

January 2014



**CENTRAL ASIAN AND CAUCASUS REGIONAL
FISHERIES AND AQUACULTURE COMMISSION**



TECHNICAL ADVISORY COMMITTEE (TAC)

Second Session

Bishkek, Kyrgyzstan, 21-23 April 2014

**FRAMEWORK FOR A REGIONAL STRATEGY AND ASSOCIATED
PRINCIPLES FOR AQUATIC ANIMAL HEALTH MANAGEMENT IN CACFish
AREA**

INTRODUCTION

1. This document provides the technical background framework for the improvement of fish health management in CACFish area. The annexed regional strategy document lays out an approach to drafting a regional aquatic animal health strategy that is in conformity with international and regional standards and discusses the major elements of such a strategy. The annexed regional strategy also includes regional guiding principles.

2. Despite significant potential, fisheries in the Central Asia and Caucasus (CAC) region (i.e. Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan) have not progressed to a level that contributes significantly to food security and rural development. Successful fisheries and aquaculture depend on careful planning, management and monitoring; however, operational risk-based health management strategies for fish and other aquatic animals¹ are not yet in place in the CAC region. Therefore, greater efforts should be made towards regional planning and capacity building in order to prevent, control and eradicate serious aquatic animal diseases through proper management, taking into consideration the relevant international standards, guidelines and best practices.

3. The pathogens of aquatic animals in the CAC region are poorly known, a fact that was emphasized during country presentations made at the recent FAO Regional Introductory Training Workshop on Aquatic Animal Health Management that was held in Antalya, Turkey

¹ Although fish is the primary aquatic species group captured and cultured in the CAC region, it should be noted that international sanitary and phytosanitary standards and associated guidance also encompass shellfish, molluscs and amphibians. Thus in planning regional and national aquatic animal health strategies, these other groups must also be taken into account.

from 3-7 December 2012 (the Antalya Training Workshop). In general, the health status of cultured stocks of inland fish species (e.g. trouts, Chinese carps, and sturgeons) has been incompletely documented, while the species of parasites and pathogens infecting wild populations and their geographic distributions and pathology is even less studied. For example, the International Database on Aquatic Animal Diseases (IDAAD, <http://www.cefias.defra.gov.uk/idaad/default.aspx>) lists only a few reports of OIE-listed diseases for countries in the CAC region, most notably the presence of viral haemorrhagic septicaemia (VHS, a disease of salmonid fishes) in Kyrgyzstan and Turkmenistan. Such basic information is critical to the rapid diagnosis and treatment of disease outbreaks in aquaculture, to surveillance, monitoring and reporting of diseases to the OIE, and to conducting pathogen risk analyses.

4. Past experiences elsewhere has shown the severe economic and ecological impacts that transboundary aquatic animal diseases (TAADs) can have, the OIE-listed diseases, for example, having caused billions of dollars in losses to the economies of countries having significant aquaculture industries, the complete collapse of some aquaculture systems (most recently, the shrimp culture industry in Saudi Arabia), and severe and occasionally irreversible impacts on native fish populations. Many of these TAADs might have been avoided had illegal and ill-considered movements of live aquatic animals been prevented and adequate biosecurity preparations been in place to facilitate the safe movement of approved introductions and transfers.

5. To avoid these problems and provide for the sustainable growth of the aquaculture sector, CAC members need to develop sufficient capacity (expertise, infrastructure, etc.) in such specialized areas as disease diagnostics, epidemiology, emergency preparedness, risk analysis, parasitology, bacteriology, virology, mycology, etc.). Where individual countries do not have the financial resources or fisheries/aquaculture sectors to justify establishing these programs, a regional approach (for example, via a regional aquatic animal health center) may prove a viable solution.

6. Aquatic animal health management in the region should begin to move towards a proactive and risk-based preventive approach rather than reactive disease treatment. Aquatic animal health management, prevention of aquatic animal disease outbreaks and control and monitoring of trade of live fish and shellfish and their products are regional challenges of great importance. Therefore, more effective regulations need to be developed within the context of trade-related fisheries management. Achieving the participation and cooperation of the private sector (e.g. aquaculturists, fishermen, importers and exporters, ornamental fish sellers, and the general public) is also key to preventing the introduction and spread of serious pathogens.

