



MINISTRY OF AGRICULTURE
AND FOOD SECURITY
DEPARTMENT OF FISHERIES MALAYSIA



SUSTAINING THE SEAS:

Three Decades of Cooperation between
the Department of Fisheries (DOF), Malaysia and
the Japan International Research Center for Agricultural Sciences
(JIRCAS)

2025

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We would like to extend our deepest gratitude to all researchers, officers, and collaborators—past and present—whose dedication, insights, and tireless pursuit of knowledge have shaped the legacy of this remarkable partnership between DOF Malaysia and JIRCAS.

To those who generously shared their research output and photographic memories, we thank you for breathing life into these pages. Your contributions have not only enriched the scientific record but have also preserved the spirit of camaraderie, curiosity, and shared purpose that defines this 30-year journey.



WELCOMING REMARKS (DOF)

Dato' Haji Adnan bin Hussain

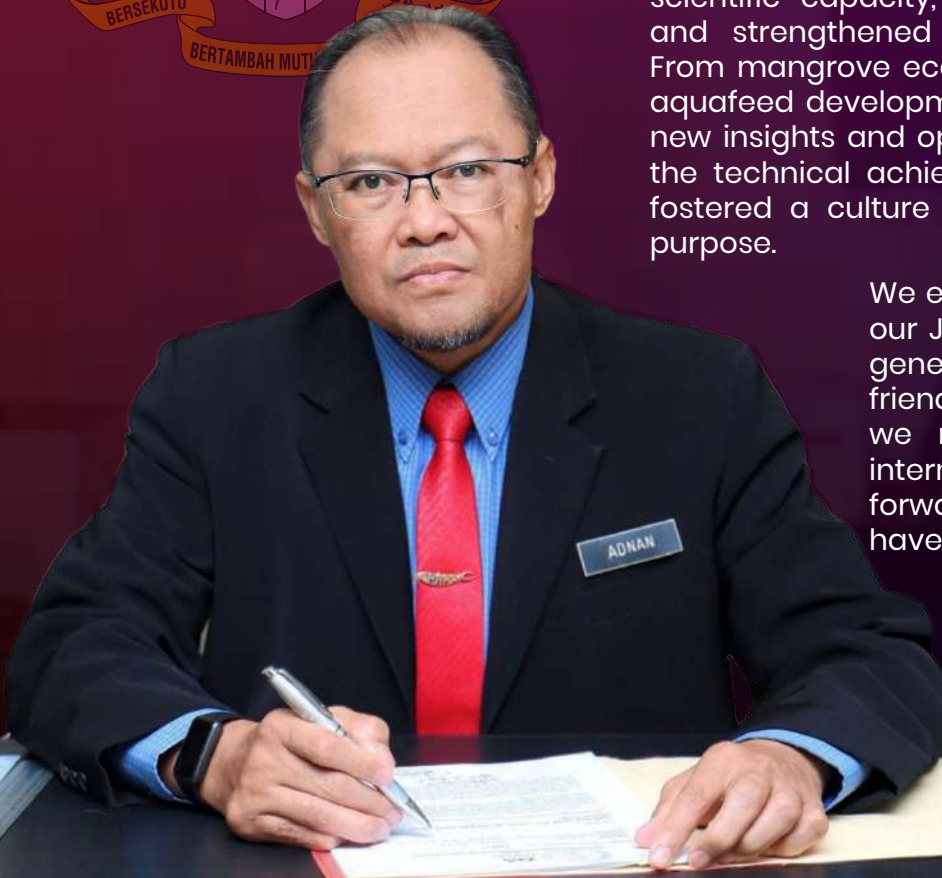
DIRECTOR GENERAL

DEPARTMENT OF FISHERIES MALAYSIA



The Department of Fisheries, Malaysia is honoured to celebrate the longstanding partnership with JIRCAS, a collaboration that has enriched our scientific capacity, broadened our perspectives, and strengthened our institutional foundations. From mangrove ecosystem studies to sustainable aquafeed development, each project has brought new insights and opportunities for growth. Beyond the technical achievements, this partnership has fostered a culture of trust, learning, and shared purpose.

We extend our heartfelt gratitude to our Japanese counterparts for their generosity, professionalism, and friendship. As we mark this milestone, we reaffirm our commitment to international cooperation and look forward to building on the legacy we have created together.



WELCOMING REMARKS (JIRCAS)

Mr. Osamu Koyama

PRESIDENT

JAPAN INTERNATIONAL RESEARCH CENTER FOR
AGRICULTURAL SCIENCES (JIRCAS)

It is with profound appreciation and pride that we celebrate nearly three decades of collaboration between JIRCAS and the Fisheries Research Institute of Malaysia. Since the signing of our Memorandum of Understanding in 1995, this partnership has stood as a model of international cooperation—built on mutual respect, scientific rigour, and a shared commitment to sustainable development.

Through joint research, fieldwork, and knowledge exchange, we have not only advanced aquaculture science but also forged enduring relationships across borders. As we reflect on this remarkable journey, we pay tribute to the dedication of every researcher, liaison officer, and support staff member whose contributions made this success possible.

The legacy of our collaboration will continue to inspire future partnerships. We extend our heartfelt gratitude to our Malaysian colleagues for their unwavering commitment and friendship.



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1.0 Introduction



Foundations of a Lasting Partnership: DOF and JIRCAS

In the realm of international agricultural and fisheries research, few collaborations have demonstrated the longevity, depth, and mutual commitment seen in the partnership between the Department of Fisheries (DOF), Ministry of Agriculture and Food Security, Malaysia (previously Ministry of Agriculture) and Japan International Research Center for Agricultural Sciences (JIRCAS), Japan.

