

## Biosecurity: a new challenge for aquaculture developers!

As aquaculture develops and expands in all regions of the world, there is an increasing focus on environmental conservation and protection and reducing the negative impacts of aquaculture to the environment. Maintaining environmental health is paramount to ensuring sustainable development. In aquaculture, therefore, it is important to control the inputs into the environment, as much as it is important to control the outputs. In aquaculture, globalization and trade liberalization drive increased movement of live aquatics and aquatic products, thus making the sector vulnerable to various threats stemming from exotics, including alien species as well as exotic pathogens. Transboundary aquatic animal diseases (TAADs) are not new to aquaculture. Serious disease outbreaks occurred over the past few decades, causing significant damage to the industry and losing billions of dollars of revenue. Epizootic ulcerative syndrome (EUS) in freshwater and brackishwater finfish in Asia during the 1980s and the 1990s; white spot syndrome virus (WSSV) of penaeid shrimp in Asia and Latin America since the 1990s; koi herpes virus (KHV) affecting common carp, an important food fish species and koi carp, an important ornamental species, since the 1970s - are some examples. These diseases still exist, many are still spreading around (e.g. EUS has now expanded geographical range to the Chobe-Zambezi river system in Southern Africa and confirmed in Botswana, Namibia and Zambia), still causing mortalities in cultured species, thus making many people relying on aquaculture vulnerable.

Over 200 species are produced in aquaculture globally. There are about 25 high value species which are produced commercially and traded globally. As farming these species are lucrative, there is a drive for expansion of their production worldwide. On top of this is the ornamental fish aquarium trade. Species are moved all over the world, in high frequency, rather haphazardly and irresponsibly, with no consideration of the potential negative impacts they may bring to the environment. Such an unfortunate commercially driven movements of live aquatics - including introductions and transfers - are common. If not done in a responsible and prudent manner, the impacts on the environmental health can be significant and the consequences to sectoral development could be serious. Therefore, biosecurity is of prime importance to aquaculture.

Biosecurity safeguards animal health, protects biodiversity, promotes environmental sustainability and enhances food safety. Biosecurity can also stimulate increased market supply and private investments as it enables farmers to produce healthy products which can be highly competitive in the market and makes a country a responsible trading partner. Biosecurity enables developing countries to

grow more food efficiently, increase their incomes and thus improve their resilience, reduce vulnerability and effectively respond to the impacts of higher food prices as well as other food production risks. In order to achieve the benefits of maintaining biosecurity, an enabling policy and institutional environment at national levels is essential. Effective legislative framework implemented and enforced within an efficient policy environment is needed to achieve success.

The Fisheries and Aquaculture Department of FAO has a long history of engagement in aquatic animal health management and aquatic biosecurity, globally. Responsible movement of live aquatics and maintaining environmental health are all part and parcel of FAO's Code of Conduct for Responsible Fisheries. There are several "records of firsts" of actions on biosecurity based on the work of the FAO Fisheries and Aquaculture Department. They include the very recent successful investigation of EUS incursion in southern Africa in 2006, emergency responses to KHV in Asia in 2003, building consensus on and the implementation of the Asia regional technical guidelines on responsible movement of live aquatic animals in the late 1990s, establishment of regional surveillance and reporting system for TAADs in Asia in 1998, and creation of two databases on aquatic animal pathogens and diseases ([www.aapqis.org](http://www.aapqis.org)) and introduced species in aquaculture ([www.fao.org/fi/dias](http://www.fao.org/fi/dias)). The Department also pioneered in addressing the application of risk analysis to aquaculture production. This work is expanding to other regions such the Western Balkan region, the Gulf region, the Pacific Islands. FAO's recent actions on improving aquatic biosecurity in southern Africa include an emergency Technical Cooperation Programme (TCP) to combat EUS in the Chobe-Zambesi River, an aquatic biosecurity capacity and performance survey, an active surveillance for EUS involving seven countries bordering the Chobe-Zambezi River, capacity building in the areas of basic EUS diagnosis, surveillance, basic aquatic animal health management and introduction to risk analysis in aquaculture and preparation of extension materials on EUS. More work is planned under TCP and other extra-budgetary funding mechanisms and through FAO's Special Programme for Aquaculture Development in Africa (SPADA).

Let's be responsible in our action, preserve and maintain environmental health, and respect biosecurity!

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