7. A regional strategy can best be achieved by a series of regional workshops bringing together country focal points, aquatic animal health experts and policy-makers. It should be preceded by the completion of an assessment of regional capacity (e.g. a Regional Aquatic Animal Health Capacity and Performance Survey), as this provides a baseline for strategy development. It is also useful and cost effective if national planning exercises, including development of national aquatic animal health strategies are undertaken concurrently with development of a regional strategy.

8. In this regard, significant progress has already been achieved in the CAC region via the completion of a *Central Asia Regional Aquatic Animal Health Capacity and Performance Survey* (Arthur, Reantaso and Fersoy 2013).

9. Building on this effort, a proposed framework for a regional strategy and associated draft regional principles for aquatic animal health management was prepared as part of the FAO Antalya Training Workshop. The workshop participants also initiated discussions

towards the development of a CAC regional aquatic animal health programme, which is expected to include the preparation of national aquatic animal health strategies by the six participating countries (Azerbaijan, Kazakhstan, Kyrgyzstan, Turkey, Turkmenistan and Uzbekistan) and a joint regional aquatic animal health strategy for the region.

10. In the CAC region, a regional aquatic animal health strategy can be developed through the assistance of FAO, OIE and other international and regional agencies. Through a series of regional workshops, a consensus can be developed among participating countries. The workshops would further develop, finalize and officially approve a regional strategy, and an associated implementation plan, including identification and prioritization of projects, development of detailed budget and timeframe, and identification of sources of funding. At the same time, participating national governments would conduct similar exercises leading to the development of national aquatic animal health strategies. Such an approach has been developed and tested through FAO regional initiatives in Asia-Pacific, the Middle East (RECOFI), the West Balkans, and the Pacific Islands and Territories (PICTs).

11. Gradual development of national and regional systems for the collection and dissemination of data and information on disease outbreaks, notification of diseases, monitoring of trade in live aquatic organisms and their products, awareness raising on health and disease prevention, updating of national legislation for strengthened compliance and enforcement, technical capacity and capability building, and improved institutional cooperation will help overcome the limitations which exist in terms of aquatic animal health management in the CAC region.

12. The over-arching principle for aquatic animal health management in the CAC region, as in all other regions of the world, is conformity and compliance with national obligations as specified in the World Organisation for Aquatic Animal Health's (OIE) *Aquatic Animal Health Code* (OIE 2013a) and *Manual for the Diagnosis of Aquatic Animal Diseases* (OIE 2013b). Additionally, membership in the World Trade Organization (WTO) requires compliance with the *Agreement on the Application of Sanitary and Phytosanitary Measures* (the SPS Agreement) (WTO 1994), for which the OIE is the standards-setting body for aquatic animal health measures.

13. The use of risk-based approaches is now standard practice when governments must evaluate and approve or reject requests to import living aquatic animals for aquaculture development, enhancement of capture fisheries, research or any other perceived need. The use of risk analysis provides governments with structured, science-based, defensible methodologies for decision-making that are transparent, provide for independent expert validation and may include stakeholder consultation. For introductions and transfers of live aquatic animals, these approaches include ecological/environmental (ERA), genetic (GRA) and pathogen (PRA) risk analyses. Indeed, the use of PRA by importing countries (known as import risk analysis (IRA)) is specified by both the OIE Code and the WTO SPS Agreement and is recommended by the FAO (FAO, 2007). A regional capacity to undertake risk analyses for live aquatic animals will facilitate international trade for CAC member countries while providing an increased level of biosecurity against invasive alien species (IAS) and transboundary aquatic animal pathogens (TAADs).

14. Additional guidance is contained in the FAO's *Code of Conduct for Responsible Fisheries* (CCRF) (FAO 1995) and the supporting technical guidance *Aquaculture Development 2. Health Management for Responsible Movement of Live Aquatic Animals* (FAO 2005). Guidance in the preparation of regional aquatic animal health strategies has been a priority of FAO for many years, and can be found, for example, in the *Asia Regional Technical Guidelines on Health Management* and the associated *Manual of Procedures* (FAO NACA 2000, 2001). An example of a recent regional aquatic animal health strategy prepared

for the Middle East region is given in RECOFI (2009), while an example of a recent national aquatic animal health strategy is that for Bosnia and Herzegovina, given in SVO (2009).