Institutional Mandates and Shared Vision

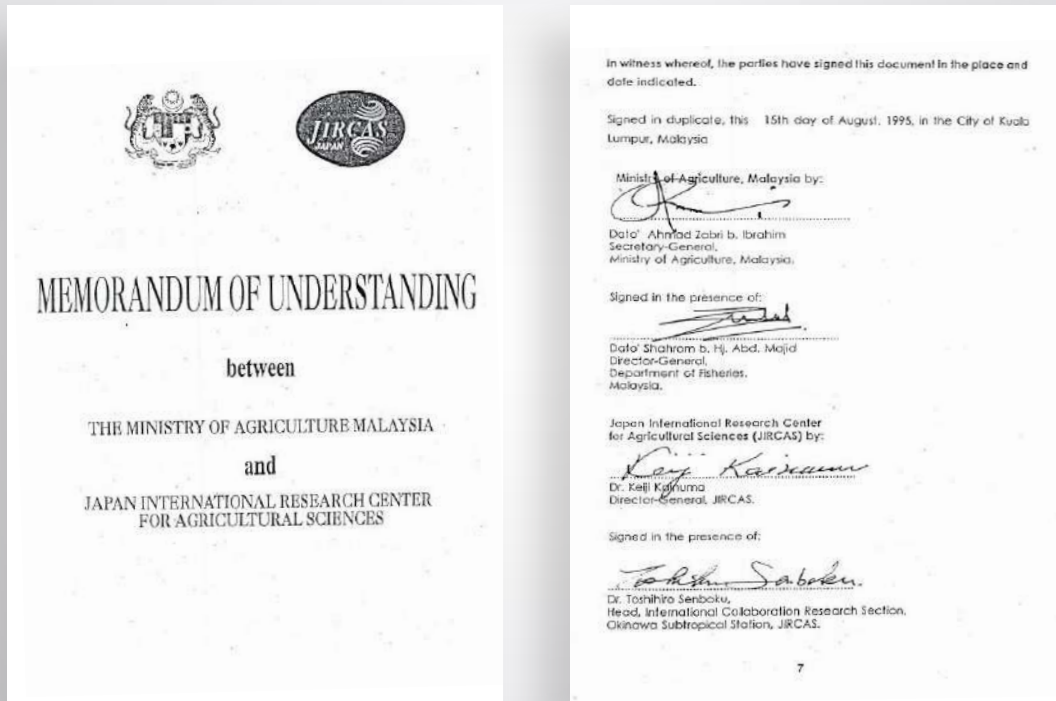
Established as an incorporated administrative agency under the Ministry of Agriculture, Forestry and Fisheries of Japan, JIRCAS is the sole national institute in Japan tasked with conducting comprehensive experimental research internationally to advance technologies in agriculture, forestry, fisheries, and related industries in collaboration with foreign research institutions. Its focus spans the tropical and

subtropical zones of developing regions, where innovation is vital for sustainable development.

Within this collaborative framework, the DOF is represented by the Fisheries Research Institute (FRI), its dedicated research institution tasked with advancing sustainable aquaculture and fisheries development.

On August 15, 1995, JIRCAS and DOF signed a Memorandum of Understanding (MoU) to establish a framework for collaborative research. This MoU marked the beginning of a structured and strategic partnership, grounded in mutual respect and scientific ambition.

The MoU was supplemented by five-year work plans, jointly developed by both institutions. These strategic plans were further refined through annual workshops and meetings, where yearly work plans were crafted to detail specific research activities and define the roles and contributions of each party. The nature of the cooperation was clear: to plan and implement predetermined, mutually agreed-upon research projects, with the flexibility to involve other collaborating institutions or agencies, subject to joint approval.



A Historic Milestone: Signing of the Memorandum of Understanding between the Ministry of Agriculture Malaysia and JIRCAS on 15 August 1996 in Kuala Lumpur, marked the beginning of a long-standing partnership in agricultural and fisheries research.

Roles and Responsibilities: A Balanced Framework

The MoU outlined a symbiotic model of collaboration, with each institution contributing its strengths and resources to ensure the success of joint research initiatives.



DOF Contributions:

Provision of office, laboratory, and experimental facilities essential for project implementation.

Facilitation of administrative mechanisms to support project execution.

Assignment of counterpart researchers to collaborate with visiting JIRCAS scientists.

Assistance with visa formalities for JIRCAS personnel.

Coordination of custom clearance for imported supplies and equipment on behalf of JIRCAS.

JIRCAS Contributions:

Deployment of visiting scientists on short- and long-term assignments, based at FRI headquarters in Batu Maung, Penang.

Coverage of salaries and travel expenses for JIRCAS personnel.

Supply of equipment and materials required for collaborative projects.

Sponsorship of Malaysian research administrators for visits to Japan to promote collaborative research.

Support for Malaysian researchers participating in joint research activities in Japan.

A Model of International Scientific Cooperation

This chapter marks the beginning of a story that spans continents, disciplines, and decades. The DOF-JIRCAS partnership stands as a model of international scientific cooperation, rooted in shared goals, structured planning, and mutual respect.

While the collaboration is expected to conclude in the end of March 2026. Despite this, the legacy of the partnership remains profound. Over nearly three decades, it has fostered scientific innovation, institutional growth, and enduring relationships that will continue to shape the future of fisheries research in Malaysia and beyond.

May this book serve as both a record and a beacon—honouring the past, inspiring the future, and reminding us of the power of collaboration across borders.



2.0 Research Projects

Over the course of nearly three decades, the collaboration between DOF and JIRCAS has produced a series of impactful research projects that reflect both scientific ambition and regional relevance. These projects, often spanning five-year cycles, were designed to address pressing ecological, socioeconomic, and technological challenges in Malaysia's coastal and aquaculture ecosystems. Each phase of the partnership brought together dedicated researchers from Japan and Malaysia, along with academic collaborators from institutions such as University Malaya, to co-develop solutions grounded in fieldwork, data, and mutual learning.

The project title, researchers involved in the five years-workplan transpired from 1996 to 2025 were presented in the table below.

 1996 – 2001

Project Title

Productivity and Sustainable Utilization of Brackish Water Mangrove Ecosystems

JIRCAS Researchers

- Dr Shigeo Hayase
- Dr Katsuhiro Kiso
- Dr Yasuki Ogawa
- Dr Yukio Hanamura

DOF Researchers

- Ms Chee Phaik Ean
- Dr Alias Man
- Mr Ahmad Hussin Alias

Other Institutions

- Forest Research Institute

 2001–2006

Project Title

Sustainable Production Systems of Aquatic Animals in Brackish Mangrove Areas

JIRCAS Researchers

- Dr Yukio Hanamura
- Dr Norihisa Oseko

DOF Researchers

- Ms Chee Phaik Ean
- Dr Alias Man
- Mr Ryon Siow
- Mr Haris Hilmi Arshad
- Mr Ahmas Hussin Alias
- Dr Siti Zahrah Abdullah

Other Institutions

- Prof Dr Chong Ving Ching
University of Malaya

**2006–2011****Project Title**

Study on the Biology, Ecology and Management of Commercially Important Fish Species in Mangrove Estuaries and Related Coastal Waters of Malaysia

JIRCAS Researchers

- Dr Yukio Hanamura
- Dr Toshihiro Yamamoto
- Dr Kazuyuki Teshima
- Dr Katsuhisa Tanaka
- Dr Tatsuya Yurimoto

DOF Researchers

- Ms Chee Phaik Ean
- Dr Alias Man
- Mr Ryon Siow
- Dr Siti Zahrah Abdullah

Other Institutions**2011–2016****Project Title**

Development of Sustainable Management Plan for Blood Cockle Culture in Malaysia Based on Ecological and Socio-Economics Studies

