ICAR/NACA WORKSHOP
ON
AQUATIC EPIDEMIOLOGY, SURVEILLANCE AND EMERGENCY PREPAREDNESS

Background

Aquatic animal health and international trade: Diseases of aquatic animals and bio-security measures for managing risks of aquatic animal disease outbreaks have received less attention than livestock diseases. This is despite the fact that India is a major exporter of aquatic animal products annually worth several million US$. Aquaculture (e.g. shrimp, scampi and carp) already makes a significant contribution to rural development, poverty reduction, food security, economic development and trade throughout India, and can make further substantial contributions.

Aquatic animal diseases are a major risk and a primary constraint to the growth of the aquaculture sector in many countries in the Asia-Pacific region and India is no exception. The epidemic spread and devastating impacts of aquatic animal diseases such as epizootic ulcerative syndrome (EUS) in freshwater fish; viral nervous necrosis (VNN) in marine fish; white spot syndrome virus (WSSV) in penaeid shrimps; and the emerging Taura syndrome virus (TSV) in *Penaeus vannamei;* in Asia have clearly demonstrated the vulnerability of aquaculture systems to infectious disease emergencies. More recently, the widespread mass mortalities of koi and common carp in Indonesia and Japan due to infection with koi herpes virus (KHV) have re-emphasized the impact that emerging diseases can have on local economies.

The increasing globalization and trade volume of the aquaculture sector has created new mechanisms by which pathogens and diseases may be introduced or spread to new areas. Known and unknown disease problems may arise quickly in any country's aquaculture sector, often with serious economic, social and ecological consequences, but may be difficult or impossible to eliminate once established.

Regional and International Instruments: Over the years, several regional and international instruments have been developed to help national governments to meet the international standards set by the World Trade Organization under the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) and related scientific standards set by the World Organization for Animal Health (OIE). Outlines for such guidelines are provided by the *International Aquatic Animal Health Code* and the *Manual of Diagnostic Tests for Aquatic Animal Diseases* of the OIE, the Asia-Pacific Regional *Technical Guidelines and Implementation Strategy*, as well as the *National strategic plan for aquatic exotics and quarantine* of the Ministry of Agriculture, Government of India. All these documents take WTO's SPS Agreement into consideration, as well as Articles 9 - *Aquaculture Development* – and 10 – *Integration of Fisheries into Coastal Area Management* of the *Code of Conduct for Responsible Fisheries* (CCRF).

Although a number international regulatory frameworks have been developed, their translation to and implementation at the regional and national levels have been slow to develop, or may be entirely lacking, for a number of reasons. The NACA recognizes that implementation of international/regional/national guidelines and instruments will go a long way in not only helping countries to meet the international standards but also to significantly minimize the impact and spread of serious aquatic animal diseases.

National Strategic Plan: In the year 1999, the Department of Animal Husbandry and Dairying, under the Ministry of Agriculture, Government of India entrusted the task of developing national strategic plan and guidelines for dealing with aquatic exotics and quarantine to the National Bureau of Fish Genetics and Resources (NBFGR) coming under the Indian Council of Agricultural Research (ICAR). NBFGR undertook a series of activities (workshops, consultative processes, brainstorming sessions) between 2000 and 2002 involving the relevant stakeholders at the national level and developed two national documents: (1) National strategic plan for aquatic exotics and quarantine and (2) Aquatic exotics and quarantine guidelines. The strategic plan and guidelines have been approved by the Ministry of Agriculture, for implementation in the country. The strategic plan and guidelines cover most of the important elements contained in the "Asia Regional Technical Guidelines (TG)[1] for responsible movement of live aquatic animals". The main elements of the Technical Guidelines incorporated in the national strategic plan are as follows:

1. Pathogens to be considered
2. Disease diagnosis
3. Health certification and quarantine measures
4. Disease zoning
5. Disease surveillance and reporting
6. Contingency planning
7. Import risk analysis
8. National strategies and policy frameworks

The national strategic plan is very broad and provides the basic framework and principles on which to implement a comprehensive health management strategy. The strategic plan covers most of the issues that needs to be implemented at the state level. The national strategic plan has identified the roles and responsibilities of different stakeholders at the state and national levels. To accomplish the vision envisaged in the national strategic plan, it is very essential, that efforts are made to initiate the implementation process with the available resources. The proposed workshop is a first step in the right direction.

