

## 14 IMPLEMENTATION STRATEGIES

The States have primary responsibilities for implementation of the *Technical Guidelines*, and the workshop recommended that the *Technical Guidelines* be integrated within national development plans, and implemented in a phased manner building on current resources. Recognising the crucial importance of implementation of the *Technical Guidelines*, a detailed implementation strategy, focussing on National Strategies and with support through regional and international cooperation has been developed and adopted. This comprehensive implementation strategy, as reflected in the Beijing Consensus (FAO/NACA 2000) is given below.

### 14.1 Objectives

The implementation strategies outlined for the *Technical Guidelines* emphasise national-level implementation and the role of regional and international cooperation in supporting these National Strategies. This implementation strategy, therefore, pays special attention to the requirements of Low-Income Food-Deficit Countries (LIFDCs) and to potential strategies for consideration by countries at different stages of national development. The implementation strategy, as outlined below, gives special emphasis to the concept of “*phased implementation based on national needs.*” No matter where countries are in national development, the *Technical Guidelines* provide an entry point to build capacity.

### 14.2 Setting of Priorities

The Asia Region has diverse economic, social and ecological conditions, within which aquaculture development occurs. With countries at different stages of development; and with access to different levels of technical, financial and institutional resources; setting of priorities and a phased approach to implementation of National Strategies are essential.

The priority setting should be based on a realistic analysis of needs and setting of strategies which target priority needs. A first priority for implementation, therefore, is to undertake an assessment of the strategy for implementation of the *Technical Guidelines* in full consultation with relevant stakeholders.

### 14.3 Integration into National Aquaculture Development Plans

The implementation process should consider incorporation of elements of the *Technical Guidelines* into national aquaculture development plans.

Within the context of small-scale rural aquaculture development, it is recommended that basic health management considerations (such as Level I diagnosis, basic surveillance and appropriate contingency planning) be included within rural livelihood programmes involving aquaculture.

**Legislation and policy.** An effective policy and legal framework is a pre-requisite for designation of responsibilities and legal enforcement of disease control measures and health management. The legal provisions may, for example, be applied to registration of farms and hatcheries, mandatory reporting of certain diseases, designation and control of disease zones, permit surveillance and to establish and enforce contingency plans. The detailed options are elaborated in the *Manual of Procedures*.

In many cases, considerable progress can be made through incorporating relevant elements within existing policy and legal frameworks. A national review of existing policy and legal frameworks is recommended to provide a basis for identifying improvements. Specific guidance may also be provided at the sub-regional and regional levels to assist countries in the development and harmonisation of legal frameworks.

**National co-ordination.** A competent national authority and regulatory body to oversee implementation of quarantine and health certification, in consultation with aquatic animal health expertise, is essential. National Co-ordinators have an important responsibility for the co-ordination of the implementation process at the national level. Promotion of the *Technical Guidelines* and the need for their implementation among high-level policy makers is essential.

Where participating countries have not already done so, the designation of Competent Authorities (CA) empowered with the necessary responsibilities and mandates should be given high priority.

Where not already available, a national health committee, comprising relevant responsible stakeholders, is suggested to oversee implementation of the *Technical Guidelines*.

**Pathogens to be considered.** An understanding of the basic aquatic animal health situation is a pre-requisite for prioritising activities, developing national policy and identifying pathogens of national importance. A high priority should be given to such assessments, as without a clear and detailed understanding of hazards and risks, it is difficult to prioritise health management actions to manage risks.

**Institutional resources.** The institutional responsibilities and resources required to implement the *Technical Guidelines* should be clarified, such as needs for quarantine and holding facilities, diagnosis, information management, training and education, *etc.* Official designation of laboratories, institutions, and individuals for health certification of exports is also required. States are encouraged to identify and designate national centres with responsibilities for health management support, under a comprehensive national health management strategy.