JIRCAS Researchers

- Dr Katsuhisa Tanaka
- Dr Tatsuya Yurimoto
- Mr Toru Shimoda
- Dr Isao Tsutsui

DOF Researchers

- Dr Alias Man
- Dr Shahunthala Devi
- Mr Ibrahim Johari
- Dr Wan Norhana Noordin

Other Institutions

- Prof Dr Chong Ving Ching
University of Malaya

**2016–2021****Project Title**

Development of Fishery Resource Utilization System Using Natural Circulation Function

JIRCAS Researchers

- Mr Toru Shimoda
- Dr Hajime Saito

DOF Researchers

- Ms Masazurah A Rahim
- Dr Hadzley Harith

Other Institutions

- Prof Dr Chong Ving Ching,
- Dr Teoh Hong Wooi
- Dr Lee Choon Weng
University of Malaya

**2021–2026****Project Title**

Improvement of Sustainable Bivalve Aquaculture Technology Adapted to the Characteristics of the Tropical Monsoon and Application of Information and Communication Technology

JIRCAS Researchers

- Dr Tatsuya Yurimoto
- Dr Masaya Toyokawa

DOF Researchers

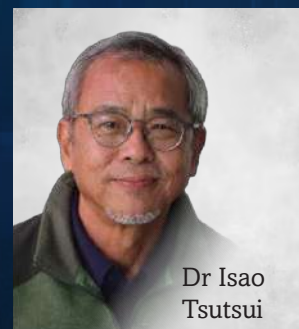
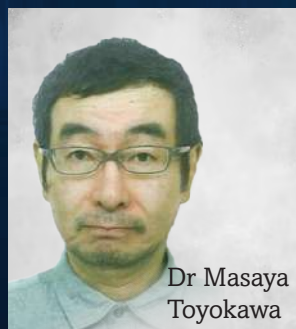
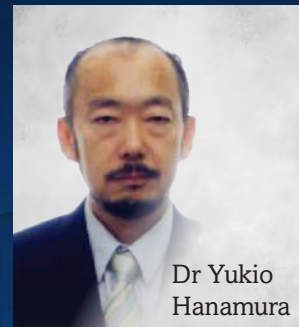
- Ms Masazurah A Rahim
- Ms Roziawati Mohd Razali
- Dr Hadzley Harith,
- Dr Mohd Nor Azman Ayub

Other Institutions

3.0 People Behind the Partnership: JIRCAS researchers



Photograph from the Daily ShinShunan



Department of Fisheries, Malaysia Researchers



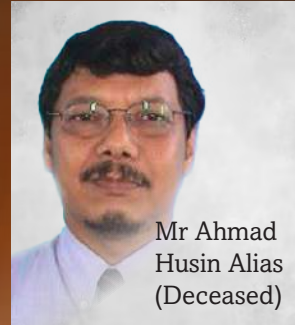
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Mdm Chee
Phaik Ean



Dr Alias
Man



Mr Ahmad
Husin Alias
(Deceased)



Mr Haris
Hilmi
Arshad



Dr. Shahuntala
Devi
(Deceased)



Mr Ryon
Siow



Dr. Siti Zahrah
Abdullah



Mr Ibrahim
Johari
(Deceased)



Dr Wan
Norhana Md
Noordin



Dr Hadzley
Harith



Ms Masazurah
A Rahim



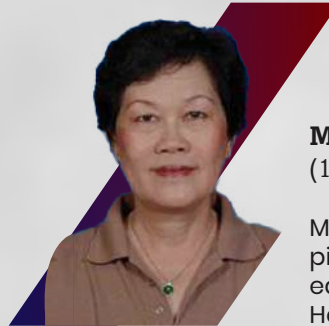
Mdm
Roziawati
Mohd Razali

Liaison Leadership and Institutional Continuity

While research projects and scientific outputs form the visible face of the DOF-JIRCAS collaboration, its operational heartbeat has long been sustained by a dedicated group of liaison officers and support staff. These individuals ensured that communication flowed smoothly, logistics were managed efficiently, and institutional relationships remained strong across decades.

FRI Liaison Officers

- Madam Chee Phaik Ean
- Dr Alias Man
- Ms Masazurah A. Rahim



MADAM CHEE PHAIK EAN
(1995-2010)

Madam Chee played a pivotal role in establishing the early rhythm of collaboration. Her tenure from the inception of the partnership until her retirement in 2010 was marked by deep engagement with both Japanese and Malaysian counterparts.



DR ALIAS MAN
(2011-2015)

Dr. Alias Man assumed the liaison role, continuing the legacy of trust and coordination. His leadership spanned multiple project phases, including the blood cockle and resource utilization studies.



**MS MASAZURAH
A. RAHIM**
(2016-2026)

Ms Masazurah oversees the final phase of the collaboration. Her role is especially significant as the partnership navigates its concluding years, ensuring continuity and closure with professionalism and care.

Malaysian Support Staff

To facilitate day-to-day operations and bridge communication between institutions, JIRCAS appointed Malaysian staff who worked closely with liaison officers and visiting scientists especially in supporting logistical coordination, fieldwork facilitation, and administrative tasks. Their long-standing involvement has provided invaluable continuity, institutional memory, and operational stability.



MR. SAIFUL HAQ
(1997 to 2003)

