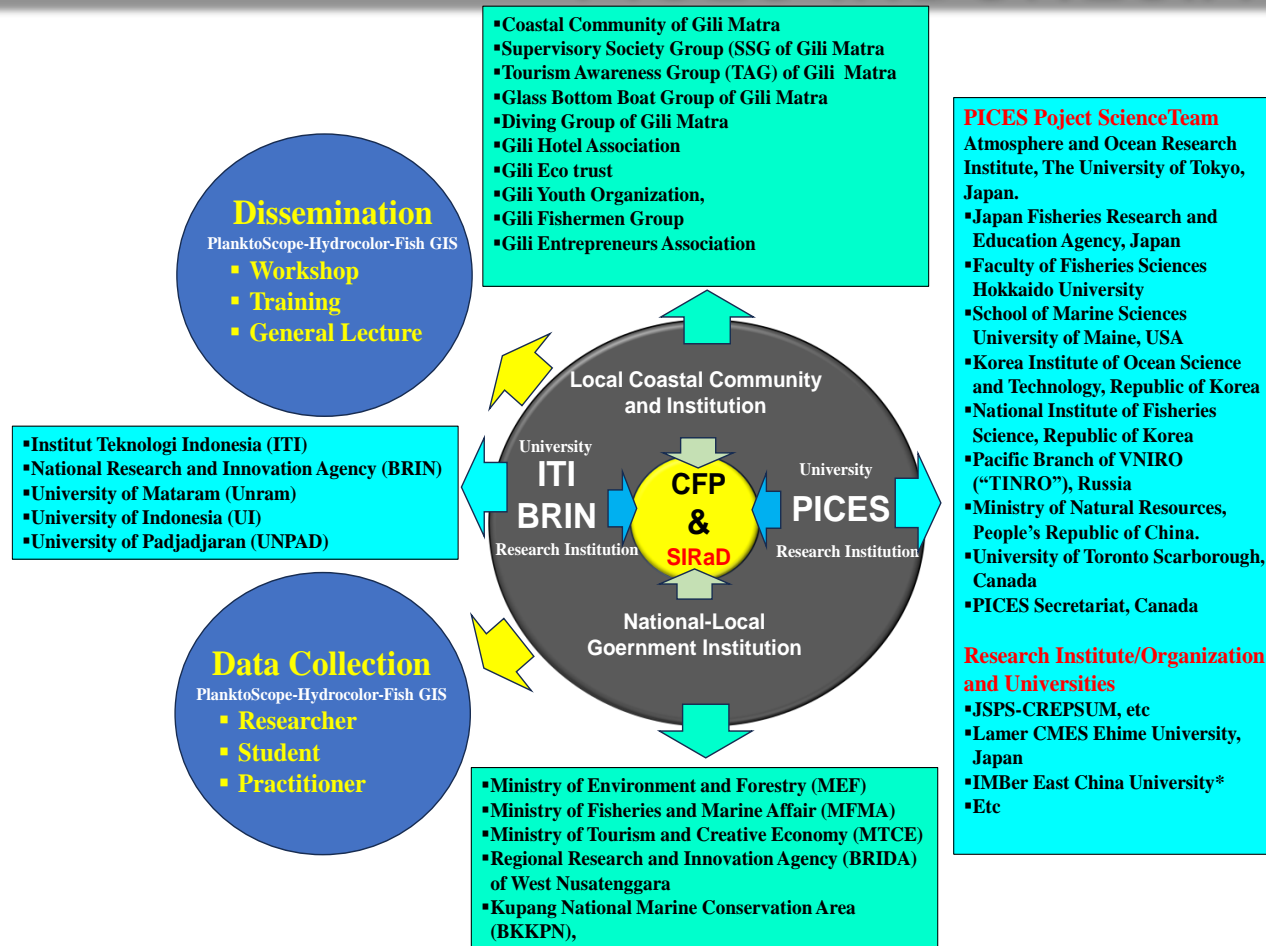
PICES-INDONESIA COLLABORATION

- Dissemination of science and technology to the community to increase their knowledge, understand, accept, adopt and apply it in various related activities, requires a holistic strategy and planning.
- A bottom-up and top-down approach involving community leaders from various related groups as well as decision-maker at both the local and national levels including experts from various research institutions, universities and NGOs is a strategic approach to be implemented in Indonesia.
- The socialization model to bridge the application of knowledge to society like this is expected to become a model that can be applied in other countries.
- Research collaboration on "Building local warning networks for the detection and human dimension of Ciguatera fish poisoning in Indonesian communities" in collaboration with PICES (The North Pacific Marine Science Organization) and Institut Teknologi Indonesia (ITI), National Research and Innovation Agency (BRIN), University of Indonesia (UI) and Mataram University (UNRAM) and local government was established and conducted at Gili Matra, Lombok, Indonesia in 2022 supported by JSPS CREPSUM and