Implementation should emphasise the effective use of existing resources through co-ordination and cooperation between national fisheries agencies, veterinary authorities, research institutions and universities, supported by effective regional and sub-regional cooperation.

Institutional analyses may be carried out to help identify requirements for institutional development.

**Diagnostics.** The building of diagnostic capacity, where required, should be phased, driven by needs. In developing countries, emphasis should be given to widespread implementation of Level I diagnostic procedures, before considering investments in Level II or Level III diagnostics. In such cases, support to higher-level diagnostics could be provided, initially at least, through regional or sub-regional collaboration.

The establishment of an effective Level I capacity should be regarded as an essential base requirement before moving to Level II and Level III. Higher level diagnostic measures, surveillance and other components of the *Technical Guidelines* will not be successful without this Level I basis. It is strongly recommended that national priorities for capacity building should be given to development of Level I diagnostic capacity and farm-level surveillance. This approach will require close consultation with farmers, building on their experiences and development of simple keys and manuals in local languages.

The long-term objective should be to harmonise, as far as possible, national diagnostic, quarantine and health certification protocols with other national, regional and international standards to facilitate reliable information exchange and trade. Such an objective will require a continued national commitment to regional cooperation in aquatic animal health management.

**Disease zoning.** Disease zoning, a relatively new concept for most countries in the region, offers potential to reduce risks from spread of aquatic animal diseases and facilitate

trade and development, particularly in countries sharing common watersheds. Use of sub-regional groupings (e.g., SAARC, MRC, ASEAN, etc.) as possible channels for co-ordination of disease zoning efforts should be further explored.

As a first step, a number of sub-regional and national pilot studies on disease zoning should be undertaken. This information should be shared among countries within Asia to gain better understanding of the role and practicalities of zoning for disease control before more widespread adoption of this strategy.

**Surveillance and reporting.** A national disease surveillance system and means for collation of disease surveillance data (such as a national database system) are required to respond effectively to disease outbreaks, and to analyse epidemiological data.

This national surveillance system should initially be based on use of Level I diagnosis and basic surveillance, linked to Levels II and III for advanced diagnosis, where required for selected diseases. Sub-regional or regional cooperation should be used to provide access to Level II and III diagnostics capability where national facilities are not yet available.

Wherever possible, basic surveillance systems should be integrated within existing extension services, and should include establishing functional linkages between fisheries and veterinary authorities, rather than building new systems and structures.

Where not available, a national disease reporting system and an aquatic animal health information system should be developed to support the surveillance system. A detailed national-level technical document on surveillance and reporting should be prepared as an initial step to support a phased and realistic approach to implementation of national surveillance systems.

**Contingency planning.** The concept of contingency planning, at the state and farm level, is new for many countries in the region. The options for development of a contingency plan are provided in the *Manual of Procedures*. As limited guidance exists within the individual countries of Asia, regional cooperation to share experiences and build capacity for national contingency planning is recommended.

**Import risk analysis.** The concept of import risk analysis (IRA) is also new for many countries in the region. Therefore, there is an initial need to build awareness among policy makers and administrators, and capacity to understand and implement risk analysis at national and regional levels.

#### **14.4 Capacity-building Requirements**

The implementation of the *Technical Guidelines* requires people with appropriate knowledge and skills, and access to institutional and financial resources. In some countries, there is a serious shortage of trained manpower to implement the *Technical Guidelines*, and this reality has to be addressed through effective use of existing human resources and by a longer-term approach to capacity building for aquatic animal health management.

Institutional analyses and national assessments of existing capacities within countries to implement the *Technical Guidelines* (e.g., assessment of diagnostics capabilities) can be used as a first step for determining the levels of institutional strengthening required to permit effective implementation.

To support long-term capacity building within countries, it is recommended that more attention be given to curriculum development in higher educational systems, and establishing a co-ordinated approach to training and education in aquatic animal health management which will make effective use of existing institutional resources, including fisheries and veterinary authorities, as appropriate. A system of accreditation (or professionally recognised qualification) for aquatic animal health professionals, including quarantine officers, should be considered.

