

PICES-MAFF Project on Marine Ecosystem Health and Human Well-Being: Indonesia Workshop

by Mitsutaku Makino

Background

In April 2012, PICES began a 5-year project on *Marine Ecosystem Health and Human Well-Being* funded by the Ministry of Agriculture Forestry and Fisheries of Japan (MAFF). The goal of the project is to identify relationships between sustainable human communities and productive marine ecosystems in the North Pacific under the concept of fishery social-ecological systems. In Japan, this concept is known as the *sato-umi* fisheries management system. It recognizes that global changes are affecting both climate and human social and economic conditions. Key questions of the project are: a) How do marine ecosystems support human well-being? and b) How do human communities support sustainable and productive marine ecosystems? The project will be directed by a Project Team, co-chaired by Drs. Mitsutaku Makino (Fisheries Research Agency, Japan) and Ian Perry (Fisheries and Oceans Canada).

At its first meeting (October 11, 2012, in Hiroshima, Japan), the Project Team decided to conduct two workshops in developing countries in each of three regions of the North Pacific (Southeast Asia, Pacific oceanic islands, and Central America). Indonesia was selected because of its large population and aquaculture-intensive industry. Palau was chosen because of its focus on finfish capture fisheries and its existing networks of community-based fisheries. Finally, Guatemala was selected because its coastline features an upwelling system favourable for finfish fisheries and aquaculture.

GEMPITA-SPL concept in Indonesia

The Indonesian Agency for the Assessment and Application of Technology (BPPT) has developed a concept of managing coastal and marine resources in a balanced, harmonious, integrated, and productive environment by actively involving the community. Their concept is called GEMPITA-SPL (Gerakkan Masyarakat Peduli Kelestarian Sumberdaya Perikanan, Pesisir dan Laut) or in the English language version as SFiCoMS (Sustainable Utilization of Fisheries, Coastal and Marine Resources for the Society).

The GEMPITA-SPL concept has been implemented in the northern coastal area of West Java by BPPT and the local Department of Fisheries and Marine Affairs. It fosters the development and promotion of environmentally friendly aquaculture technology using Integrated Multi-Trophic Aquaculture (IMTA). This approach features concepts of bio-recycling in idle and/or marginal brackish water ponds in the northern part of western Java. Coastal areas that had been damaged by shrimp monoculture are being transformed into productive systems that feature a balanced and harmonious approach and greater biodiversity to improve the welfare of local communities. This concept fits very well within the framework of fishery social-ecological systems in the PICES-MAFF project.

Indonesia workshop

The first PICES-MAFF project workshop was held on March 13–14, 2013, with a total of 93 participants from Indonesia, Japan, and the United States of America. Indonesia was represented by the Ministry of Marine Affairs and Fisheries, Ministry of Research and Technology, Ministry of Environment, Ministry of Public Works, Coordinating Ministry for the Economy, Finance and Industry, Coordinating Ministry for People's Welfare, Ministry of Development of Disadvantaged Areas, Ministry for National Development Planning, Food Security Agency of the Ministry of Agriculture, Bandung Institute of Technology, Bogor Agriculture University, and local governments. The objectives of the workshop were:

- To develop the contents of a manual that will describe GEMPITA-SPL experiences in Java province according to local conditions in some candidate sites;
- To assess the utility of PICES' scientific tools for enhancing the human well-being of local communities and for rehabilitating coastal ecosystems in some candidate sites.

The first day of the workshop was spent at the Main Commission Hall of BPPT headquarters in Jakarta. It started with a welcome by Ms. Nenie Yustiningsih (Director of the Center for Agricultural Production Technology of BPPT),

Dr. Mitsutaku Makino (mmakino@affrc.go.jp) co-chairs the PICES Section on Human Dimensions of Marine Ecosystems and co-leads the PICES-MAFF project on "Marine ecosystem health and human well-being". His major scientific interests are institutional and economic analysis of marine policies, including fisheries management and ecosystem-based management. He is currently the Head of the Fisheries Management Group at the National Research Institute of Fisheries Science, Fisheries Research Agency of Japan, and a member of many international research activities such as the IUCN Commission of Ecosystem Management (CEM) Fisheries Expert Group (FEG), IMBER Human Dimension Working Group, United Nations University Sustainable Ocean Initiative. Also, he is now serving as an editor of ICES Journal of Marine Science as well as a Scientific Committee member of the Japanese Society of Ocean Policy.



Fig. 1 Dr. Mitsutaku Makino giving opening remarks and introduction at the PICES-MAFF workshop in Jakarta, Indonesia.



Fig. 2 Panel discussion including participation by Drs. Masahito Hirota (far left) and Mark Wells (center).

followed by opening remarks and introduction by Dr. Makino (Fig. 1). The keynote speech was made by Professor Tetsuo Yanagi from Kyushu University, Japan. The opening of the workshop was declared by Dr. Listyani Wijayanti (Deputy Chairman of BPPT). A total of 10 presentations were given on this day. A Project Team member, Dr. Mark Wells (University of Maine, U.S.A.;

Fig. 2) described previous activities of PICES in Indonesia and suggested ways that PICES science can support GEMPITA-SPL. Another member of the Project Team, Dr. Masahito Hirota (National Research Institute of Fisheries Science, Fisheries Research Agency, Japan) talked about how PICES scientific tools can support the analysis of well-being in the coastal societies (Fig. 2).

The second day featured a field trip to the Karawan area of West Java, where the BPPT has developed GEMPITA-SPL. Participants visited the Center for Brackishwater and Marine Culture of West Java Province and the National Center for Brackishwater Aquaculture to observe aquaculture ponds that applied the GEMPITA-SPL approach, and had discussions with local stakeholders (fishers, managers, etc.).

The workshop attracted serious attention from the Indonesian media, with many reports appearing in newspapers, on TV and web news (Fig. 3).

Results and next steps

Discussions following the workshop led to the idea of a Letter of Intent (LOI) between PICES and BPPT to recognize the benefits to their respective institutions of establishing international links (Fig. 3). The second output was a draft list of parameters to assess GEMPITA-SPL performance. In close coordination with Indonesian scientists, PICES scientists will support the assessment of these parameters in sample ponds where GEMPITA-SPL has been implemented. A table of contents for a GEMPITA-SPL manual was drafted to facilitate the dissemination of GEMPITA-SPL activities in Indonesia. These will be discussed at the second meeting of the PICES-MAFF Project Team to be held June 11–12, 2013, in Honolulu. Based on the advice and comments from this meeting, a second Indonesian workshop will be held around March 2014.



Fig. 3 Media report about the LOI signing ceremony involving Dr. Makino and Dr. Listyani (BPPT Vice Chairman).