15. The suggested role for TAC in this effort would be to act as a catalyst and coordinating body in the preparation of a proposal for a regional TCP project to fund the development of a CAC Regional Aquatic Animal Health Strategy and implementation programme.² TAC may also liaise with other international agencies (e.g. OIE, WorldFish, European Union) as well as regional donor organizations to obtain support for this initiative and the projects that it will identify.

16. It is anticipated that Regional Aquatic Animal Health Strategy and Guiding Principles can be modified by individual CACFish Member Countries to their national circumstances and priorities to develop their respective National Aquatic Animal Health Strategies and Guiding Principles.

SUGGESTED ACTION FOR TAC

17. TAC is invited to examine the proposed framework for a regional strategy and regional principles for aquatic animal health management in Central Asia and generate related technical/scientific advice for the consideration of CACFish.

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² The preparation of a proposal for a regional TCP might be accomplished via FAO TCP Facility funding.

ANNEX

Framework for a Regional Strategy and Principles for Fish Health Management in Central Asia

(Prepared by J. Richard Arthur and Haydar Fersoy)

Basic Requirements

The basic requirements for successful drafting and adoption of a regional aquatic animal health strategy are:

- 1) A high level of commonalities among the countries of the region with regard to:
 - aquaculture species and culture systems employed;
 - significant intra-regional trade in aquaculture/fisheries products (particularly in live fry and broodstocks for aquaculture development);
 - similar external trading patterns (commodities, trading partners); and
 - similar aspirations with regard to trade development and market access (e.g. European Union membership or 3rd Country Status)
- 2) Recognition among senior policy-makers and managers in all participating countries of the benefits to be derived from regional approaches and cooperation
- 3) Willingness and openness among senior policy-makers and aquatic animal health specialists to collaborate with regional partners in the sharing of information and expertise related to aquaculture, fisheries and aquatic animal health
- 4) Willingness of participating governments to allocate significant resources (human capacity, budget) to achieving regional goals, recognizing that the returns from such inputs are likely to be far greater than the expenditures.

Approach

The following approach has been developed by the FAO through a series of initiatives and workshops to develop regional aquatic animal health strategies. These include programmes in the Asia-Pacific under FAO Projects TCP/RAS 6714(A) and 9065(A) "Assistance for the Responsible Movement of Live Aquatic Animals" (begun in 1998), in the Middle East under the Regional Commission for Fisheries (RECOFI) in 2007 (RECOFI 2009), in the Pacific Islands and Territories (PICTs) in 2012 via an FAO/SPC Regional Workshop on Aquatic Biosecurity and Aquaculture Data and Statistics in the Pacific Region, held 1-6 October 2012 in Nadi, Fiji (jointly with the Secretariat of the Pacific Community) and in the West Balkans (under a recently approved FAO TCP commencing in 2013).

Framework for a Regional Strategy

A regional strategy can be comprised of the following components:

- Vision
- Purpose
- Guiding Principles
- Major Programmes/Elements

- Projects/Activities

The use of a **SWOT (Strengths, Weaknesses, Opportunities and Threats) Analysis** can be useful in defining the components of the strategy and ensuring that workshop participants have a shared perspective.

Similarly, the use of the **Logical Framework Approach** is useful in ensuring that all major themes/elements are addressed by appropriate Projects/Activities.

Purpose

The purpose provides a brief statement of why the Strategy is being formulated. As example is:

The purpose of the Regional Aquatic Animal Health Strategy is to reduce the risk of aquatic animal diseases impacting on the livelihoods of aquaculture farmers, national economies, trade and human health.

Vision

The vision provides a shared overview of what the strategy is attempting to achieve. An example of a vision statement is:

To develop and maintain up-to-date an aquatic animal health management strategy that will support the sustainable development and management of the aquaculture sector and meet the growing demands for aquatic foods and products that are of high quality, safe, competitively priced and are produced in an socially and environmentally responsible manner with maximum opportunity for profitability in all stages of the aquaculture and fisheries product chain.

