



Food and Agriculture Organization of the United Nations (FAO)  
Ministry of Agriculture and Rural Development of Viet Nam (MARD)



Joint Final Technical and National Consultations on  
"Early Mortality Syndrome (EMS) or Acute Hepatopancreatic  
Necrosis Syndrome (AHPNS) of Cultured Shrimp" (TCP/VIE/3304)  
Prestige Hotel, Hanoi, Viet Nam, 25-27 June 2013



## Background

The project, TCP/VIE/3304 (E) **Emergency assistance to control the spread of an unknown disease affecting shrimps** – was the outcome of the recommendations from the preliminary mission under the Crisis Management Centre – Animal Health (CMC-AH) which fielded a rapid deployment team (RDT) in July 2011 to investigate an unknown shrimp disease that has been affecting the major shrimp producing Mekong Delta provinces in Viet Nam. Subsequently a request for technical assistance to FAO in June 2011 was received from the Department of Animal Health (DAH), Ministry of Agriculture and Rural Development (MARD), the Directorate of Fisheries (D-Fish), MARD, and the Vietnamese Fisheries Society.

Officially approved in July 2012, this TCP is providing technical assistance to support the following outputs: (1) confirm the diagnosis of this unknown disease, currently known as Early Mortality Syndrome (EMS) or Acute Hepatopancreatic Necrosis Syndrome (AHPNS), (2) improve shrimp on-farm biosecurity through farmer training, (3) improve capacity on preparedness to aquatic animal disease emergencies, and (4) develop a national aquatic animal health management strategy (NAAHM) to support long-term improvement of aquatic biosecurity governance capacity in the country. All above 4 outputs are expected to contribute to better understanding of this disease, possibly halt its spread, protect the livelihoods of shrimp farmers and sustain shrimp culture in Viet Nam through effective biosecurity.

Since April 2012, through the joint coordination and facilitation by FAO and DAH and DFish of MARD, a number of activities were implemented. These include several training/workshops on NAAHM strategy development, review of emergency preparedness guidelines, on-farm shrimp biosecurity training for affected shrimp farmers and design and implementation of a number of studies to better understand EMS/AHPNS in terms of diagnosis (infectious aetiology, pathology,

transmission and infectivity studies, metagenomics, role of environmental toxins) and identification of risk factors through cross-sectional epidemiological studies. In November 2012, a joint technical consultation was held in Hanoi which updated the progress of the work carried out under this TCP and the National Task Force and identified additional follow-up studies, followed by a brief progress reporting to the MARD Minister.

Last month, 2 press releases (Global Aquaculture Advocate, GAA and FAO), pointed to a bacterial aetiology based on the findings of the work done at the Aquaculture Pathology Laboratory of Prof. Lightner's group at the University of Arizona. This TCP project is wrapping up its activities and most of the field and laboratory studies and normative work are in the final stages of completion.

This final technical and national consultations on "Early Mortality Syndrome (EMS) or Acute Hepatopancreatic Necrosis Syndrome (AHPNS) of Cultured Shrimp" (TCP/VIE/3304) is being jointly organized by FAO and MARD from 25-27 June 2013 to be held at the Prestige Hotel in Hanoi, Viet Nam.

### **Purpose**

The overall objective of the final technical and national consultations is to present all relevant project findings and work carried out under the TCP/VIE/3304 project and updates on EMS/AHPNS situation and experiences in some affected Asian countries with additional technical presentations to assist in further understanding this disease in terms of its aetiology and epidemiology as basis for drawing risk management measures and other recommendations for follow-up work.

### **Process**

There will be two consultations over a period of 3 days. The first two days (25-26 June 2013) will be devoted to technical presentations of all relevant project findings and work carried out as mentioned above (see Purpose) and to drawing up of collective recommendations on measures to manage the risk of EMS/AHPNS.