Epidemiological skills, in particular, are required and this need should be addressed by longer-term capacity building.

#### **14.5 Awareness Building and Communication**

A high priority should be given to raising awareness of the *Technical Guidelines* and the need for their implementation within government agencies and the private sector, including aquaculturists and NGOs. Local workshops concerning the *Technical Guidelines* and this implementation strategy and translation of the *Technical Guidelines* into local languages, as appropriate, should be given initial priority. However, awareness building and effective communication on aquatic animal disease control measures should be a continuous activity. The electronic and print media should also be effectively used in this direction

#### **14.6 Participation of the Private Sector**

The private sector has a key role to play in the implementation of the *Technical Guidelines*, and a priority should be given to awareness building in the private sector on the benefits of, and requirements for responsible movement of live aquatic animals, and active participation in implementation. The private sector – which comprises producers, fry/fingerling traders and hatchery/nursery operators, among others – should be actively involved in the development of strategies and as partners for implementation of the *Technical Guidelines*.

Special attention must be given to the development of more effective measures for self-regulation in the private sector. Incorporation of the relevant elements of the *Technical Guidelines* into industry Codes of Practice, hatchery/farm accreditation schemes and other self-regulatory measures should be given a high priority. Such activities can be supported at the regional level by creating a forum for discussion, initiating pilot-level activities and developing 'model' codes and accreditation systems.

Farmer associations and groups should be recognised as important partners for implementation of the *Technical Guidelines*, and should be consulted and involved (e.g., through a national aquatic animal health committee) in measures for their implementation.

#### **14.7 Financial Resources**

National governments should identify and allocate resources for implementation of the National Strategies. In many countries, the resources currently provided to aquatic animal health management are insufficient to deal with the problems faced, and risks posed by aquatic animal diseases to aquaculture operations, enhanced fisheries and the livelihoods of people who depend on these activities. As increased resources will be required, political will to implement the *Technical Guidelines* effectively and awareness building for policy makers and administrators are essential requirements.

National implementation will require more efficient use of financial resources and sustained investment. Consideration should be given to: (a) clear prioritisation of activities based on needs; (b) institutional linkages and collaboration, including establishing functional linkages between fisheries and veterinary authorities; (c) development of cost-recovery systems, such as for diagnostic services; and (d) effective communication and promotion of ownership among the private sector.

#### **14.8 Monitoring and Evaluation for National Implementation**

Regular monitoring by Competent Authorities to assess the extent of implementation of the *Technical Guidelines* and the effectiveness of the national response to aquatic animal disease problems is recommended.

Regular national reviews might include evaluation of the appropriateness of the national list of diseases, the system used for reporting, and mechanisms for improving the existing system(s), surveillance and diagnostic capacity and other requirements. A more detailed monitoring framework with targeted outputs should be developed to be consistent with national situations.

Regular workshops among concerned agencies can be used to review progress, and adjustments can be made to the National Strategies to respond to changing circumstances, as necessary.

### **Monitoring at the regional and international levels**

Monitoring and evaluation at the regional and global levels can be through reports to NACA (through the Governing Council), FAO-COFI (as part of the CCRF implementation progress reports), ASEAN Fisheries Working Group and to governing bodies of other regional organizations, such as the OIE Representation for Asia and the Pacific.

The National Co-ordinators should continue to play a key role in monitoring national progress towards implementation of the *Technical Guidelines* and through regular reporting to the Advisory Group on Aquatic Animal Health (AG) (formerly the Regional Working Group (RWG)).

The AG should assist by preparing guidelines for monitoring of implementation by NCs and preparing regional summary reports on progress.

