

## *International instruments*

# Summary overview of health management and alien species in aquatic ecosystems

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## Introduction

This presentation provided an introduction to aquatic animal health aspects of trans-boundary movement and introductions of alien species, noting the relevant international and regional agreements and suggestions for practical implementation in the Mekong/Lancang region.

Trans-boundary aquatic animal diseases are a major risk and an important constraint to the growth of aquaculture. Aquatic alien species could either be pathogens, that may cause trans-boundary aquatic animal diseases, or could harbor aquatic animal pathogens that lead to diseases and epizootics in aquaculture following introduction of alien species. Aquatic alien species, and aquatic animal pathogens, are trans-boundary problems with potential to impact on international trade, aquaculture and fisheries and the people whose livelihoods depend on aquatic resources.

Aquatic species have been moved around the world for various purposes. There are many examples of positive socio-economic benefits from introductions of aquatic species, including improved livelihoods, increased production and trade. However, there are equally cases where serious negative impacts have resulted. Where introductions are necessary, they should be conducted in a responsible and transparent way using appropriate measures to assess and manage risks.

Live aquatic animals are moved actively to support subsistence and commercial aquaculture in Asia. Live aquatic animals though appearing healthy, often carry serious pathogens. Examples of introduction of pathogens to new aquatic systems and hosts leading to serious consequences in the Asia-Pacific region include Epizootic Ulcerative Syndrome (EUS) in fresh and brackishwater fishes, WSSV and TSV in cultured shrimp and VNN in grouper. Continued occurrence of koi mass mortality in Indonesia and the recent outbreak of KHV in Japan are



grim reminders of dangers associated with trans-boundary spread of pathogens. Careful examination of the history and spread of these diseases in the region indicate how irresponsible or ill-considered movements of live animals can impact aquaculture and wild fisheries resources. In many cases, these impacts are a direct result of absence of national and regional disease management strategies or non-compliance by stakeholders to such strategies.

Aquatic species are widely moved within and between countries and watersheds in the Mekong region and between the region and elsewhere. Therefore, the risk of trans-boundary aquatic animal disease problems in the region is considerable. Adaptation and adoption of relevant regional or international standards, codes or guidelines for trans-boundary movement could have far reaching positive implications for responsible development of subsistence and commercial aquaculture and fisheries in the Mekong/Lancang region.

## International agreements

Various global instruments, codes of practice and guidelines (either voluntary or obligatory) exist that provide certain levels of protection, all aimed at minimizing the risks due to pathogens/diseases associated with aquatic animal movement (FAO/NACA, 2000). There are a number of international agreements that directly relate to health management and trans-boundary movement of live aquatic animals, or include provisions that consider the risks and management of risk associated with introduction of aquatic animal pathogens through trans-boundary movement. These include:

**FAO Code of Conduct for Responsible Fisheries**, created in 1995, sets out principles and international standards of behaviour for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity.

**Code of Practice on the Introductions and Transfers of Marine Organisms (ICES)**, created in 1973 and updated in 1994, gives recommended procedures and practices to reduce the risks of detrimental effects from the intentional introduction and transfer of marine (including brackish water) organisms. Endorsed by FAO Regional Fishery Bodies.

**Cartagena protocol on Bio-safety**, adopted in 2000 under the Convention on Biological Diversity and in force from September 2003, seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology.

**Convention on Biological Diversity**, adopted in 1992 and in force from 1993, its objectives are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

**World Trade Organization (WTO)**, established in 1995 is the only global international organization dealing with the rules of trade between nations. The Sanitary and Phyto-sanitary agreement specifically addresses the management of diseases and pathogens associated with trans-boundary movements.

**World Organisation for Animal Health (OIE)**, established in 1924, in association with WTO helps, *inter alia*, guarantee the sanitary safety of world trade by developing sanitary rules for international trade in animals and animal products.

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## Regional Technical Guidelines

Within Asia, The Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and their associated implementation plan, the Beijing Consensus and Implementation Strategy (BCIS), (FAO/NACA, 2000) provide expert guidance for national and regional efforts in reducing the risks of disease due to trans-boundary movement of live aquatic animals.