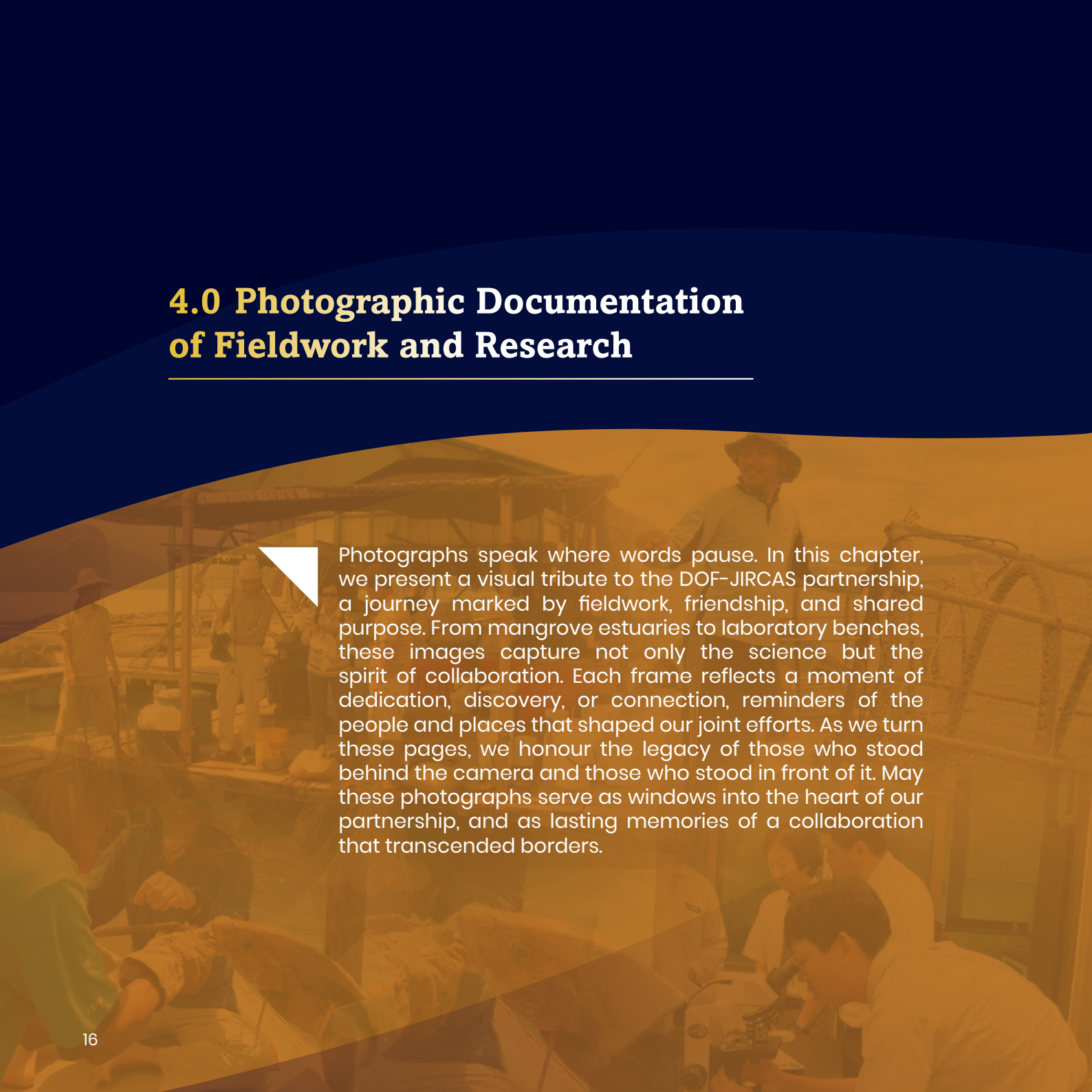


MR. MOHAMAD FADZIL HARON
(1997 to 2003)



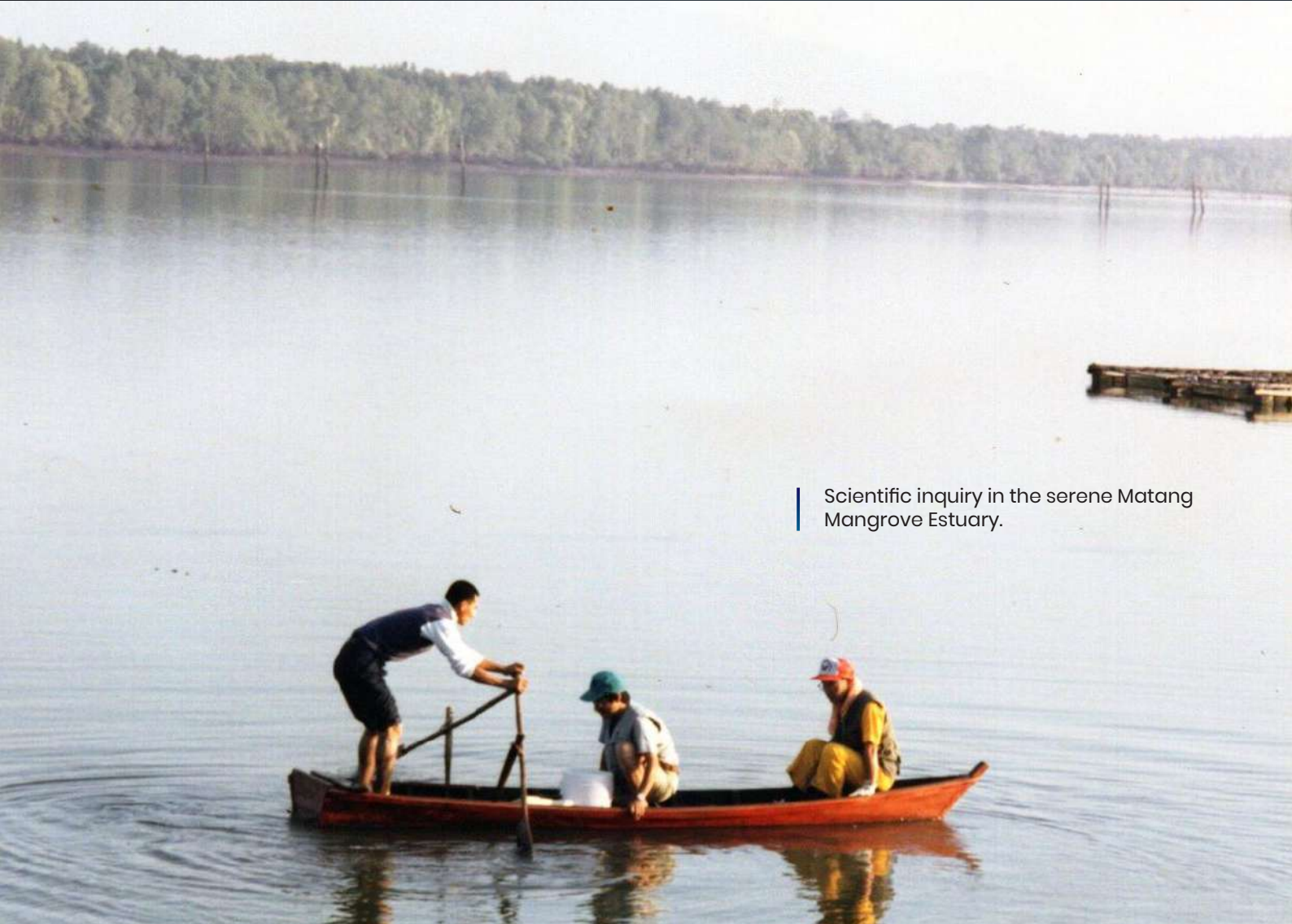
MR. FAIZUL MOHD KASSIM
(2003-2006)

4.0 Photographic Documentation of Fieldwork and Research



Photographs speak where words pause. In this chapter, we present a visual tribute to the DOF-JIRCAS partnership, a journey marked by fieldwork, friendship, and shared purpose. From mangrove estuaries to laboratory benches, these images capture not only the science but the spirit of collaboration. Each frame reflects a moment of dedication, discovery, or connection, reminders of the people and places that shaped our joint efforts. As we turn these pages, we honour the legacy of those who stood behind the camera and those who stood in front of it. May these photographs serve as windows into the heart of our partnership, and as lasting memories of a collaboration that transcended borders.