## **14.9 Regional Cooperation**

The sharing of experiences and resources through regional and sub-regional cooperation provides essential support to national-level implementation of the *Technical Guidelines*. The important actions required at the regional level include:

- designation of aquatic animal health resource centres;
- harmonisation of national procedures for health certification, quarantine and diagnostics;
- support for capacity building;
- awareness raising, communication and information exchange;
- regional disease reporting and development of a regional emergency response mechanism; and
- joint activities for risk reduction in shared watersheds and in sub-regions.

**Asia resource centres for aquatic animal health.** A more cohesive networking among regional resource centres in aquatic animal health is required to provide diagnostic support and to build capacity for implementation of the *Technical Guidelines*. A network of centres in regional countries is required as Reference laboratories for OIE diseases of significance in the region. Complementary resource centres within the Asia Region to provide national agencies with assistance in the diagnosis of key regional (non-OIE) diseases on the regional disease list, to provide more generalised support, and to act as contact centres for advice and capacity building.

NACA, in close cooperation with OIE and FAO, is requested to develop a Terms of Reference and associated procedures for designation of such centres for submission to the national authorities for their consideration. National authorities may then seek designation of the resource centres through the appropriate channels of NACA and/or OIE.

**Harmonisation of procedures for health certification, quarantine and diagnosis.** Regional cooperation is essential to harmonise, as far as possible, quarantine procedures, diagnostic procedures, health certification and other measures with respect to aquatic animal health. NACA is requested to co-operate with other relevant bodies, including OIE, FAO and ASEAN, to assist in harmonisation of such measures.

A comprehensive regional review on the legal aspects of aquatic animal health management should be undertaken to provide a basis for supporting countries in identifying requirements to further develop and harmonise national legislation and policy for implementation of the *Technical Guidelines*.

**Support to capacity building.** Regional and sub-regional cooperation through the aquatic animal health resource centres should be enhanced to assist in building the skills and knowledge base required for implementation of the *Technical Guidelines*.

A special region-wide co-operative effort is required to support the general adoption of Level I diagnostic measures throughout many countries of the region. Regional support should be directed towards developing illustrated training guides specifically aimed at aquaculturists, farm managers, and workers. These should include appropriate methods of record-keeping and health management, and methods for sample collection, preservation and delivery to trained diagnosticians. The building of communication channels between farms with the view to develop farmer groups for mutual cooperation should be supported. Regional training programmes should also be developed to support capacity building for Level II and Level III disease diagnosis.

The *Technical Guidelines* also contain some concepts new to the region, and short-term regional training and workshops should be developed to build awareness and capacity on these subjects. Regional-level courses which would be of wide benefit include: (a) import risk analysis, (b) epidemiology and surveillance techniques, (c) zoning and (d) contingency planning.

In the long term, measures should be taken to ensure epidemiology, risk analysis and other higher level skills are incorporated into higher education systems. The development of regional standards and professional qualifications for personnel involved in aquatic animal health to raise professional standards among aquatic animal health workers should be explored.

**Awareness raising, communication and information exchange.** At the regional level, awareness should be raised within the farming sector and government administrations concerning the economic and social benefits to be gained from implementation of the *Technical Guidelines* and the necessity that a high priority be given to their implementation.

Further development of AAPQIS-Asia is recommended to provide aquatic animal health information to the region. The AAPQIS-Asia database and web site should be linked to other sources of relevant data, particularly the OIE database, to enable users to access a wide range of relevant information with relative ease.

As some of the concepts within the *Technical Guidelines* (e.g., zoning, contingency planning) are relatively new, sharing of information on country experiences in implementation of the principles within the *Technical Guidelines* is strongly encouraged.

**Regional disease reporting.** The regional disease reporting system should be continued and further developed, with the aim of improving the quality of the reports. In the short term, more epidemiological information, as well as indication of the level of the diagnostic method used to report a given disease (e.g., Level I, II, or III) should be incorporated.