Role of NACA: NACA is an intergovernmental organization, owned by its member governments, of which there are currently 17, including India. The objective of NACA is the expansion of sustainable aquaculture and small-scale aquatic resources management, through the promotion of science-based best practices in policy, sector management and farm management. NACA operates under the principle of Technical

[1] Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and the Beijing consensus and Implementation strategy, 2000. FAO/NACA. Fisheries Technical Paper No 402

Cooperation among Developing Countries (TCDC). The regional program is formulated by the governments, through its Governing Council; with the advice of a Technical Advisory Committee; and a wide range of government, industry and non-government stakeholders, and implemented by the Secretariat. NACA programs and projects are developed through broad participation among stakeholders, and are (i) implemented in a participatory manner, ii) aim to strengthen national capacities while utilizing existing regional and national institutions, (iii) designed to build on rather than duplicate results, and (iv) are shared widely. Aquatic animal health management is one of NACA's core programmes, through which support is provided for cooperation, capacity building and improved communications among countries in addressing aquatic disease problems. The purpose of NACA's regional Aquatic Animal Health Program in the 21 participating countries is to "Reduce risks of aquatic animal disease impacting on livelihoods of aquaculture farmers, national economies, trade and human health". The regional health program of NACA provides technical assistance to countries to implement practical national aquatic animal health strategies.

ICAR/NACA Workshop

The workshop is a collaborative activity between ICAR and NACA to build capacity and awareness in relevant stakeholders and institutions. The workshop will be held in CIBA, Chennai from 3-7 September 2007.

Purpose

The purpose of the 5 day workshop is to build capacity and awareness of relevant stakeholders in the areas of aquatic epidemiology, risk analysis, surveillance and emergency preparedness

The long term objective is to support implementation of **National strategies** for better aquatic animal health management with a focus on improved surveillance, reporting, early response, emergency preparedness, risk analysis, certification and quarantine

Participation

The workshop will be open to 30 invited middle and senior level officers from relevant institutions in India (e.g. ICAR institutions, state agricultural universities, state fisheries departments, MPEDA, private sector).

The following institutions will be approached to consider sponsoring their staff.

- Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture
- Indian Council of Agricultural Research (ICAR), New Delhi
- Department of Fisheries, from all the important states
- National Bureau of Fisheries Research and Genetics (NBFGR), Lucknow
- Central Institute of Freshwater Aquaculture (CIFA), Bhubaneswar
- Central Institute of Fisheries Education (CIFE), Mumbai
- Central Marine Fisheries Research Institute (CMFRI), Cochin

- Central Inland Capture Fisheries Research Institute (CICFRI), West Bengal
- Marine Products Export Development Authority (MPEDA), Cochin
- Aquaculture Authority of India, Chennai
- Fisheries Colleges coming under state Agricultural Universities (e.g. Mangalore, Tuticorin, Panangad, Muthukur, Ratnagiri, Bhubaneswar, and West Bengal)
- Aquatic animal health groups coming under conventional Universities (e.g. Cochin university of science and Technology,
- Representatives of farmer/hatchery/service provider associations

Process

The workshop will have three components that will be integrated in a logical fashion to ensure continuity and enhance uptake. The **First component** will include lectures on concepts of epidemiology, application of epidemiology (e.g. disease investigations, conduct of surveys, sampling issues), surveillance, qualitative risk analysis and contingency planning.

The second component will focus on **sharing of experiences** from other countries (e.g. Australia, Thailand, Philippines, Vietnam) that are implementing national aquatic animal health strategies in the Asia Pacific region. This will include areas such as national plans, working of national advisory committee, national list of diseases, national surveillance and reporting framework, national contingency plans, national aquatic animal health networks, etc.

Third component will be the **interaction sessions**. Interactions will be facilitated amongst participants, between participants and resource persons throughout the above 2 sessions. These sessions will be used to discuss and agree on simple and practical approaches to implement national aquatic animal health strategies in India with the available resources and expertise.

Resource experts from India, NACA, FAO, Australia, Thailand and Philippines will contribute to the conduct of the workshop.

Product

The expected outputs from the workshop are:

- Increased capacity in aquatic epidemiology, risk analysis, surveillance, and emergency preparedness amongst relevant stakeholders and institutions
- Increased awareness amongst relevant stakeholders on global treaties and instruments related to aquatic health issues that govern trade in live aquatic animals and aquaculture products
- Establishment of a informal network of individuals and institutions to support implementation of national strategies on aquatic animal health management in India

Logistics

As local hosts, CIBA will provide local logistics (e.g. local transport, venue, coffee breaks, lunch, workshop material) and necessary support in the conduct of the workshop. NACA will facilitate the workshop and coordinate inputs from resource experts.

There will not be any fee for participation in the workshop. Since the activity is planned with limited funds, it is not possible to support the travel and DSA of participants. Institutions interested in deputing their middle and senior level officers should consider sponsoring their staff.

Expression of Interest (EOI)

Institutions interested in deputing their middle and/or senior level officers should send in their EOI to Director of CIBA at agponniah@ciba.res.in and mohan@enaca.org on or before 26th August 2007.