Guiding Principles

The Guiding Principles outline the agreed upon premises upon which development of the regional strategy will be based. The following is an example of a set of Guiding Principles that could be applied to the CAC region:

- 1) Aquatic animal health management should enable aquaculture to make a positive contribution to the economy through being internationally competitive in the marketplace and economically viable at a national level.
- 2) Aquatic animal health management measures should facilitate aquaculture to develop in harmony with nature, managing and minimizing transient environmental impacts and avoiding significant, cumulative, long-term or irreversible changes to ecological systems, to cultural remains or to valued landscape and scenery.
- 3) Aquatic animal health measures should foster strong aquaculturists' links, recognizing and supporting the needs of private-sector aquaculturists and working with community initiatives to manage local environments for mutual benefit.
- 4) National aquatic animal health programmes should contribute to social, economic and environmental sustainability and embrace the precepts of transparency, integration, coordinated government and fit-for-purpose regulation, partnership and stakeholder participation, accountability, ethics and regard for animal welfare, and a culture of best practice and continuous improvement.
- 5) Aquatic animal health is important for economic, social, development and public resource purposes. Collaboration among all stakeholders including governments, public

institutions, the private sector and existing aquaculture and fishing industries is important to achieve effective health management.

- 6) The role of aquatic animal health management is to reduce the risks to aquaculture and wild fish stocks arising from the potential entry, establishment or spread of pathogens and the diseases they cause. This is necessary to protect living aquatic resources, the natural aquatic environment and the aquatic biodiversity in the CAC region and neighbouring regions, countries or territories.
- 7) Countries may introduce or maintain sanitary measures resulting in a higher level of protection than would be achieved by measures based on the relevant international standards, guidelines or recommendations (e.g. the OIE Aquatic Animal Health Code – OIE, 2013); however, such measures must be justifiable based on science (i.e. risk analysis) and be consistent with the country's appropriate level of protection (ALOP). Control measures applied to movements of aquatic animals within the country must also be consistent with this ALOP.
- 8) National aquatic animal health strategies and related procedures will adhere to international and regional standards and be harmonized on as wide a basis as possible.
- 9) The aquaculture sector is encouraged to use preventative measures to limit their exposure to pathogens and disease. Such measures include but are not limited to the use of better management practices (BMPs), health certification, specific pathogen free (SPF) and high health (HH) stocks, biosecurity and vaccination protocols.
- 10) Health management measures should be effective, practical, cost-effective and utilize readily available resources. These resources will allow the development of appropriate national and regional policies and regulatory frameworks as required to reduce the aquatic animal health risks incorporated in the culture, reproduction and movement of aquatic animals.
- 11) Access to relevant aquatic animal health capacity (infrastructure and specialized expertise) is crucial for health management of aquatic animals. Collaboration with international and regional organizations will be sought wherever possible to further increase national capacities in aquatic animal health issues.

Major Programmes/Elements

These provide the main components for the regional strategy framework. The regional framework is likely to consist of the following 11 universal elements, which have been developed and used in the formulation of both national and regional aquatic animal health strategies in many parts of the world. Each Programme/Element should include Objectives, Current Status (brief summary) and Key Issues (projects):

- 1) Policy, Legislation and Jurisdiction
- 2) List of Pathogens
- 3) Risk Analysis and Quarantine
- 4) Diagnostics and Health Certification
- 5) Surveillance, Monitoring and Reporting
- 6) Emergency Preparedness
- 7) Capacity Building
- 8) Research and Development
- 9) Information and Communication
- 10) International Collaboration

11) Resources and Funding

Implementation

Implementation requires preparation of an **Action Plan**. The Action Plan should, within the strategy framework (Elements/Programmes):

- define the projects to be accomplished
- indicate the relative time frames
- identify the milestones and the outputs/deliverables
- estimate the human and financial resources that will be required

The Action Plan should be supported by *Project Briefs*, which will elaborate the details for each project and which can be used to develop more detailed project planning.