Productivity and Sustainable Utilization of Brackish
Water Mangrove Ecosystems (1996-2001)



Scientific inquiry in the serene Matang
Mangrove Estuary.

Sustainable Production Systems of Aquatic Animals in Brackish Mangrove Areas (2001-2006)



2004 - Exploring Sustainable Production Systems of Aquatic Life within the Merbok Mangrove Forest Reserve, Kedah, Malaysia.

Study on the Biology, Ecology and Management of Commercially Important Fish Species in Mangrove Estuaries and Related Coastal Waters of Malaysia (2006-2011)



October 2006 – Setting the stage for collaborative research: Introductory meeting for the new phase of the JIRCAS project at FRI Batu Maung, Penang.

November 2006 – Gathering information on the catch yields of trawl net fishermen.





December 2006 –
Sampling data collection
using trawl nets in the
Matang mangrove
estuary, Perak.



January 2007 – Water
quality readings were
taken before deploying
the trawl net for research
using a trawler vessel in
Kuala Kedah.



January 2007 – Recorded the weight of trash fish samples caught by Zone B trawl net vessels.



January 2007 – Sorting different fish species from trawl net catches in the Matang mangrove area.

January 2007 – Sample processing of trawl net fish catches from the Matang mangrove area in Perak.



November 2007 – Dr. Tanaka collected mud samples for carbon isotope analysis in Kuala Sepetang, Perak.



November 2007 – Dr. Hanamura and Mr. Ryon are collecting samples of burrowing shrimp at Sanga Besar River, Perak.



November 2007 – The process of hauling fish traps onto a fishing boat marked the beginning of a stock assessment study on grouper and snapper in Langkawi, Kedah.





2007 - A visit to the local marine fish farm in Langkawi by Dr. Toshihiro Yamamoto to gather information concerning grouper and snapper aquaculture and its impact on wild seedlings.



December 2008 – A fish trap hauling demonstration was conducted in Langkawi, Kedah during the JIRCAS workshop held at Sheraton Hotel Langkawi.



March 2009 - Gonad samples of grouper and snapper were collected from individuals caught in fish traps.



June 2009 - Water quality analysis at Matang by Dr. Tanaka.



September 2009 - Dr. Yokoyama providing guidance to FRI officer.



October 2009 - A trap-based study was conducted in Pulau Langkawi, Kedah to assess stock levels of grouper and snapper species.

October 2009 - The activity of deploying fish traps (bubu) into the water was carried out as part of a stock assessment study in Pulau Langkawi, Kedah.



November 2009 - Fish were weighed using a balance scale during a trap-based study in Langkawi, Kedah.



January 2010 - Preparing to collect mud sample using small boat at Sungai Sangga Besar, Matang, Perak.



January 2010 - Recording water quality data at Matang Mangrove estuaries in Perak.





July 2010 – Researchers held discussions on the upcoming project phase at FRI Batu Maung.



August 2010 – A visit was made to the Kuala Selangor District Office to gather information for the upcoming project phase.



August 2010 - A site visit was conducted to the seaweed farming area in Semporna, Sabah.



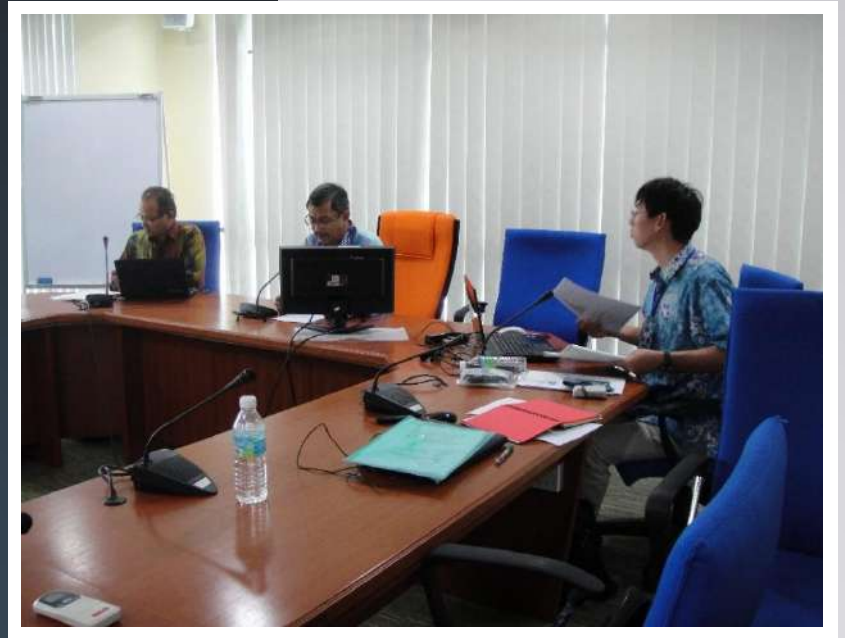
October 2010 - Researchers engaged in discussions with local fishers and district fisheries office staff regarding the upcoming phase of a new project.



October 2010 - A group photo session following the meeting on proposed new JIRCAS projects for the upcoming phase.

Development of Sustainable Management Plan for Blood Cockle Culture in Malaysia based on Ecological and Socio-economics Studies (2011-2016)

The five years projects entitled “Development of sustainable management plan for blood cockle culture in Malaysia based on ecological and socioeconomic studies” started in 2011. This initiative was inspired by the sharp decline in shellfish landings observed in Malaysia beginning in 2009, which raised urgent concerns about resource sustainability and the future of the cockle farming industry.



April 2011 - A meeting to discuss a new project initiative at FRI Kg Acheh, Sitiawan, Perak.



July 2011 - Researchers recorded landing samples of cockles at the Kuala Selangor, Selangor fishermen's jetty.



November 2011 - A site selection meeting for cockle study at the Kuala Selangor District Fisheries Office, Selangor.



November 2011 - Discussions with cockle fishers in Sungai Buloh, Selangor regarding the use of cockle beds as study sites.



November 2011 - A meeting on a new cockle project held at FRI Kampung Acheh, Sitiawan, Perak.



April 2012 - A meeting with cockle farmers at the Kuala Selangor District Fisheries Office, Selangor.



