منظمة الأغذية والزراعة للأمم المتحدة | 联合国粮食及农业组织 | Food and Agriculture Organization of the United Nations | Organisation des Nations Unies pour l'alimentation et l'agriculture | Organización de las Naciones Unidas para la Agricultura y la Alimentación

FAO / DFO Canada / OIE EXPERT CONSULTATION ON SURVEILLANCE AND ZONATION FOR RESPONSIBLE MOVEMENT OF LIVE AQUATIC ANIMALS: A FRAMEWORK FOR REDUCING THE RISK OF TRANS-BOUNDARY SPREAD OF AQUATIC ANIMAL DISEASES

Rome, Italy, 14-18th October 2002

PROSPECTUS

Background

Aquaculture makes a significant contribution to affordable, high quality, animal protein and other essential nutrients, especially for poorer segments of the world. However, disease is a serious constraint to sustainable culture of many species, impeding both socio- and economic progress in many countries. As a result, pro-active and reactive aquatic animal health programmes have become a primary requirement and development mandate for sustainable aquaculture production and trade in many countries.

A pivotal component of any aquatic animal disease program is effective surveillance and zonation. Outlines for such frameworks are provided by the *International Aquatic Animal Health Code* and the *Diagnostic Manual of Aquatic Animal Diseases* of the Office International des Épizooties[1], as well as by Asia-Pacific Regional aquaculture infrastructure support documents of FAO and NACA[2], including a *Technical Guidelines and Implementation Strategy*[3], *Manual of Procedures*[4] and an *Asia Diagnostic Guide*[5]. All documents take into full consideration the provisions of the World Trade Organization's Sanitary and Phytosanitary Agreement (WTO's SPS Agreement), as well as Article 9 - *Aquaculture Development* - of the *Code of Conduct for Responsible Fisheries* (CCRF)[6].

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[1] OIE. 2000a. International Aquatic Animal Health Code. 3rd edn. Office International des Epizooties, Paris, 153 p.; and OIE. 2000b. Diagnostic Manual for Aquatic Animal Diseases. 3rd edn, Office International des Epizooties, Paris, 237 p.

[2] Network of Aquaculture Centres in Asia-Pacific, Bangkok, Thailand.

[3] FAO/NACA. 2000. Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and the Beijing Consensus and Implementation Strategy. FAO Fisheries Technical Paper. No. 402. Rome, FAO. 2000. 53 p.

[4] FAO/NACA. 2001. Manual of Procedures for the Implementation of the Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals. FAO Fisheries Technical Paper. No. 402. Suppl. 1. Rome. FAO. 2001. 106 p.

[5] Bondad-Reantaso, M.G., McGladdery, S.E., East, I. and Subasinghe, R.P. (eds). 2001. Asia Diagnostic Guide to Aquatic Animal Diseases. FAO Fisheries Technical Paper No. 402, Supplement 2. Rome, FAO. 2001. 240 p.

[6] FAO, 1995. Code of Conduct for Responsible Fisheries. Rome, FAO. 41p.

The OIE Code recommends that zones for diseases of international trade concern be established to '*internationally accepted standards with regard to terminology…boundaries, legal competence, duration of disease free periods, standards of surveillance, use of buffer zones, quarantine procedures and other aspects of regulatory control.*'

The onus is on the Competent Authorities of countries wishing to implement zonation to demonstrate that they have a '*reliable system of disease control and surveillance*' in place. The design and implementation of such systems under a wide range of aquatic situations, however, has highlighted both technical and economic challenges for realistic and scientifically justifiable surveillance controls. This is particularly complex for open-water marine environment zonation, but also poses problems for multi-jurisdictional freshwater and estuarine hydrographic areas.

In the context of this Expert Consultation, surveillance and zonation are not only applicable to control of diseases of trade concern, but are equally relevant to within country disease management and control policies, many of which span a range of jurisdictional (provincial, state, territory) and geographic boundaries. In these situations, disease control frameworks have frequently used political boundaries, rather than epidemiological, climatic or hydrographic boundaries to define 'zones'. This has proven to be ineffective, and subject to inconsistencies and unscientific decision-making. As more and more countries start to develop their own aquatic animal health programs, however, the pivotal question behind listing 'diseases of concern', and the mandatory reporting inherent in such listing, is the scientific (risk assessment) basis for surveillance and zonation for those diseases.

While recommending establishment of zones for aquatic animal disease management, FAO and OIE recognise the significant challenges that most countries face in the practical implementation of zonation. In addition to scientific capability, political will and economic support are required, and scientifically sound surveillance programs are often costly investments. The economic benefits of such programs have to weighed against each countries' aquaculture activities – especially live animal movements – where like-to-like transfers form the basis of most disease risk assessment. The regulatory jurisdictions of governments involved in aquaculture development, as well as protection of wild aquatic resources, have to be taken into account to ensure optimum partnership (stakeholder) disease management, in its broadest ecological sense. In addition, surveillance programs aimed at diseases of intra-national (regional) significance, also need to be addressed.

In an effort to determine what surveillance options can best support scientifically valid zonation frameworks, the Federal Department of Fisheries and Oceans Canada (DFO Canada) offered assistance to FAO to hold an Expert Consultation on Surveillance and Zonation in the year 2002.