Lamer CMES Ehime University to provide the CFP knowledge to all levels of Indonesian coastal community and all policy makers in government, universities and NGO about the dangers of CFP which has become a global issue.

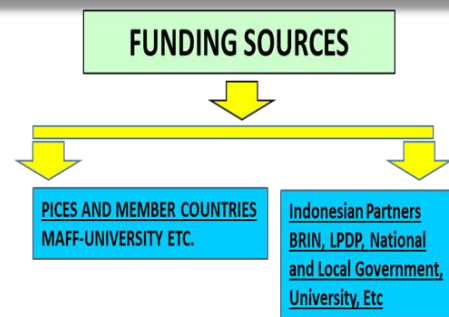
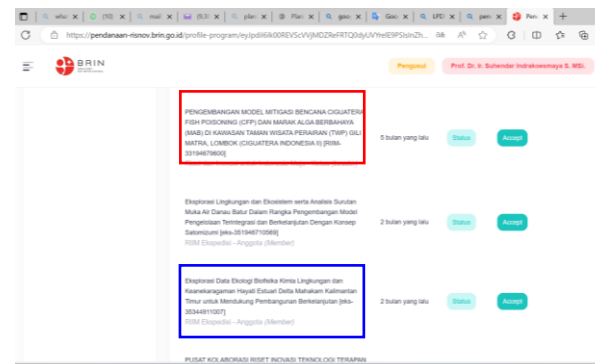


Bottom-up and top-down approach strategic model dissemination of Ciguatera Fish Poisoning (CFP) by involving various stakeholders at local, national and international levels to the coastal community of Gili Matra Lombok, Indonesia

IMPLEMENTATION PROGRAM PICES-INDONESIA COLLABORATION



Research and Innovation Funding - BRIN



LPDP-Education Fund Management Institution, Ministry of Finance

Development of a Disaster Mitigation Model for Ciguatera Fish Poisoning (CFP) and Harmful Algae (MAB) In The Gili Matra Water Tourism Park (WTP) Area, Lombok (Ciguatera Indonesia II) [Riim-33194679600]

- Workshop and Training on PlanktoScope, Fish GIS, Hydrocolor propose to Belitung Local Government.

Bottom-up and top-down approach strategic model of FishPhyto Dissemination Program by involving various stakeholders at local, national and international levels to the coastal community of Gili Matra Lombok, Indonesia

WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2013

Jakarta and Karawang-West Java



WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2013

Jakarta and Karawang-West Java



WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2013

Jakarta and Karawang-West Java



WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2013

Jakarta and Karawang-West Java



WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2014

Karawang-West Java



WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2014

PEKALONGAN-CENTRAL JAVA



WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2014

PEKALONGAN-CENTRAL JAVA



WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2014

PEKALONGAN-CENTRAL JAVA



WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2014

PEKALONGAN-CENTRAL JAVA



WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2014

PEKALONGAN-CENTRAL JAVA



WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2015

Jakarta and Seribu Islands



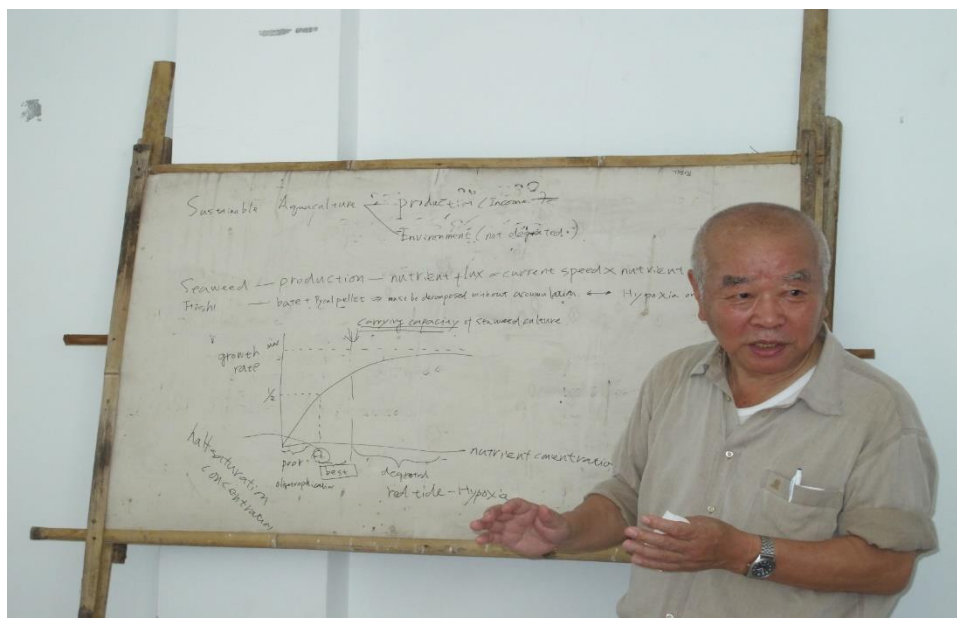
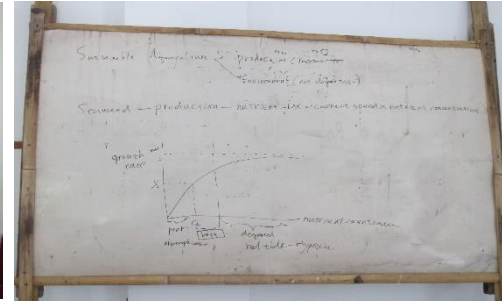
WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2015