July 2012 - Dr. Maeno, Director of the Fisheries Division, visited FRI Batu Maung, Penang for a briefing on the 2011-2016 project.



February 2013 - A mid-term meeting for the JIRCAS project at FRI Batu Maung.



April 2013 - Dr. Yurimoto briefed Biosecurity KL staff on sample collection methods during a field session at Bagan Nakhoda Omar, Sabak Bernam, Selangor.



May 2013 - A research meeting on the socio-economic aspect of cockle fisheries was held at FRI Batu Maung.



July 2013 - A visit to Fisheries Biosecurity Centre in Kuala Lumpur.



July 2013 - A visit to Prof Chong's (JIRCAS Collaborator) laboratory at the University of Malaya, Kuala Lumpur.



July 2013 - Explanation on the cockle cultivation areas at the Kuala Selangor Fisheries District Office.



July 2013 - Meeting on the cockle culture at the FRI Kampung Aceh, Sitiawan, Perak.



October 2013 - Water sampling at several sites in Hulu Sungai Selangor for nutrient analysis.



April 2014 - Discussion about cockle culture and life cycle at FRI Pulau Sayak, Kedah.



May 2014 - Meeting with the Department of Irrigation and Drainage, Ampang Selangor to obtain river discharge and rainfall distribution data.

Development of Fishery Resource Utilization System using Natural Circulation Function (2016-2021)

The new five years projects “Development of technologies for sustainable aquatic production in harmony with tropical ecosystems” has kicked off wherein the research subject “Development of fisheries resource utilization system using natural circulation function” is targeting on blood cockle in Malaysia. These projects have helped FRI in obtaining some insight to the possible cause of blood cockle mortalities that has been occurring in Selangor waters. The project is hoped to find the answers to the possible causes of the decline in cockle production and subsequently develop sustainable management plan for blood cockle culture in Malaysia.

August 2016 - A courtesy visit to the Department of Fisheries Malaysia in Putrajaya to introduce the new phase of the collaborative research project under JIRCAS.





December 2017 - A cockle harvesting demonstration was held in Matang, Perak during the JIRCAS workshop, offering international participants hands-on exposure to traditional harvesting methods.



August 2019 - Discussion on the preparation for JIRCAS Workshop : Perspective for Research and Development on Sustainable Aquatic Production in tropical Areas, December 4-5, 2019, at Tsukuba Japan.



November 2019 – A visit to MFRDMD/SEAFDEC Terengganu for exchange of ideas and exploration of research directions for the next phase of collaborative projects.



February 2020 – Examination of newly spawned cockle juveniles as part of the technical session in the Cockle Farming Management Meeting in Gelang Patah, Johor.

A special edition on blood cockles (*Tegillarca granosa*) of the Malaysian Fisheries Journal was published, compiling all research conducted during this project phase by participating researchers from JIRCAS, the DOF and University Malaya.

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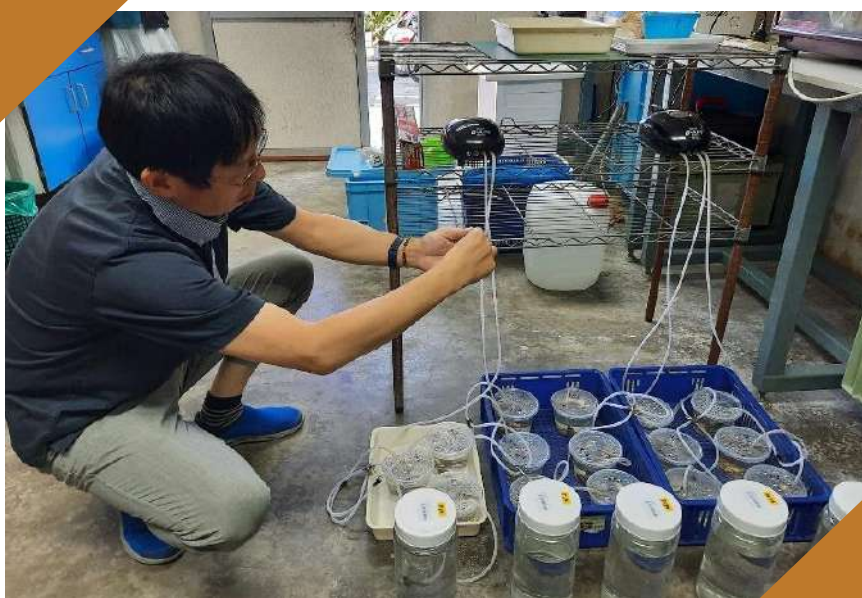
Improvement of Sustainable Bivalve Aquaculture Technology Adapted to the Characteristics of the Tropical Monsoon and Application of Information and Communication Technology (2021-2026)



July 2023 - A working visit was conducted at FRI Pulau Sayak to gather information on oyster species, farming methods, and potential areas for R&D.



2022 - Water quality examination and water sample collection for harmful algal bloom identification at Sungai Merbok, Kedah oyster farming area by FRI team.



Improvement of sustainable bivalve aquaculture technology adapted to tropical monsoon and the application of ICT.



February 2024 – Field data collection was conducted with oyster farmers in Sungai Merbok, Kedah.



February 2024 – A study was conducted in Sungai Merbok, Kedah to assess the growth performance of oyster juveniles using a newly designed upweller.



May 2022 – Monthly sampling activities were conducted in Sungai Merbok, Kedah by the research team from the Impact Assessment Division, FRI Batu Maung. The study focused on plankton, bacteria, and water quality, aiming to assess ecosystem health and support data-driven aquaculture development.

5.0 Capacity Building and Knowledge Exchange

One of the most enduring legacies of the JIRCAS–FRI partnership has been the mutual enrichment through workshops, technical visits, and training programs. These activities have empowered FRI researchers, enhanced institutional capabilities, and fostered a vibrant culture of scientific exchange.

JIRCAS regularly hosted and co-organized workshops that benefited FRI researchers in areas such as:

- Good Aquaculture Practices (GAP).
- Training sessions on postharvest handling, feed safety, and nutrient management.
- Sustainable Aquafeed Development Collaborative workshops focused on alternative ingredients, digestibility trials, and feed efficiency metrics.
- Climate Resilience and Food Security.

< Topics >

2nd Seminar on "Brackish Water Project" Held in Malaysia

Shigeo Hayashi

The seminar is held annually as a part of the comprehensive project "Productivity and Sustainable Utilization of Tropical and Subtropical Brackish Water Mangrove Ecosystems". Tropical and subtropical brackish water areas, usually with developed mangrove forests, are an important habitat for fish-

eries resources. The project aims to evaluate the productivity of such areas and identify the criteria for sustainable utilization. The West coast of the Malay Peninsula was selected as the study area due to the presence of different types of mangrove forests. Counterpart organizations include Fisheries Research Insti-

tute (FRI), Forest Research Institute Malaysia (FRIM) and University of Malaysia (UM).