Objectives and Expected Outputs of the Expert Consultation

Objective: to provide recommendations for surveillance and zonation that will be useful for designing national programs aimed at reducing the risk of disease losses

through live transfers of aquatic animals. These recommendations are aimed solely at providing scientific advice to member countries building national or regional aquatic animal health infrastructures. They are **not** intended for use as international trade guidelines or standards (the remit of WTO and OIE).

Approach: the Level I – III approach used for the Asia Regional Technical Guidelines, Manual of Procedures and Asian Diagnostic Guide to Aquatic Animal Diseases will be used to ensure effective application of both low technology and advanced technological infrastructures.

Thematic Organisation: Consultation will consist of presentations and discussions both at plenary and sub-group levels. Sub-groups will consist of experts in specific aquatic animal groups and habitats (duly noting that some diseases may span more than one habitat)

i) Finfish – marine, freshwater, both (anadromous)
ii) Molluscs – marine, estuarine
iii) Crustaceans – marine, freshwater, estuarine

Thematic Areas:

i) *Diseases that warrant surveillance and zonation* – Science-based risk assessment and epidemiological principals applicable to choosing diseases for surveillance and zonation.

ii) *Establishment of Zones* – surveillance requirements under different scenarios, backed with case-histories (where possible), to provide examples of successes and pitfalls and provide the basis for recommendations:

a. High Risk vs. Low Risk Scenarios
- options to determine negative status or define geographic distribution(s)
- assess historic data value for 'provisional' or 'direct' application to zonation

b. active / passive / both surveillance options to establish zones

iii) *Maintenance of zones* – levels / methods of surveillance; zone management, etc.

iv) *Changing Zone Status* – "new" disease management strategies; reportable / notifiable disease zonation strategies (OIE, national, regional concern); sub-zonation options; buffer zone management; criteria for re-establishing disease-free status; fallowing management; etc..

a. risk assessment and application of re-establishing zone status [cf. no. (i) above].

Criteria to be taken into consideration under each thematic area include: type of host; long vs. short production cycles; wild vs. hatchery-produced stock; production technologies and marketing; sampling procedures (collection methods, transportation options / condition variables, etc.); reporting options and data management that can stand scientific scrutiny and legal challenge (transparency).

Scope and Procedure

Scope: Consultation discussions will be limited to surveillance and zonation strategies, despite obvious linkages to diagnostic methodology (sensitivity and specificity questions; field validation, etc.), quality assurance/quality control management of surveillance protocols, disease response/control mechanisms etc.. This is necessary to focus on the basic design of sampling programs, rather than on their technological foundation. This requires a clear understanding, and recognition, of several base-line assumptions for the consultation. These will form a requisite caveat for how any recommendations are used by aquatic animal health interests reading the results of the Expert Consultation:

1. the screening technology being used (Level I & II) is the optimum method available for detection of the disease agent in question, under normal environmental and culture conditions – i.e., when the infection is present, the infectious agent can be detected[7]
2. there is a QA/QC program in place to assess sensitivity/specificity of screening technology on a routine (annual, biannual) basis
3. all diseases have a sub-clinical stage of development that can escape detection using 'routine' screening methodology; and
4. susceptible carrier species are known

Procedure: Five Working Documents will be prepared by selected experts, which will provide the basis for discussion and development of recommendations during the Consultation. The working documents will address the issues that need discussion for each species group; i.e., freshwater finfish, marine and anadromous finfish, crustaceans and molluscs. The capacity building, information access and technical requirements of developing countries wishing to implement surveillance and zonation for aquatic animal diseases will also be discussed with respect to Level I-III options.

The working documents will be presented and discussed at plenary or sub-group sessions, and this will form the basis for suggestions and recommendations.

Participants

The participants will include a limited number of specialists, selected on the basis of their technical competence, experience and knowledge of surveillance and zonation. One or two representatives from the terrestrial animal disease control field will be included, based on their historic experience with surveillance and to optimise consistency (where possible) between the two animal production sectors. All experts will be selected solely on their personal scientific expertise, rather than institutional affiliations, however, effort will be made to ensure representation from various regions of the world to cover the broad spectrum of situations faced in developing surveillance and zonation programs that can withstand scientific scrutiny.

[7] seasonal detection sensitivity will be taken into account, however, for collection scheduling

Venue and Date

The Expert Consultation will be held in Rome, Italy, at FAO-UN Headquarters, between October 14-18th 2002. The date and venue were chosen to facilitate organisation and prevent potential clashes with aquatic animal health science meetings scheduled in November and December 2002.

Output

The Expert Consultation will generate a set of science-based recommendations on surveillance and zonation that will be useful for designing national programs aimed at reducing the risk of disease losses through live transfers of aquatic animals. The thematic working papers will also be finalised. These outputs will provide science-based advice to member countries building national or regional aquatic animal health infrastructures. The Consultation outputs will be published as an FAO Fisheries Technical Paper.

Technical Secretariat

FAO Fisheries Department will make all arrangements and the Technical Secretariat comprising Dr Rohana Subasinghe (FAO), Dr Sharon McGladdery (DFO-Canada) and Dr Barry Hill (OIE-FDC) will be responsible for technical arrangements. The following are their contact details:

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