The preparation of Technical Guidelines and the Manual of Procedures were jointly initiated by FAO and NACA in 1998 through an FAO Technical Cooperation Programme (TCP) Project – “Assistance for the Responsible Movement of Live Aquatic Animals”, with the participation of 21 countries from throughout the region. This program complemented FAO’s efforts in assisting member countries to implement the relevant provisions in Article 9 - Aquaculture Development – of the Code of Conduct for Responsible Fisheries (CCRF), at both the national and regional levels. The Technical Guidelines are supported by a detailed Manual of Procedures and Asia Diagnostic Guide (FAO/NACA, 2001; Bondad-Reantaso *et al.*, 2001).

The Technical Guidelines provide valuable guidance for national and regional efforts to reduce these risks and a strong platform for mutual cooperation at the national, regional and international levels. There is strong technical and political endorsement from regional, inter-governmental and global organizations and a shared commitment from national governments to support its implementation.

Among the 21 governments adopting the Technical Guidelines include the countries of the Mekong/Lancang basin of China, Myanmar, Laos, Thailand, Cambodia and Vietnam. Further strengthening their implementation in the Mekong region, and Southeast Asia, was their adoption as a policy document by the ASEAN Fisheries Working Group in 2001. The major elements of the Technical Guidelines are provided in Box I (Part I). The framework provided by the guidelines and implementation strategy (Box I, Part II) is a comprehensive one that includes all major requirements for managing risk associated with live aquatic animal movements

### IMPLEMENTATION

There has been considerable progress in implementation of the Technical Guidelines in several countries in Asia, however, progress in some countries is limited. As implementation of the Technical Guidelines is a long-term process, continuous effort to motivate and support governments in initiating their health management programs is required. Regional workshops where governments come together and share knowledge and lessons learnt have proved useful in the past, and should be initiated where appropriate to facilitate the process of implementation. Such actions may be required in the Mekong/Lancang region. Governments tend to give more attention to their international obligations when trade issues start to affect them, and aquatic animal diseases are becoming a more significant international trade issue. Commitment and willingness on the part of the governments is a primary basis for

implementation of the Technical Guidelines.

Developing and implementing a regional reporting system is one of the elements contained in the Technical Guidelines. The NACA/OIE/FAO Quarterly Aquatic Animal Disease (QAAD) Reporting System is an example of such cooperation in the Asian Region. The NACA/OIE/FAO list includes all diseases listed by OIE plus diseases of concern to the region. A comprehensive surveillance program with data and reports collected in a national aquatic animal health information system can provide the basis for regional and international disease reporting.

#### IMPLEMENTATION (WITH SPECIAL REFERENCE TO THE MEKONG/LANCANG SYSTEM)

The Technical Guidelines emphasise the concept of “phased implementation” according to capacity and needs and the importance of cooperation in their implementation. The implementation strategy for the Technical Guidelines emphasizes “joint activities in risk reduction in shared watersheds” and gives specific mention of the need for cooperation in health management and responsible movement of live aquatic animals in the Mekong/Lancang river system. In some of the countries in the Mekong system, there is an urgent need to encourage governments to initiate programs to address national aquatic animal health management issues outlined in the Technical Guidelines.

Many epidemic aquatic animal diseases do not respect borders and can spread very rapidly from country to country. There is also a different capacity for health management among the countries in the Mekong/Lancang region. Neighbouring countries therefore should cooperate closely in the control of these diseases. Part of this cooperation should be the rapid sharing of information on new disease occurrences and the spread of existing epidemic diseases to new areas, particularly near shared borders.

The following issues were presented for further consideration and discussion during the workshop:

- ▶ the importance of legislation and policy frameworks to support implementation;
- ▶ the need for national coordination and institutional cooperation, including between veterinary and fishery authorities, and identification of a “Competent” authority;
- ▶ the need to understand risks, and focus on key pathogens of concern for the Mekong/Lancang region;
- ▶ the importance of proper assessment of risk, and development of strategies for the region based on risk;
- ▶ building capacity for diagnostics, harmonization of approaches, and resource centres with clear responsibilities, including sharing of capacity among countries in the Mekong/Lancang region;
- ▶ disease zoning and cooperation within the Mekong/Lancang region, for example to maintain the reduce the risks of spread to watersheds with low disease incidence, or where there are particular risks to indigenous stocks;
- ▶ the importance of awareness and capacity building among stakeholders, including farmers and local extension officers;
- ▶ the need for effective communication on aquatic animal health issues and disease status among countries in the region to share knowledge on disease status, control measures, and to deal collectively with serious problems;

- ▶ the need for private sector/farmer participation and ownership;
- ▶ the need to be realistic about health management programs based on available financial resources, and make effective use of existing institutional resources;
- ▶ the importance of monitoring and evaluation of health management programs, and building systems gradually, with regular evaluation and exchange of experience.