The 2nd seminar was held in a meeting room of FRI's apartment in Penang on December 5, 1996. Four subjects were taken up during the seminar as follows: ① Mangrove forest, mangrove

and macrobenthos, ② Platen and fish, ③ Runoff of soil into the brackish waters, and ④ Socio-economic aspects in the mangrove areas. About 30 scientists from Japan and Malaysia participated in the seminar, and nine papers were presented. Also, Dr. Kam, Director General of the Social National Fisheries Research Institute, introduced the Ishigaki Branch, which is the only site for studies on subtropical fisheries in Japan.

During the 1st seminar, which was held in Kuala Lumpur just one year ago, almost all the presentations dealt with

reviews of previous studies (JIRCAS Working Report No. 4), because the project had just started at that time and it was considered that such reviews would contribute significantly to the execution of the project. During the 2nd seminar, the papers from the two JIRCAS researchers on long-term assignments (Dr. Hayashi at FRI and Mr. Ochiai at FRIM) and seven JIRCAS researchers on short-term assignments dealt with the collaborative studies carried out with their Malaysian counterparts.

However, the comprehensive project

is expected to produce integrated results in addition to the results obtained in each respective field. For integration, material/energy flow should cover the sequence from leaves to mangrove forests to crustaceans/shells along rivers and phytoplankton and fish/birds in water. For such interdisciplinary studies, close collaboration between researchers in different fields is essential and it is obvious that the seminar held annually may enable to achieve this objective.



Photo: Dr. Shobun Kato (right), Director General of FRI (left), Kam (middle) and Hayashi (right).



3rd Seminar on "Brackish Water Project" Held in Malaysia

On December 8-9, 1997, the 3rd "Brackish Water Project" seminar was held in the Conference Room of the Institute of Postgraduate Studies and Research, University of Malaysia in Kuala Lumpur, Malaysia. This seminar is held annually as a part of the comprehensive project on "Productivity and Sustainable Utilization of Tropical and Subtropical Brackish Water Mangrove Ecosystems". The project aims to evaluate the productivity of such areas and identify the criteria for sustainable utilization. The west coast of Peninsular Malaysia was selected as the study area due to the presence of various types of mangrove forests. Counterpart organizations include the Fisheries Research Institute (FRI), the University of Malaysia (UM) and the Forest Research Institute of Malaysia (FRIM).

Subjects addressed in the seminar were as follows: 1) Water quality, 2) Forest and litter fall, 3) Food web, 4) Meio and macro-fauna, 5) Socio-economic aspects and policy, and 6) Fish and prawns. About 40 scientists from Japan, England, and Malaysia participated in the seminar,

and fourteen papers were presented.

During the 3rd seminar, Professor T. K. Mukherjee, Dean, Institute of Postgraduate Studies and Research, University of Malaysia gave a welcome address. Dato' Mohd.



Photo: Discussion at the 3rd "Brackish Water Project" Seminar.

Mazlan b. Jusoh, Director General, Department of Fisheries made an opening address, and Dr. Shiro Uno of JIRCAS made closing remarks.

During the two days' seminar, it was concluded that the research surveys conducted in 1996-1997 in the unexploit-

ed mangrove brackish water area had been completed and that in future the surveys should be concentrated in areas subjected to deforestation such as the Lumut mangrove area (Dinding river) in Perak State.

(Shigeo Hayashi)

Snapshots from the 2nd and 3rd seminars of the Brackish Water Project in Malaysia, showcasing field engagement, technical exchange, and regional collaboration between researchers from DOF, JIRCAS, and partner institutions. These seminars marked key milestones in advancing sustainability aquaculture through ecological and socioeconomic dialogue.



JIRCAS Workshop on the Sustainable Stock Management and
Aquaculture Technology Suitable for Southeast Asia

15-17 December 2008 Sheraton Langkawi Beach Resort, Langkawi Is. Malaysia

*Fisheries Research Institute, Malaysia
University of Malaya, Malaysia*



15-17 December 2008 - JIRCAS Workshop on the Sustainable Stock Management and Aquaculture Technology Suitable for Southeast Asia at the Sheraton Langkawi Beach Resort, Langkawi, Malaysia.



2-4 December 2015 - Malaysian participants in the Development of Aquaculture Technologies for Sustainable and Equitable Production of Aquatic Products in Tropical Coastal Areas Workshop, King Mongkut's Institute of Technology Ladkrabang (KMITL), Bangkok, Thailand.



6-8 December 2017 - The annual JIRCAS Meeting, Vistana Hotel, Penang, Malaysia to share information on the research activities in five ASEAN countries (Malaysia, Thailand, Lao PDR, Philippines and Myanmar) collaborating with JIRCAS and to discuss the future plans for improving the project.

18-20 February 2020 - The Cackle Farming Management Meeting held in Gelang Patah, Johor, as a platform for dialogue between farmers, researchers, and relevant agencies.



Speaking: mtoyokaw@affrc.go.jp (Host)

Layout



21 April 2022 - Online Workshop on Science and Policies for Sustainable Production of Blood Cockles in the Southeast Asia.



19 December 2025 - Annual Meeting on “Development and Dissemination of Sustainable Aquaculture Technologies in the Tropical Area Based on the Eco-system Approach”, FRI Batu Maung, Penang, Malaysia.



Annual meeting in full swing: exchanging ideas, insights, and updates through presentations and discussions.



NOVEMBER 20, 2025
FISHERIES RESEARCH INSTITUTE
PENANG
MALAYSIA




The 30th JIRCAS–FRI Anniversary Symposium (1995–2025), 20 November 2025, FRI Batu Maung, Penang, Malaysia.



Sharing expertise and reflections at the 30th JIRCAS-FRI Anniversary Symposium 2025, FRI Batu Maung, Penang.

6.0 Technical Visits and Study Tours



Over the years, FRI staff have participated in numerous visits to Japan and other partner countries, gaining first-hand exposure to:

- Advanced aquaculture systems and feed formulation labs.
- Sustainable farming practices and integrated coastal management.
- Institutional models for research governance and policy development.

These visits not only deepened technical knowledge but also strengthened interpersonal ties and cross-cultural understanding.



October 2007 – Ms. Chee, a Malaysian JIRCAS counterpart, visited the JIRCAS headquarters in Tsukuba, Ibaraki, Japan.