Bantaeng-South Sulawesi



WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2015

Bantaeng-South Sulawesi



WORKSHOP AND TRAINING MARINE ECOSYSTEM HEALTH : SATOUMI 2015

Bantaeng-South Sulawesi



WORKSHOP AND TRAINING FISH-GIS JULY 2018

Jakarta, Muara Gembong, Cilincing, Ancol



WORKSHOP AND TRAINING FISH-GIS JULY 2018

Jakarta, Muara Gembong, Cilincing, Ancol



WORKSHOP DAN TRAINING FISH-GIS JULY 2018

Jakarta, Muara Gembong, Cilincing, Ancol



WORKSHOP DAN TRAINING FISH-GIS JULY 2018

Jakarta, Muara Gembong, Cilincing, Ancol



WORKSHOP DAN TRAINING FISH-GIS JULY 2018

Jakarta, Muara Gembong, Cilincing, Ancol



WORKSHOP AND TRAINING FISH GIS FEBRUARY 2019

Serang-Banten and Pelabuhan Ratu-West Java



WORKSHOP AND TRAINING FISH GIS FEBRUARY 2019

Serang-Banten and Pelabuhan Ratu-West Java



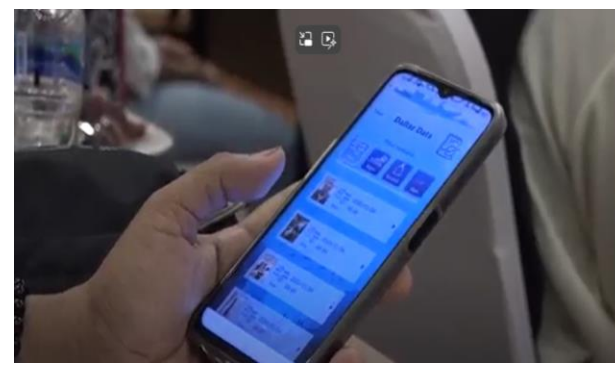
SURVEY CIGUATERA 2022 and 2024

GILIMATRA LOMBOK WEST NUSA TENGGARA



WORKSHOP AND TRAINING CIGUATERA JANUARY 2023

GILIMATRA LOMBOK WEST NUSA TENGGARA



WORKSHOP AND TRAINING CIGUATERA JANUARY 2023

GILIMATRA LOMBOK WEST NUSA TENGGARA



Figure 3. 4. Regional Secretary, Head of BRIDA, WNT Pem.Prov Staff, PICES Delegation and Workshop Committee, WNT Governor's Office, Lombok , 24 January 2023.



Report of the chairman of the committee,
Prof. Suhendar I Sachoemar BRIN-ITI



Speech of Chancellor of Institut Teknologi
Indonesia, Dr.Ir.Marzan A Iskandar,IPU



Speech of PICES representative,
Prof. Mitsutaku Makino



Speech of Chancellor of the University of
Mataram, Prof. Ir. Bambang Hari Kusumo,
M. Agr. Sc., Ph.D.



Speech of Head of Center for Environmental
Research and Clean Technology, BRIN, Dr.
Sasa Sofyan Munawar, S.Hut., M.P



Speech of Regional Secretary of
Governor WNT Province, Drs.H. Lalu
Gita Ariadi, MSi



Opening by Regional Secretary of
Governor WNT Province, Drs.H. Lalu
Gita Ariadi, MSi



Signing MoU ITI with WNT Government



Signing MoU ITI with Mataram



Figure 3.15. Group photo of Institution Leaders, PICES Delegates, Workshop Par Ciguatera Fish Poisoning Training, Lombok, January 25 2023.



Figure 3.17. Training Hydrocolor and Fish GIS



WORKSHOP AND TRAINING CIGUATERA JANUARY 2023

GILIMATRA LOMBOK WEST NUSA TENGGARA



Figure 3.18. Training Planktoscopes



Figure 3.19. Issuance of Certificates



Delegation and Committee at Gili Matra Beach



Prof. Mitsutaku Makino is chatting with the locals



1.2. Organizing Committee

International Organizing Committee

- Prof. Dr. Mitsutaku Makino (PICES-Tokyo University, Japan)
- Prof. Dr. Mark Wells (PICES-Maine University, USA)
- Dr. Shion TAKEMURA (PICES-FRA-MAFF, Japan)
- Dr. Naoki Tojo (PICES-Hokkaido University, Japan)
- Dr. Charlie Trick (PICES-Western University, Canada)
- Dr. Shion Takemura (PICES-FRA-MAFF, Japan)
- Dr. Naoki Tojo (PICES-Hokkaido University, Japan)
- Dr. Daisuke Ambe (PICES-FRA-MAFF, Japan)

Local Organizing Committee

- Advisor
- 1. Dr. Zulkieflimansyah, SE., MSc (Governor of West Nusa Tenggara Province)
- 2. Drs. H. Lahu Gita Ariadi, MSc (The Regional Governor of West Nusa Tenggara Province)
- 3. Dr. Ir. Marzan A Iskandar, MSc, IPU., Asen Eng. (Chancellor of Institut Teknologi Indonesia/ITI)
- 4. Prof. Dr. Bambang Hari Kusumo, M.Agr.St., Ph.D (Chancellor of Mataram University)
- 5. Dr. Sasa Sofyan Munawar, S. Hut., MSc (Head of Research Center for Environment and Clean Technology, National Research and Innovation Agency-BRIN and Dept. of Agricultural Industry-ITI)

