

SPECIAL REPORT

Transboundary Diseases and Early Mortality Syndrome (EMS) or Acute Hepatopancreatic Necrosis Disease (AHPND)

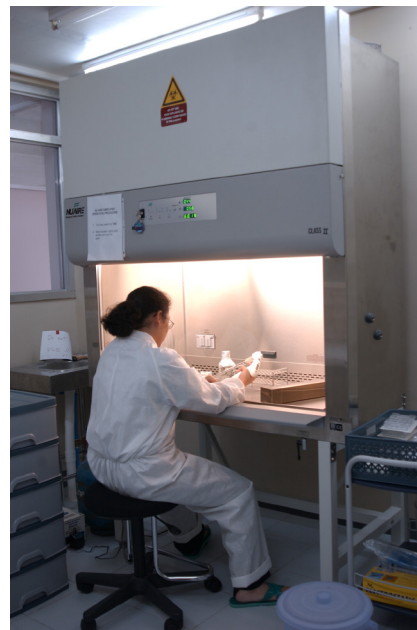
By SEAFDEC Aquaculture Department

Disease outbreaks remain a crucial obstacle to the growth of the aquaculture industry. Shrimp culture has been particularly affected since the White Spot Syndrome Virus plagued farms worldwide in the 1990s. Since then, other epidemic viral diseases have cost the industry an estimated 15 billion USD in the past 15 years and affecting about a million people in Southeast Asia alone who depend on shrimp culture for their livelihood.

Particularly challenging is the spread of these pathogens across international borders, carried by infected stocks. More recently, the Acute Hepatopancreatic Necrosis Disease (AHPND) has been the subject of attention since it has caused serious drops of up to 20% in worldwide shrimp production. The disease first appeared in China in 2009 but has since been also reported in SEAFDEC member countries: Cambodia, Malaysia, Philippines, Thailand, and Viet Nam.

AHPND pathogens were identified in 2013 to be certain strains of *Vibrio parahaemolyticus* which has so far infected *Penaeus monodon* and *Litopenaeus vannamei* farms. Causing massive shrimp mortality in the first 35-45 days from stocking of ponds, AHPND was formerly referred to as the Early Mortality Syndrome (EMS). However, other pathogens and environmental factors also cause early mortality which farmers sometimes mistake to be AHPND.

The issue has prompted AQD and the Philippine Bureau of Fisheries and Aquatic Resources to convene last February the "Regional Technical Consultation (RTC) on EMS/AHPND and other Transboundary Diseases for Aquatic Animal Health Management." The meeting formulated the following regional policy recommendations as shown in Box 1. ❖



The diagnostic facilities at AQD



*Giant tiger prawn, *Penaeus monodon* at farm*



Box 1: Issues and Gaps identified during the RTC, and corresponding Regional Policy Recommendations

Issue/Gaps	Regional Policy Recommendations
Legislative and policy frameworks	<ul style="list-style-type: none"> • Development of a national Strategy and Policy Framework • Member Countries should work to harmonize legislation and regulations related to aquatic animal health management including legislation for trans-boundary movement of live aquatic animals
Strategy for prevention, control, and biosecurity	<ul style="list-style-type: none"> • Compliance with good aquaculture practices to maintain optimal environmental conditions during the culture period <ul style="list-style-type: none"> - Establishment of an effective prevention system against AHPND and other diseases - Conduct of marker-assisted selective breeding of AHPND resistant shrimps - Development of vaccine against AHPND - Use of immunoglobulin Y as feed additive - Conduct study on nano-bubble technology - Use of central drain system - Use of phage therapy • Development and implementation of Guidelines on Health Management and Good Practices to Prevent AHPND and other trans-boundary diseases • Strict implementation of reporting system to relevant authorities and/or competent authorities at country, regional and international levels through the development of <ul style="list-style-type: none"> - Early warning system - Monitoring system - Information for regular reports, annual report • Emergency preparedness and contingency plan: should be a responsibility of competent authorities • Funds should be made available to carry out activities as joint endeavors of the private and public sectors
Detecting the EMS/AHPND disease	<ul style="list-style-type: none"> • Use of diagnostic methods following the OIE guidelines • Development of tool kits • Ensuring the availability and capacity of laboratory services, either public or private
Cooperation among relevant stakeholders	<p>Strengthening cooperation arrangements among the following:</p> <ul style="list-style-type: none"> • ASEAN Member States (AMSs) and international/regional organizations such as OIE, FAO, NACA and SEAFDEC • ASEAN Network of Aquatic Animal Health Centres (ANAAHC) in: <ul style="list-style-type: none"> - Assessing the status and finding ways on how the network could assist in implementing its activities - Identifying the centers to be involved in ANAAHC per country - Mobilizing all aquatic animal health centers • Strengthening of public-private cooperation at national levels • Enhancing cooperation among shrimp industries in the ASEAN Region
Capacity building program	<ul style="list-style-type: none"> • To include technology transfer from one AMS to another AMS
Awareness building	<ul style="list-style-type: none"> • Enhancing the awareness of farmers and relevant stakeholders on R&D activities in transboundary diseases (especially on management and control)