



Preface from the Seminar Convener

The 3rd JSPS International Seminar on *Fisheries Science in Tropical Area* was successfully held in Bali Island - Indonesia, 19-21 August 1999, with the big number of 120 participants from Asian Pacific, covering all islands of Indonesia and Japan, as well as other countries such as Philippines, Thailand, Malaysia and Australia.

Here in this opportunity, I would like to express our greatest gratitude to all the participants and supporters, spiritually and financially for their enormous and energetic input to the Seminar on "Sustainable Fishing Technology in Asia towards the 21st Century". Here, the Proceedings is ready to go for the world-wide

distribution with the selected papers from the 60 oral and 24 poster presentations, as well as 6 supporting papers.

The 3rd JSPS International Seminar on Fisheries Science in Tropical Area will high-light on the Fishing Technology as a follow-up of the last workshop titled in "*Education and Training Program in Fishing Technology*" at Jakarta, December 1997, onboard the Research/Training Vessel Umitaka-Maru of the Tokyo University of Fisheries. The Seminar is intended to seek the new solution for Sustainable Fishing Technology in Asia towards the 21st Century, for initiating the 2nd Phase JSPS activities of 1999-2001.

The Seminar was started with the Main Session of Country Reports on Research and Education System of Fishing Technology in Asia, presented by the invited lectures from ASEAN countries. The Scientific Session followed as the one day presentation and discussion in two separated topics on the Fishing Gear and Practices, and the Fisheries Acoustics and Operation Strategy. The 3rd day is for the wrap-up of all the sessions, as well as setting the next common goal for us both in research and education activities on fishing technology in this region.

At the last moment of this message from the Seminar Convener, we would like to express our greatest gratitude to all the persons who dedicated time, resources and funding to support the Seminar. All the efforts are continued for a long time started with the preparation activities since 1997, until the completion of the Proceedings in this moment. Special thanks are extended to the Japan Society for Promotion of Science and the Directorate General of Higher Education for their sponsorship. We also really appreciate the enthusiastic collaboration given from Dr. Subiyanto, acting coordinator in Indonesian side of this JSPS-DGHE program, and Prof. D. Monintja from the Institut Pertanian Bogor as the chairperson of the Indonesian Fishing Technology Research Network. At last but

not least, I would like to emphasize that the Proceedings could not be completed without the energy from J.Haluan and T.Arimoto with their Technical Editing Team for their effort as the Editors of the Proceedings.

On behalf of all the members and supporters, we commend this publication to you as a record of this first challenging Seminar on fishing technology, with the best wishes to all of you for asking to join us in the next gathering as the larger scale of the participants and submitted papers. See you then, next time, in the 4th JSPS International Seminar of Fisheries Sciences in Tropical Area.

Prof. Kaname SATOH
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Proceedings of the 3rd JSPS International Seminar on Fisheries Science in Tropical Area
Sustainable Fishing Technology in Asia towards the 21st Century
19-21 August 1999, Denpasar, Bali Island, Indonesia

Published by **TUF International JSPS Project**
Volume 8 (March. 2000)
Tokyo University of Fisheries
4-5-7, Konan, Minato-ku, Tokyo 108-8477 JAPAN

Edited and compiled by : T.Arimoto and J.Haluan

Bibliography : ISBN 4-925135-08-2

PUBLICATION LIST OF TUF International JSPS Project

- Volume 1 Fisheries Science in Tropical Area with Special Reference to Post-Harvest Subjects in 21st Century (Ed. Subiyanto and E.Watanabe), Mar. 1996, Proceedings of the International Seminar in Nov-Dec.1995 at Semarang - Indonesia
- Volume 2 Education and Research in Fisheries Science (Ed. F.Takashima and Subiyanto), Mar 1997, Proceedings of the International Workshop in Oct.1996 at Tokyo/Hakata - Japan
- Volume 3 Aquaculture in Asia (Ed. F.Takashima, T.Arimoto and C.Itosu), Dec.1997, Proceedings of the International Seminar in Aug.1997 at Tokyo - Japan (ISBN 4-925135-01-5)
- Volume 4 Education and Training Program in Fishing Technology - Past, Present and Future - (Ed.J.Haluan and K.Satoh), Mar.1998, International Workshop in Dec.1997 at Jakarta - Indonesia (ISBN 4-925135-00-7)
- Volume 5 A List of Participants in Exchanging Program under JSPS-DGHE Core University (Ed. F.Takashima), Sep.1998
- Volume 6 Research Reports in Fisheries Science under JSPS-DGHE Core University System (Ed. C.Koizumi *et al.*), Sep.1998 (ISBN 4-924135-02-3)
- Volume 7 Tentative Agenda and Abstract for the 3rd JSPS International Seminar on Fisheries Science in Tropical Area (Ed. K.Satoh), Aug. 1999
- Volume 8 Sustainable Fishing Technology in Asia towards the 21st Century (Ed.T.Arimoto and J.Haluan), Mar.2000, Proceedings of the International Seminar in Aug.1999 at Bali - Indonesia (ISBN 4-925135-08-2)

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Organization

The Seminar was organized by the following Institutions and Academic Societies.

- Tokyo University of Fisheries, Tokyo - Core University in Japan
- Diponegoro University, Semarang - Core University in Indonesia
- Bogor Agricultural University, Bogor - Indonesia
- Riau University, Pekanbaru - Indonesia
- and Japan Branch of Asian Fisheries Society
- CRAFT (Cooperative Research in Asia for Fishing Technology)
- IFTERN (Indonesian Fishing Technology Research Network)

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- Tokyo University of Fisheries : Prof.C.Koizumi, President of TUF
- Prof.K.Satoh, Acting Coordinator of JSPS Fisheries Science Program
- Diponegoro University : Prof.Eko Budihardjo, Rector of UNDIP
- Dr.Subiyanto, Acting Coordinator of JSPS Fisheries Science Program
- Bogor Agricultural University : Prof.H.R.M.Aman Wirakartakusumah, Rector of IPB
- Prof.Syafrida Manuwoto, Director of Graduate Program, IPB
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Message from the Editorial Board

Here in this opportunity to launch the Seminar Proceedings, we would like to express our deepest gratitude to all the persons who supported the Seminar spiritually, technically and financially. Special thanks are also extended to our members of Scientific Committee and our collegian from the International Advisory Committee for their kind and peer reviewing of manuscripts, and also to the Japan Scientific Texts for their re-writing services to elaborate the English comprehension. Furthermore, the Proceedings can not be completed without the enormous efforts and time from the Technical Editing Team and the Operation Committee. On behalf of the Executives of the Seminar, the Editors would like to express our gratitude to all personnel mentioned bellow. The Proceedings consist of several chapters which include the 5 country and 1 regional reports, 59 scientific papers and 10 abstracts. Each paper has the caption to show the Email address of the corresponding author, who has the responsibility on the content of the paper. Some of the papers were not presented during the seminar due to several individual reasons, while they were included in the Proceedings to support and up-grade it. Besides, some of the oral presentations could not be included in the scientific papers, so that only the abstracts were compiled in the Proceedings. We really hope all the authors can accept our decision on these matters.

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The papers submitted for publication in the Proceedings were refereed by the generous efforts of the following experts including the members of Seminar Scientific Committee and International Advisory Committee. We gratefully acknowledge the time and efforts of each referee for the scientific input to the publication of Proceedings.

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