Organizing Committee

- 1. Prof. Dr. Ir. Suhendar I Sachoemar, MSc (Research Center for Environment and Clean Technology, National Research and Innovation Agency-BRIN and Dept. of Agricultural Industry-ITI)
- 2. Ir. Shinta Leonita, MSc (Dept. of Agricultural Industry-ITI)
- 3. Arief Rachman, M.Bio.Sc. (Research Center for Oceanography)
- 4. Ir. Syahril Makosim, MSc (Dept. of Agricultural Industry-ITI)
- 5. Dra. Setiati Soekotjo, MSc (Dept. of Agricultural Industry-ITI)
- 6. Ir. Muhami, MSc (Dept. of Agricultural Industry-ITI)
- 7. Mohamad Ramli, ST (Dept of Informatika-ITI)
- 8. Ir. Danti Nurani, MSc (Dept. of Agricultural Industry-ITI)
- 9. Diwardani, SE, M.Sc, PhD (FEB-Mataram University)
- 10. Rahman, S.E., M.Par. (FEB-Mataram University)
- 11. Eko Kris Henriyawan
- 12. Wik Satriza Gunawan

1.3. Invitation and Participant International Organizations

- 1. Prof. Dr. Mitsutaku MAKINO (PICES-Tokyo University, Japan)
- 2. Prof. Dr. Mark Wells (PICES-Maine University, USA)
- 3. Dr. Charlie Trick (PICES-Western University, Canada)
- 4. Dr. Shion TAKEMURA (PICES-FRA-MAFF, Japan)
- 5. Dr. Naoki Tojo (PICES-Hokkaido University, Japan)
- 6. Dr. Daisuke Ambe (PICES-FRA-MAFF, Japan)
- 7. Dr. Manu Prakash (Maine University, USA)
- 8. Dr. Rajad Seto (Maine University, USA)
- 9. Ethan Li (Maine University, USA)

Provincial Government of West Nusa Tenggara (WNT) and BKKPN

- 10. Governor of West Nusa Tenggara Province (NTB)
- 11. Regional Secretary of West Nusa Tenggara Province (NTB)
- 12. Regent of North Lombok Regency
- 13. Secretary of North Lombok Regency
- 14. Head of the Regional Research and Innovation Agency (BRIDA) of NTB Provint
- 15. Secretary to the Head of the Regional Research and Innovation Agency (BRIDA) NTB Province
- 16. Head of the Regional Development Planning Agency (Bappeda) of NTB Provint
- 17. Secretary to the Head of the Regional Development Planning Agency (Bappeda) Province
- 18. Head of the West Nusa Tenggara Province Environment and Forestry Office
- 19. Head of the North Lombok Regency Environment and Forestry Service
- 20. Head of Fisheries and Maritime Affairs Office of NTB Province
- 21. Head of Maritime Affairs and Fisheries Service of North Lombok Regency
- 22. Head of the NTB Provincial Tourism Office
- 23. Head of North Lombok Regency Tourism Office
- 24. Head of the National Water Area Conservation Center (BKKPN)

Institut Teknologi Indonesia (ITI)

- 25. Chancellor : Dr. Ir. Marzan A Iskandar, M.Sc, IPU., ASEAN Eng
- 26. Vice Chancellor : Prof. Dr. Ir. Dwiita Susantiyanti, MSc, IPU, ASEAN Eng
- 27. Head of Cooperation Bureau: Dr. Ir. Iyus Hendrawan, M.Sc, IPU, ASEAN Eng
- 28. Ir. Syahril Makosim, S.T., M.Sc., IPU,
- 29. Ir. Shinta Leonita, S.TP., M.Sc.
- 30. Dr. Setiati Soekotjo, M.Sc
- 31. Ir. Muhami, M.Sc, IPU
- 32. Mohamad Ramli, ST (PS IF)
- 33. Ir. Danti Nurani, MSc (PS TIP)

National Research And Innovation Agency (BRIN)

- 34. Head of Research Organization for Environmental and Biological Resources : Dr. Iran Hidayat
- 35. Head of Research Center for Environment and Clean Technology : Dr. Sasa Sofyan Munawar, S.Hut., M.P

