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FishAdapt: A conference on climate change adaptation for fisheries and aquaculture

Left to right: Cherdsak Virapat (NACA), Xianjung Yao (FAO RAP), Chonkolnee Chamchang (DOF Thailand).

Climate change is altering aquatic ecosystems, driving shifts in physical and chemical processes, ecological communities and the distribution and abundance of species. These changes have implications for fisheries management, food security and the livelihoods of more than 600 million people world-wide that are employed in fisheries and aquaculture or related industries.

The “FishAdapt Conference” was held from 8-10 August in Bangkok, Thailand. This conference was targeted at scientists, development professionals and natural resource managers working in the context of fisheries, aquaculture, rural development and related fields. It provided a forum to share practical experiences in understanding the vulnerabilities associated with climate change and the development of risk management and adaptation strategies. The conference brought together 27 collaborating partner agencies from around the world, including governments, development agencies, universities and NGOs. It bridged inter-disciplinary gaps to provide a wider, shared perspective on the issues and the current state of knowledge amongst participants.

The conference included a series of panels and presentations, collaborative problem solving, interactive workshop events and discussion spaces. Participants exchanged experiences and ideas and best practices on which to act to assist the sector in furthering its efforts to reduce vulnerability and improve resilience to climate variability and change. Technical presentations were divided into three themes:

- Applied experiences in Freshwater, Coastal or Marine Fisheries and Aquaculture.
- Linking global, regional and national climate change and disaster risk management processes to fisheries and aquaculture.
- Communicating climate change issues and potential impacts to policy makers, fishers, farmers, fishworkers, scientist, development partners, industry and others for effective planning, implementation, and monitoring.

Several special sessions were held on:

- Charting a course after Paris: Leveraging NDCs for action to address climate challenges for fisheries and aquaculture in the Asia-Pacific region.
- Mangrove-based fisheries and aquaculture in support of climate change adaptation.
- Preparing for climate change in European fisheries and aquaculture: Lessons learned and transferability to the global context.
- Integrating gender considerations into climate change and disaster risk reduction strategies for fishing communities.

The conference provided countries, fisheries and aquaculture institutions and networks, civil society, private sector, development partners, and academic institutions the opportunity to present their work in fisheries and aquaculture climate change adaptation and disaster risk management. It also fostered the exchange of information and experiences from case studies and projects that show how climate change adaptation in fisheries and aquaculture and disaster risk management may be implemented in different regional and ecosystem settings among fishers, farmers, value chains and dependent communities.

NACA gratefully acknowledges the initiative and primary funding support of FAO, with additional financial support provided by NORAD, the Government of Japan, the National Oceanic and Atmospheric Administration, Rare, the World Meteorological Organization, International Oceans Institute and the International Atomic Energy Agency. NACA served as local organiser and Secretariat for the event.

On conclusion of the conference some participants stayed on to discuss the development of a policy brief, based on outcomes from the conference, to inform policy makers on best practices on climate change adaptation and risk management. The policy brief and conference proceedings are currently in preparation and will be available for download from the conference website soon. The programme and conference handbook (abstracts) can be downloaded from the links below:

Programme: http://fishadapt.com/programme.pdf

Conference handbook: http://fishadapt.com/handbook.pdf

Presentation slides: http://www.fishadapt.com/modules/conference/presentations.php

For more information please visit the FishAdapt website, http://fishadapt.com.

11th Asian Fisheries and Aquaculture Forum convened in Bangkok

NACA, the Thailand Department of Fisheries, SEAFDEC and the Asian Fisheries Society co-organised the 11th Asian Fisheries and Aquaculture Forum (11AFAF), which was held at the Bangkok International Trade and Exhibition Centre, 3-7 August 2016.

The conference was opened by the Minister of Agriculture and Cooperatives, Thailand. The opening address was given by the President of the Asian Fisheries Society, Prof. Shuolin Huang. Welcome remarks were given by the Director General of the Thailand Department of Fisheries, Dr Adison Promthep. The opening ceremony was followed by the opening and tour of the Poster Exhibition,

Keynote presentations were given by:

- Prof. Uthairat Na-Nakorn (Kasetsart University): Countering food security threats with genetic improvement: ASEAN aquaculture scenarios.
- Prof. Wong Poh Poh (University of Adelaide): Ecosystem-based adaptation to coastal erosion and sea-level rise.
- Prof. Ratana Chuenpagdee (Memorial University): A roadmap to fisheries sustainability: Fantasy or reality?
- Prof. Roger Doyle (Genetic Computation Ltd.): Genetics of growth and disease in aquaculture: The future.
- Dr Derek Staples (Australia): Sustainable fisheries in the ASEAN context.

The keynote presentations were followed by a panel discussion by the keynote speakers.