National quarterly reports should continue to be prepared and submitted to OIE and NACA/FAO, quarterly reports disseminated by NACA/FAO and OIE, and effective feedback mechanisms at both the national and regional levels established. The annual summary report should also be continued, as this has proved most useful to countries in the region.

The proposed Advisory Group on Aquatic Animal Health (AG) should be responsible for provision of advice on the development of the regional disease list and the reporting format. It was agreed that the regional disease list would be automatically adjusted to account for new diseases listed (or deleted) by OIE.

Resource centres should be used to provide specialist assistance for confirmatory identification of pathogens and provision of standardised diagnostic reagents. Technical support for developing the reporting system within the region, and provision of expertise and advice to further improve surveillance and reporting capabilities, should be given high priority.

With the region's aquaculture growing rapidly, there is also a need to build up information on other diseases in key aquaculture commodities, and to determine the current status and economic and social impacts of disease. At the present time, marine molluscs and marine fish, in particular, deserve increased attention, as the regional information base on diseases of these widely cultured and traded animals is still limited.

**Emergency response.** National and regional contingency plans need to be developed to ensure there is quick and effective response to new serious disease outbreaks.

There is some existing experience on contingency planning at the state and farm levels which should be collated and shared with other countries to help in preparing national contingency plans. OIE, FAO and NACA are requested to organise a regional workshop to share such experiences, provide guidance for development of national contingency plans, and develop a practical Asia-regional emergency response mechanism.

**Joint activities for risk reduction in shared watersheds.** A pilot exercise in disease zoning is needed to determine the feasibility of zoning for shared large watersheds, contiguous river systems and marine coastal areas in the Asia Region (e.g., the Mekong or Ganges river systems, the Bay of Bengal or the Sundarbans coastal area). Experiences from such pilot testing should be widely shared with countries throughout the region.

Should zoning prove practical, there is a need for a regional body to provide official international recognition of the status of zones (e.g., free zone, infected zone, surveillance zone, unknown status, etc.), and for standardisation and harmonisation of requirements (e.g., zoning criteria, sampling and testing procedures, etc.). There may also be a need to harmonise national legal frameworks between co-operating countries.

#### **14.10 Mechanisms for Regional Cooperation**

The Asia Regional Aquatic Animal Health Management Programme of NACA, implemented in cooperation with FAO and with guidance from OIE, should continue to be developed to support Asia-regional countries in implementation of the *Technical Guidelines*.

Effective partnerships with SAARC, ASEAN, MRC, APEC, BIMST-EC and other concerned regional and sub-regional bodies and organizations should be developed. Regional cooperation should be extended to technical agencies and donor organizations working in the region, such as AAHRI, ACIAR, AusAID, DFID, SEAFDEC-AQD, and others, who can support countries in implementation of the *Technical Guidelines*.

The National Co-ordinators should continue to be the national contact points for the programme, and occasional meetings should be arranged to bring the NCs together to review progress and discuss issues of mutual concern.

In support of the further development of the regional programme, an Advisory Group on Aquatic Animal Health (AG) should be established and made operational under NACA. The role and membership of this regional advisory group should be such as to ensure provision of expert advice to NACA on the implementation of the *Technical Guidelines*, including:

- the review and development of the reporting list of regional aquatic animal diseases;
- development of criteria for regional monitoring of application of the *Technical Guidelines*;
- development of criteria for the designation of Regional Aquatic Animal Health Resource Centres;

- development of a process for revision of the *Technical Guidelines* and to support the *Manual of Procedures* and the *Asia Diagnostic Guide for Aquatic Animal Diseases* (ADG) as required; and
- provision of other expert advice upon request.

Initial priority should be towards development of the work plan for this group. NACA is requested to provide institutional support for the AG at the regional level, and FAO and OIE are requested to provide advice and technical support.

Finally, the workshop suggested that complementary technical guidelines for the responsible trans-boundary movement of live exotic aquatic animals be developed in due course, specifically addressing the issue of introduction and impacts of exotic aquatic animals and biodiversity.