Workshop and Training Agenda

Saturday, 21 January 2023	
Afternoon	The Chair of the Committee (Prof Dr. Ir. Suhendar, MSc) and Arief Rachman, M.Bio.Sc arrived in Lombok
Sunday, 22 January 2023	
The PICES delegation arrives in Lombok	
Ir. Shinta Leonita, STP MSc and Ir. Syahril Makosim, MSc IPM arrives in Lombok.	
Dinner PICES Delegate and Committee	
Monday, 23 January 2023	
18.30 – 21.00	Field trip of the PICES delegation with the committee to Gili Trawangan, Gili Air and Gili Meno
08.00 – 16.00	Field trip of the PICES delegation with the committee to Gili Trawangan, Gili Air and Gili Meno
Tuesday, 24 January 2023	
The Research Team, the committee along with the Jakarta invitees arrived in Lombok	
18.30 – 21.00	Audience of the PICES delegation, Chancellor of ITI, BRIN and the committee with the Governor of WNT
20.00 - selesai	Finished Ballroom preparations Dress rehearsal
Wednesday, 25 January 2023	
08.30 – 09.00	Registration
09.00 – 10.00	Opening of the Workshop
10.15 – 10.25	Internal Institution Signing of MoU and IA
10.30 – 11.20	Dissemination of Ciguatera Research Results and the Pices Program
11.20 – 12.40	Discussion
12.30 – 13.30	Lunch Break
13.30 – 17.00	First day training
19.30 – 21.00	Gala Dinner
Thursday, 26 January 2023	
08.30 – 09.00	Registration
09.00 – 17.00	Second day training, divided into two groups
1. Coastal community participants take part in the Hydrocolor and Fish GIS training	
2. Representatives from the service participate in Closure of Hydrocolor and Fish GIS training	
16.00 – 17.00	Giving souvenirs from the committee to the PICES delegates
Distribution of certificates for training participant	
Friday, 27 January 2023	
08.30 – 09.00	Registration
09.00 – 10.00	Planktoscopes. Training

- 36. Head of Marine and Land Biodiversity Research Center : Dr. Fahrurrozi
- 37. Prof. Dr. Ir. Suhendar I Sachoemar, MSc
- 38. Arief Rachman, M.Bio.Sc.
- 39. Dr. Ratu Siti Aliah, M.Sc
- 40. Annisa Firi Larasagita, SPI., M.Sc
- 41. Hanny Meirunawati, M.Sc
- 42. Dr. Ir. Joko Prayitno Soesanto, M.Sc
- 43. Dr. Agung Rialdi, M.Sc
- University of Indonesia (UI)
- 44. Dr. Riani Widarti, M.Sc
- Universitas Padjadjaran (UNPAD)
- 45. Dr. Ir. Iskandar, M.Sc

Mataram University (UNRAM)

- 46. Chancellor : Prof. Ir. Bambang Hari Kusumo, M.Agr.St., Ph.D
- 47. Vice Chancellor 1 : Dr. Ir. Siti Hilyana, M.Sc
- 48. Dean of the Faculty of Food Technology : Basri Handayani, S.P., M.Sc., P
- 49. Head of Agricultural Industrial Technology Study Program : Dr. Sutrijo Sakoko
- 50. Dean of the Faculty of Economics and Business (FEB) : Dr. Muaidi Yasin
- 51. Head of the Economics and Tourism Study Program-FEB : Dr. Loluk Fadlyanti M.Sc. Diswandi, SE, M.Sc, PhD
- 52. Rahman

Non-Governmental Institutions Under The Governor

- 53. Chairman of BPPD (Regional Tourism Promotion Agency) WNT Province : Ika
- Agency Representative
- 54. Representative Regional Research and Innovation Agency (BRIDA) : Ivan
- 55. Representative of Kupang National Waters Conservation Area Center (BKKPN) Mataram
- 56. Eko Setio Purnomo
- 57. Representative of Kupang National Waters Conservation Area Center (BKKPN) Mataram
- 58. Representative of Kupang National Waters Conservation Area Center (BKKPN) Mataram
- 59. Representative Study Program of Biology, Faculty of Mathematics and Natural University of Mataram 1 : A.A. Nugrah Nara Kusuma
- 60. Representative Study Program of Biology, Faculty of Mathematics and Natural University of Mataram 2 : Dr. Yuladi Zamroni
- 61. Representative Research Center for Biotechnology and Land 1 : Dr. Kiki Supriyati Handayani
- 62. Representative of the NTB Province LHK Service : Anjas Sirwan
- 63. Representative of the North Lombok Regency LHK Service : Agus Sauidi Ibrat
- 64. Representative of the NTB Province Ministry of Fisheries and Marine Affairs : Remy V Wibisono