The third day (27 June 2013) is a national consultation with additional aquaculture stakeholders participating. The morning session will be devoted to a brief summary presentation of important findings and the way forward to the MARD Minister (time availability of the Minister to be confirmed) and key MARD and provincial officials and other shrimp aquaculture stakeholders. Technical presentations will be continued after the session with the MARD Minister. An afternoon session will be devoted to an Expert Panel discussion - an opportunity for both public and private shrimp aquaculture stakeholders to interact with experts through a question and answer session. The draft programme is attached as **Annex 1**.

### **Participation**

The workshop will be participated by key personnel involved in TCP/VIE/3304 project and MARD National Task Force on Shrimp Diseases. From Viet Nam side, participants include MARD (DAH, D-Fish, RIA, DOST, provincial agencies). From FAO side, participants include FAO staff (Aquaculture Branch; Service, Products, Trade and Marketing Branch, FAORAP and FAOVN) and project consultants. Invited and other interested experts outside Viet Nam will also participate. The workshop will be facilitated by FAO and MARD. The tentative list of participants is attached as **Annex 2**.

### **Products**

- The expected outcomes of the above activities are:
  - Updated understanding of the aetiology and epidemiology of EMS/AHPNS
- Recommendations on measures to manage and reduce the risk of EMS/AHPNS
- Recommendations on follow-up work
- Consensus built on other project outputs, e.g. National Strategy on Aquatic Animal Health
- A workshop report

## Annex 1: Tentative Programme

Date	Activities
24 June 2013	Monday, arrival of participants
25 June 2013	<b>FAO/MARD Joint Final Technical Consultation on “Early Mortality Syndrome (EMS) or Acute Hepatopancreatic Necrosis Syndrome (AHPNS) of Cultured Shrimp”</b>
09:00-09:30	Workshop Opening <ul style="list-style-type: none"> <li>▪ Welcome statement (MARD)</li> <li>▪ Opening statement (FAO)</li> </ul> Self- introduction of Participants Group photo
09:30-09:40	<u>Presentation 1.</u> Background, objectives and expected outcomes of the Consultations (Dr Melba B. Reantaso, FAO)
	<b>Session 1: Outcomes of the FAO/MARD TCP/IE/3304 Output 1: Diagnostics</b>
09:40-10:10	<u>Presentation 2.</u> Diagnostic studies (histopathology, transmission/infectivity studies and bacteriophage studies): Prof. Don Lightner (University of Arizona)
10:10-10:40	<u>Presentation 3.</u> Diagnostic studies (histopathology, bacterial metagenomics and bioinformatics): Prof. Tim Flegel (Mahidol University)
10:40-11:00	Coffee break
11:00-11:20	<u>Presentation 4.</u> Diagnostic studies (histopathology): Ms Thanh Hue (RAHO 6) tentative
11:20-11:50	<u>Presentation 5.</u> Diagnostic studies (parasite, fungal and bacterial agents): Dr Dang Thi Oanh (Can Tho University)
11:50-12:20	<u>Presentation 6:</u> Diagnostic studies and DNA profiling (co-habitation and transmission studies using bacterial isolates from field studies): Dr Dang Thi Oanh (CTU)
12:20-13:00	Discussions
12:30-14:00	Lunch break
14:30-15:00	<u>Presentation 7.</u> Environmental studies: Assessment of toxins in feed, sediment, and water: September 2012 samples: Prof. Claude Boyd (Auburn University)
15:00-15:30	<u>Presentation 8.</u> Environmental studies: Pesticide/pathogen combination challenge tests: Dr Truong Quoc Phu (CTU)
15:30-16:00	Coffee break
16:00-16:45	<u>Presentation 9:</u> Epidemiology of EMS/AHPNS based on September 2012 cross sectional studies: Dr Visanu Boonyawiwat (Kasetsart University).
16:45-17:30	Discussions
17:30-17:45	Wrap up and Tasks for Day 2