November 2014 – FRI Batu Maung Director, Mr. Abu Talib, visited the Ohmura Fish Association in Nagasaki, Japan.





A technical visit by Ms Masazurah A Rahim at the Ocean Monitoring Pier in Hasaki Coast and Chiba Prefecture Fisheries Research Centre.



Visit From



January 2008 - Visit by Dr. Maeno, Director of the Fisheries Division at JIRCAS to FRI Batu Maung as part of efforts to strengthen research collaboration between Malaysia and Japan.



March 2012 - A courtesy visit by Dr. Masaru Iwanaga, President of JIRCAS to FRI Batu Maung, Penang.



July 2013 - Project leader Dr. Sudoh and senior researcher Mr. Shimoda visit FRI Kampung Aceh, accompanied by Dr. Yurimoto, after being appointed as accredited researchers.



July 2013 - A courtesy visit to the DOF in Putrajaya to strengthen institutional ties and discuss future directions for research collaboration and fisheries industry development.



July 2013 – A visit by the Director of the Fisheries Division, JIRCAS to FRI Batu Maung.



2018 - Courtesy Call by the New Director of Fisheries of JIRCAS to the DOF.



August 2016 - Signing of the 4th mid-term plan and related meetings.



18 November 2024 – IPP Batu Maung welcomed a courtesy visit from Dr. Satoshi Honda, the newly appointed Director of the Fisheries Division at JIRCAS, accompanied by Dr. Tatsuya Yurimoto.

7.0 Milestones and Achievements



MINISTRY OF AGRICULTURE
AND FOOD SECURITY
DEPARTMENT OF FISHERIES MALAYSIA



The DOF and JIRCAS have benefitted tremendously from these cooperative projects in many ways. Firstly, there have been countless opportunities in sharing of technical expertise and information between the FRI researchers and JIRCAS scientists. Secondly, in terms of publications resulting from the implemented projects, many scientific journals and reports have been jointly published by the scientists involved in this collaboration. Most of the publications are listed below:

- S. Hayase, T. Ichikawa and K. Tanaka (**1999**). Preliminary Report on Stable Isotope Ratio Analysis for Samples from Matang Mangrove Brackish Water Ecosystems. *Japan Agricultural Research Quarterly*, 33: 215-221. <https://www.jircas.go.jp/en/publication/jarq/33/3/215>.
- S. Hayase and Muhamad F. B. H. Haron. (**2002**). Relationship Between Mangrove Forest and Fish and Prawn Productivity, 68: 558-561 https://www.jstage.jst.go.jp/article/fishsci1994/68/sup1/68_sup1_558/_pdf.
- K Katsuhiko, M Mohammad-Isa (**2003**). Distribution And Feeding Habits of Juvenile and Young John's Snapper *Lutjanus johnii* in the Matang Mangrove Estuary, West Coast of Peninsular Malaysia. *Fisheries Science*, 69(3): 563-568. <https://doi.org/10.1046/j.1444-2906.2003.00657.x>.
- R. Tabuchi, D. Hoshino, H. Tanouchi, Y. Fujioka, Y. Hanamura, Ch. Aryuthaka, S. Nimsanthicharoen, C. Phaik Ean and R. Siow. (**2006**). Estimation Of Mangrove Stands

Productivity and Litter Production as Potential Food Source to Aquatic Animals. *In*: Koji Nakamura (Ed.). Sustainable Production Systems of Aquatic Animals in Brackish Mangrove Areas. JIRCAS Working Report, No. 44. JIRCAS: 37-40. [https://www.jircas.go.jp/en/publication/jircas_working_report/44#:~:text=Related%20Publication,Nodavirus%20\(Japan%20Agricultural%20Research%20Quarterly\)](https://www.jircas.go.jp/en/publication/jircas_working_report/44#:~:text=Related%20Publication,Nodavirus%20(Japan%20Agricultural%20Research%20Quarterly)).

- Y. Hanamura, R. Siow and C. Phaik Ean. (2006). Preliminary Report on The Spatio-Temporal Distribution of Hyper Benthos in the Merbok Mangrove Estuary. *In*: Koji Nakamura (Ed.). Sustainable Production Systems of Aquatic Animals in Brackish Mangrove Areas. JIRCAS Working Report, No. 44. JIRCAS: 15-18.
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- K. Tomikawa, R. Siow and S. Mawatari. (2007). A New Species of The Genus *Nuuanu* (*Amphipoda*, *Melitidae*) from Brackish Waters of The Strait of Malacca, Malaysia. *Crustaceana*, 80 (3): 357-373. <http://dx.doi.org/10.1163/156854007780162488>.
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- T. Matsuura, C. Phaik Ean, R. Siow and A.H. Alias. (2007). Analysis of small-scale coastal aquaculture in Malaysia. *In*: Tsutomu Matsuura (ed.). Comparative Analysis of Aquaculture Management in Brackish Mangrove Areas In Three Southeast Asian Countries. JIRCAS Working Report, No. 54: 83-90. https://www.jircas.go.jp/lo/publication/jircas_working_report/54.
- T. Matsuura, L. Dela Pena, C. Phaik Ean, R. Siow and A. Man. (2007). Development of Farming Schemes Following Disease Occurrences in *Monodon* Shrimp Farming Using Intensive Method in Three Southeast Asian Countries. *In*: Tsutomu Matsuura (ed.). Comparative Analysis of Aquaculture Management in Brackish Mangrove Areas in Three Southeast Asian Countries. JIRCAS Working Report, No. 54: 43-52. https://www.jircas.go.jp/lo/publication/jircas_working_report/54.

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8.0 CONCLUSION



After three decades of meaningful collaboration, the partnership between DOF, and JIRCAS is expected to conclude in 2026. Yet, the spirit of cooperation need not be extinguished.

Research and interaction between both parties should continue, even beyond formal project boundaries. The synergy that has been cultivated over the years is too valuable to be left dormant. With renewed support and future opportunities, this collaboration can be revived, reimagined, and strengthened once more.

Let us continue to nurture the bonds of scientific friendship and shared purpose, for the benefit of our marine ecosystems, our communities, and the generations to come. The DOF extends its deepest appreciation to JIRCAS for its unwavering support and contributions throughout this collaborative journey. JIRCAS's involvement—through R&D funding, capacity and capability building for researchers, and opportunities to visit research institutions in Japan and other project-participating countries—has significantly advanced Malaysia's fisheries research landscape.

This partnership has not only strengthened bilateral ties, but also nurtured a new generation of globally minded and resilient researchers.



“Though the formal chapter may close in 2026, the bonds of knowledge, trust, and shared purpose between DOF and JIRCAS will continue to ripple across borders, ready to be rekindled whenever the tide returns.”



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