- 65. Representative of North Lombok Regency Ministry of Fisheries Office : Khairuddin
- 66. Representative of the NTB Provincial Tourism Office : Lahu W
- 67. Representative Tourism Office of North Lombok Regency : Ka
- 68. Representative of NGO 1 Head of LCC KLU
- 69. Representative of North Lombok : Chess
- 70. Representative of Central Lombok : Kariadi
- 71. West Lombok Representative: Ratnawati
- 72. Representative of East Lombok
- 73. Head of Gili Indah Village : Wardana
- 74. Head of Gili Trawangan Hamlet : M. Husni
- 75. Head of Gili Meno Hamlet : Masrum
- 76. Head of Gili Air Hamlet : Sukding
- 77. Representative Gili Trawangan 1 : H. Malik
- 78. Representative Gili Trawangan 2 : Amir Daeng
- 79. Representative Gili Trawangan 3 : Sirwadi
- 80. Representative Gili Trawangan 4 : Anto
- 81. Representative Gili Trawangan 5 : Indy
- 82. Representative Gili Meno 1 : Sutarno
- 83. Representative Gili Meno 2 : Roli handika
- 84. Representative Gili Meno 3 : Zakaria
- 85. Representative Gili Meno 4 : Iskandar
- 86. Representative Gili Meno 5 : Sabarudin
- 87. Representative of Gili Air 1 : H.M. Taufik
- 88. Representative of Gili Air 2 : H. Budiman
- 89. Representative of Gili Air 3 : Karina
- 90. Representative of Gili Air 4 : Zakaria (BPD)
- 91. Representative of Gili Air 5 : Saffri Muthahid
- 92. Representative of North Lombok : Eko Kris Henriyawan :
- 93. Representative of North Lombok Rakka Akriani
- 94. Student University of Mataram : Wik Satriza Gunawan
- 95. Student University of Mataram : Widya Kupang
- 96. Sawitri : BRIN

WORKSHOP DAN TRAINING CIGUATERA JANUARY 2023

GILIMATRA LOMBOK WEST NUSA TENGGARA



WORKSHOP DAN TRAINING FISHPHYTO JULY 2023

GILIMATRA LOMBOK WEST NUSA TENGGARA



SUMMARY

- The PICES-Indonesia collaboration is very important and very useful for the knowledge and technology transfer on the marine sector from developed countries to developing countries to improve scientists and community ability to understand the importance of marine resources for sustainable development and to improve the welfare of coastal and marine communities in Indonesia.
- General Lecture and Scientific Meetings are very useful for exchanging knowledge and experience in various research activities and their application in the community, need to be continuously developed and implemented to facilitate scientists to transfer their knowledge for human resource capacity building.
- Dissemination of science and technology through workshop and training to the community are important and necessary to provide and increase their knowledge, understand, accept, adopt and apply it in various related activities,
- A bottom-up and top-down approach involving community leaders from various related groups as well as decision-maker at both the local and national levels including experts from various research institutions, universities and NGOs is a strategic approach to be implemented in Indonesia and might be in another countries globally.
- The socialization model to bridge the application of science and technology in the field of marine science to the community and government needs to be continuously developed, refined and monitored regularly and systematically so that the implementation of its application in the field can be immediately applied continuously.

THANKYOU

Suhendar I Sachoemar, D.Sc

Professor of Coastal Marine Environment and Fisheries Resources Management.

1. Research Center for Environment and Clean Technology
National Research and Innovation Agency (BRIN)
Kawasan Puspiptek, Serpong 15314. Tangerang Selatan. Indonesia.
2. Expert Council of PPI (Indonesian Research Association)
3. Dept. of Agro Industry and Technology, Institute Technology of Indonesia (ITI),
JL. Raya Puspiptek, Setu, Serpong, Tangerang Selatan, Banten 15314, Indonesia.

E-mail : suhendarsachoemar@yahoo.com

suhe002@brin.go.id

Mobile : +62-82122014795