The Scientific Programme consisted of parallel sessions on Governance, Education & training, Sustainable intensification of aquaculture, Response to impacts of climate change, Sustainable fisheries, Seafood post-harvest technology and food safety. The 6th Global Symposium on Gender in Aquaculture in Fisheries was held as an additional parallel session.

Special session were held on Small-scale fisheries and food security: Cross-pollination and synthesis; Current Governance issues in the inland fisheries of Asia-Pacific; Biofloc technology; Cross-country studies on coastal-resource management; and a Special session on the status of aquatic genetic resources for food and agriculture.

Together approximately 200 presentations were given between the parallel and special sessions, and 144 posters were presented in the poster exhibition.

The General Assembly of the Asian Fisheries Society was held on the evening of 6 August (please refer to the AFS website for the report of the meeting, which will not be covered here).

A post-conference tour was held to the Royal Sea Farm and Aquaculture Demonstration Project established under the initiative of Her Majesty Queen Sirikit, in Petchaburi Province, some 132 km from Bangkok. The demonstration sea farm includes a variety of land-based demonstration activities on closed culture of various marine and diadromous fish, brine shrimp, seaweed and salt production from salt flats in order to recycle wastewater and nutrients as part of an integrated zero-waste discharge system.

NACA would like to thank the generous support of the Thailand Convention & Exhibition Bureau and the AquaFish Innovation Lab, which were Platinum Sponsors of the event, and the Thailand Department of Fisheries for hosting the event.

A new and improved PCR detection method for *Enterocytozoon hepatopenaei* (EHP) based on a gene encoding a spore wall protein

Itsathitphaisarn, O., Jaroenlak, P., Sanguanrut, P., Salachan, P.V., Wiredu-Boakye, D., Williams, B.A.P., Stantiford, G.D., Flegel, T.W. and Sritunyalucksana, K.

Hepatopancreatic microsporidiosis (HPM) caused by Enterocytozoon hepatopenaei (EHP) is a newly emerging disease of cultivated shrimp in Asia. Current evidence indicates that it can be associated with severe growth retardation that may not be clearly evident until the second month of culture and that it may even cause low continuous mortality in the case of very severe infections.

Here we present a new method for detecting Enterocytozoon hepatopenaei that has superior specificity to the first generation SSU-PCR developed in 2009 when the genetic information of EHP was still limited. Due to the urgency in stemming losses to HPM, we have decided to release this method for free, non-commercial use to the global shrimp farming community.

The second generation EHP detection method presented here is based on a gene encoding a spore wall protein (SWP) of EHP (SWP-PCR). Results from our laboratory work revealed, in contrast to SSU-PCR, that the SWP-PCR method did not give cross reactions with DNA from crabs infected with H. eriocheir and E. canceri. From these results, we recommend that the new SWP-PCR method replace the first generation SSU-PCR method.

The sequences of the primers for the SWP-PCR method (nested PCR) are given below and can be used freely for non-commercial applications to detecting EHP. Please contact Centex Shrimp (ornchuma.its 'at' mahidol.ac.th) to obtain a free positive control plasmid (pGEM-EHPSWP). Please download the methodology from this link:

http://www.enaca.org/modules/library/publication.php?publication_id=1177

Radio interview on NACA's mission and role in regional food security

NACA's Director General, Dr Cherdsak Virapat, was interviewed on the "Around the World" radio programme of Saranrom (AM 1575 kHz) concerning the mission and role of NACA in regional food security.

The interview, which was conducted in Thai language, can be accessed online from:

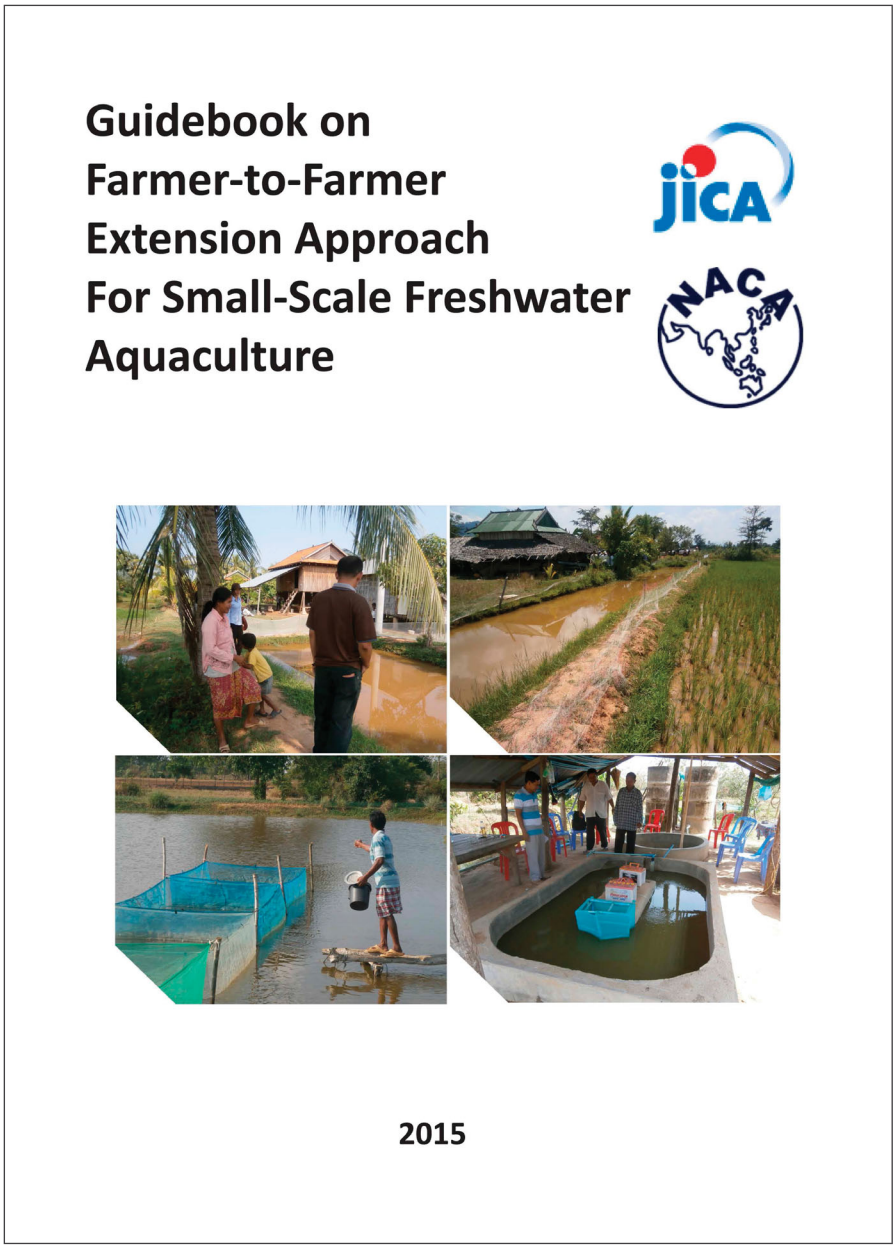
http://saranrom.mfa.go.th/programs/รู้รอบโลก

Quarterly Aquatic Animal Disease Report, Q1 2016

The regional Quarterly Aquatic Animal Disease (QAAD) reporting system has been implemented since the second quarter of 1998 and continues to provide a useful mechanism for aquatic animal disease information sharing amongst 21 participating governments in the Asia-Pacific region. The QAAD reporting system is a joint activity between NACA, FAO and OIE Regional Representation (Tokyo). The 2016/1 QAAD report, 70th in the series, includes health reports from 16 governments.

This issue's foreword discusses changes to the QAAD Asia-Pacific Report and the list of reportable diseases. Download the report from:

http://www.enaca.org/modules/library/publication.php?publication_id=1178



As forecast in the last issue, the guidebook is now available for download from the NACA website. At present the book is available in English, Burmese, French, Khmer, Thai and Lao. A Bahasa Indonesia version may also be available soon.

The guidebook was prepared as an offshoot of the International Symposium on Small-scale Freshwater Aquaculture Extension, which was held in Bangkok, Thailand in December 2013. The success stories of many small-scale farmers in both Asian and African countries brought insights on the effectiveness and self-sustaining mechanism of famer-to-farmer extension approaches for aquaculture. This is an approach developed by JICA in the implementation of their technical cooperation projects for rural development in the region.

Information included in the guidebook was mostly taken from the results of the Freshwater Aquaculture Improvement and Extension projects that were implemented by JICA in Cambodia. Information derived from the discussions during the symposium is also included, along with information gained from personal interviews with farmers in several provinces in Cambodia.

NACA would like to thank the JICA for their financial support to convene the symposium and make publication of this book possible.

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NACA is a network composed of 19 member governments in the Asia-Pacific Region.

Download the guidebook from:

http://www.enaca.org/modules/library/publication.php?publication_id=1180

Audio and video recordings (podcast) of the technical presentations from the symposium are also available for download or online viewing from:

http://www.enaca.org/modules/podcast/programme.php?programme_id=13

New NACA website in the works

The NACA website is migrating to a new purpose-built software platform and getting a new lightweight and mobile-friendly / responsive design with vastly improved indexing to help you find information faster. We hope it will be out early in the new year. See you on www.enaca.org!