26 June 2013	Wednesday
08:30-08:45	Tasks for the day
	<b>Session 2: EMS/AHPNS Status and Experiences from Other Countries and other Technical Presentations</b>
08:30-08:45	Presentation 10: Status of current known distribution of EMS/AHPNS: Dr Eduardo Leano (Network of Aquaculture Centres in Asia and the Pacific)
08:45-09:15	Presentation 11: (Tentative) : Status of EMS/AHPNS in China: <i>Vibrio parahaemolyticus</i> and suspected Yellowhead virus isolated from EMS/AHPNS cases of <i>L. vannamei</i> : Dr Huang Jie (Yellow Sea Fisheries Research Institute)
09:15-09:45	Presentation 12: Status of EMS/AHPNS in Malaysia: Histopathological changes in EMS shrimp exposed to different type of treatments: Dr Kua Beng Chu (Fisheries Research Institute, Malaysia)
09:45-10:00	Coffee break
10:00-10:30	Presentation 13: Status of EMS/AHPNS in Thailand: Dr. Jiraporn Kasornchandra (Department of Fisheries, Thailand)
10:30-11:00	Presentation 14: Studies to determine the causative agent of the Early Mortality Syndrome (EMS) or Acute Hepatopancreatic Necrosis Syndrome (AHPNS): Mr Loc H. Tran (University of Arizona, USA)
11:00-11:30	Presentation 15: Bacteriophages and pathogenic <i>Vibrio</i> spp in the aquatic environment: Dr Iddya Karunasagar (FAO)
11:30-12:00	Presentation 16: Mass mortality of shrimp due to vibriosis in the Philippines: similarities with EMS and lessons learned: Dr Celia Lavilla-Pitogo (Philippines)
12:00-12:30	Presentation 17: Experience of fish mortalities caused by epidemic clonal strains of <i>Aeromonas hydrophila</i> carrying a lysogenic bacteriophage: Dr Wes Baumgartner (Mississippi State University)
12:30-13:00	Discussions
13:00-14:00	Lunch break
	<b>Session 3: Outcomes of the FAO/MARD TCP/VIE/3304 Outputs 2,3,4</b>
14:00-14:15	Presentation 18. Progress on the work related to Output 2: Farmer training on biosecurity and best management practices (Dr Le Van Khoa/Mr Koji Yamamoto)
14:15-14:30	Presentation 19. Progress on the work related to Output 3: Emergency preparedness guidelines (Prof. Mohammed Shariff/Dr Dang Thi Lua)
14:30-14:45	Presentation 20. Progress on the work related to Output 4: National strategy on aquatic animal health (Dr Eduardo Leano/Dr Le Van Khoa)
14:45-15:00	Discussions
15:00-15:30	Coffee break
	<b>Session 4: Managing EMS/AHPNS and Talking Points for 27 June Consultation</b>
15:30-17:10	Discussions of recommendations on measures to manage the risk of EMS/AHPNS. (Facilitated by Dr Melba B Reantaso)
17:10-17:30	Discussion of key talking points for the MARD Minister during the National Workshop (27 June 2013)
17:30-17:45	Wrap up and Tasks for Day 3

27 June 2013 (Thursday)	National Consultation on “Early Mortality Syndrome (EMS) or Acute Hepatopancreatic Necrosis Syndrome (APHNS) of Cultured Shrimp”
08:30-08:40	Tasks for Day 3
08:40-08:50	Introduction of new participants
08:50-10:15	Continue discussions on risk management measures
10:15-10:45	Coffee break
	Presentation to the Chief Veterinary Officer and key provincial officers
10:45-11:15	Discovery of EMS agent: Success story of international collaboration with Vietnam – Mr Loc Tran (University of Arizona)
11:15-11:45	Progress with FAO/MARD TCP/VIE/3304 – Dr Le Van Khoa (TCP National Project Coordinator, DAH)
11:45-12:15	Presentation of Consultation Recommendations – Dr Melba Reantaso (TCP Lead Technical Officer, FAO)
12:15-13:45	Lunch break
13:45-15:00	Expert Panel Question and Answer session
15:00-15:30	Coffee break
15:30-16:00	The way forward
16:00-16:15	Closing

FAO/MARD Joint Technical Consultations on Early Mortality Syndrome or  
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25-27 June 2013, Prestige Hotel, Hanoi, Viet Nam

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