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Aquatic Animal Health Package of Practices: Syndromic surveillance and disease outbreak characterization



Syndromic surveillance and disease outbreak characterization

Tilapia, carp and catfish make up more than a third of world aquaculture production. Farming these fish group species is largely done by tens of thousands of small-scale fish farmers and small and medium enterprises in low- and middle-income countries across Asia and Africa, contributing to affordable, accessible and nutritious animal-source food in domestic markets. In these countries, farmers can experience unexplained mass mortalities of farmed fish that can significantly compromise their livelihoods and food and nutrition security. It is important for farmers, extension service providers and input suppliers to detect and report as quickly as possible any clinical signs of disease and unusual fish mortality events to concerned local and national authorities and local and national research institutions. This will go a long way in supporting better aquatic animal health management in aquaculture systems in Asia and Africa.



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WorldFish has developed a package of practices for syndromic surveillance and disease outbreak investigation. It contains all the necessary resources for building the awareness and capacity of relevant actors in aquatic food systems to enable early recognition, documentation and reporting of unusual fish mortality events happening on farms, hatcheries and aquatic ecosystems.

The package of practices includes the following key resources:

- a poster of the major clinical signs of fish diseases in English, Odia, Khmer, Tetum, Malay, Arabic, Bengali and Burmese: <https://bit.ly/3D1EUij>

- an online rapid reporting tool for fish disease outbreak investigation: <https://bit.ly/3avUWOo>
- a fish syndromic surveillance course developed on the Learn.ink online platform for digitized learning and training: <https://bit.ly/3FmiCmz>

Our poster on the major clinical signs of fish diseases serves as a visual identification guide aimed at supporting syndromic surveillance of key infectious diseases. The poster can be contextualized to the local language or economically important species. It is intended for use by farmers, researchers, vets, service providers and extension workers who can be trained and mobilized using the same tool to identify, monitor and report early clinical signs and behavioral changes in fish before a diagnosis can be confirmed.

Syndromic surveillance data can be used to identify trends of emerging diseases at local, regional and national levels. This helps key actors to investigate disease outbreaks in a timely manner and implement biosecurity plans to mitigate the spread of diseases. The poster is complemented by an online rapid reporting tool for fish disease outbreak investigations to document key information around a mortality event. We have also developed an easily accessible mobile phone course on syndromic surveillance. Both the rapid reporting tool and the mobile phone course can be accessed using the Learn.ink online platform.

For scaling purposes, WorldFish will continue to promote uptake and use of this package of practices by national partners in our focal and scaling countries, in addition to bilateral projects presently being implemented by WorldFish and partners (e.g. the United States Agency for International Development Feed the Future Innovation Lab for Fish (USAID FIL) project in Nigeria, Agence Française de Développement (Afd) projects in Malawi and Zambia, Centre for Environment Fisheries and Aquaculture Science (Cefas) antimicrobial resistance and CGIAR COVID-19 country projects in Bangladesh and the Norwegian Agency for Development Cooperation (Norad) project in Egypt, Ghana and Kenya). This approach will ensure wider dissemination of simple and practical measures to enhance disease recognition and reporting by the first line of actors in aquatic food systems.

This package of practices is the first version and is a work in progress. WorldFish will continue to refine and revise the working versions based on feedback from value chain actors and lessons learned from the field in order to make it relevant to the national competent authorities in the countries where we work.

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