## Conclusion

Aquaculture in the Mekong/Lancang region is active, expanding and diversifying (Phillips, 2002). Increased aquaculture development in the Mekong basin will likely lead to more aquatic animal disease outbreaks, and serious disease outbreaks and pathogens could easily spread beyond watersheds and national boundaries. Although poorly understood, risks will include socio-economic impacts on the livelihoods of small-scale aquaculture farmers, and possibly impacts on wild fish species and fisheries. Stakeholders will also consider introduction of alien species and continue to move species between countries in the region. Aquaculture has suffered enormous losses due to trans-boundary diseases, and increasing risks are expected in future as aquaculture expands in the region.

Stakeholders intending to import live aquatic animals need to adopt more effective risk management measures, based on international and regional agreements. Such agreements should be specifically adapted – and made practical to implement – in the circumstances within the region. Data gathering, analysing and sharing information on the health of aquatic animals will become increasingly important to aid decision makers in developing sound policy. Such government policies, with active awareness raising and engagement by the farming community, will not only help in disease control but also facilitate responsible movement of aquatic animals both within and between countries in the Mekong/Lancang region. Only through strong resolve and commitment among stakeholders, can responsible health management and development of aquaculture be assured. In the Mekong/Lancang region, cooperation among all the riparian countries will be an essential element of responsible aquaculture development for the region.

This workshop should provide the basis for discussing an aquaculture health management strategy for the Mekong/Lancang region as part of the discussion on responsible trans-boundary movement of live aquatic animals.

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**Box I: Main elements of the FAO/NACA Regional Technical Guidelines for responsible movement of live aquatic animals**

The Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and their associated implementation plan, the Beijing Consensus and Implementation Strategy (BCIS) (FAO/NACA, 2000) provide expert guidance for national and regional efforts in reducing the risks of disease due to trans-boundary movement of live aquatic animals. The following highlights the main elements:

Part I - Asia regional technical guidelines

1 SCOPE AND PURPOSE	8 DISEASE ZONING 8.1 Important considerations related to zoning
2 BACKGROUND	
3 DEFINITIONS	9 DISEASE SURVEILLANCE AND REPORTING 9.1 Major considerations
4 GUIDING PRINCIPLES	
5 PATHOGENS TO BE CONSIDERED 5.1 Reasons for inclusion of a pathogen on a list 5.2 Reasons for exclusion of a pathogen from a list 5.3 Existing international pathogen lists 5.3.1 OIE lists of diseases of aquatic animals 5.3.2 NACA/FAO and OIE lists of diseases of aquatic animals 5.4 Process of compiling a list of diseases 5.4.1 Technicalities of the process 5.4.2 Policy of the process	10 CONTINGENCY PLANNING 10.1 Some major considerations for contingency planning 11 IMPORT RISK ANALYSIS 11.1 Main strategies of import risk analysis 11.2 Ethics and import risk analysis 11.3 International trading obligations 11.4 General guidelines on IRA
6 DISEASE DIAGNOSIS 6.1 Important diagnostic issues	12 NATIONAL STRATEGIES AND POLICY FRAMEWORKS 12.1 Legislative and policy frameworks 12.2 Institutional requirements 12.3 Resource requirements
7 HEALTH CERTIFICATION AND QUARANTINE MEASURES 7.1 Some considerations related to health certification and quarantine measures	13 REGIONAL CAPACITY BUILDING 14 IMPLEMENTATION OF THE TECHNICAL GUIDELINES 15 REFERENCES

Part II - Beijing consensus and implementation strategy

- Preamble
- Objectives
- Setting of priorities
- Integration into national aquaculture development plans
- Capacity-building requirements
- Awareness building and communication
- Participation of the private sector
- Financial resources
- Monitoring and evaluation for national implementation
- Monitoring at the regional and international levels
- Regional cooperation
- Mechanisms for regional co-operation