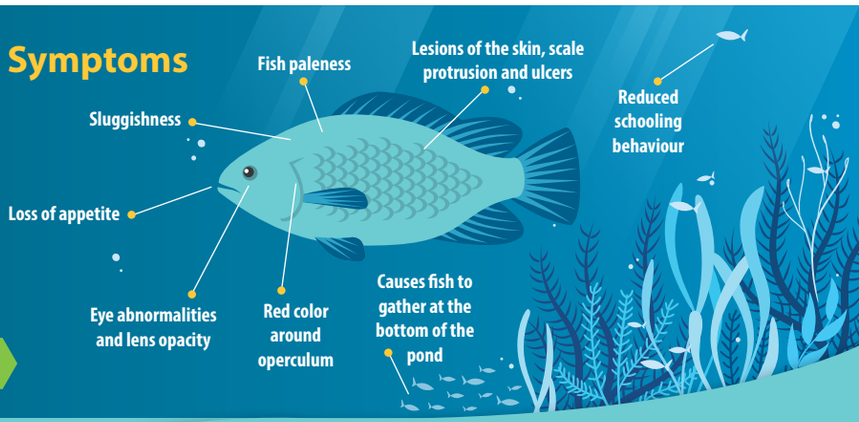
Tilapia lake virus:
putting a global resource at risk

CGIAR RESEARCH PROGRAM ON Fish
Led by WorldFish

The tilapia farming industry is under threat from an emerging and highly contagious viral disease, Tilapia lake virus.

- Mortality rate of up to 90%
- Causes serious livelihood losses for farmers
- Transmission of virus from parent fish to offspring highly likely
- No commercial vaccine, treatment or disinfection protocols available

Symptoms



A globally important fish in danger

Diseases including the rapidly spreading Tilapia lake virus threaten both a **multi-billion dollar global industry**, the livelihoods and food security of millions of **small-scale tilapia farmers**, and an **affordable food source** for consumers.

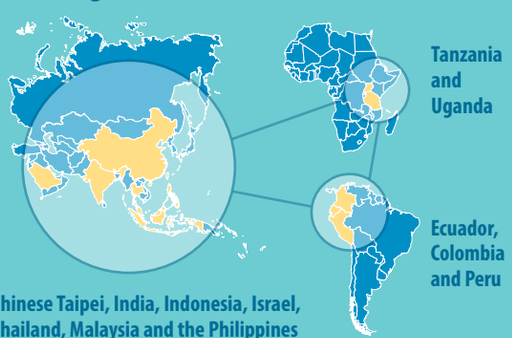
2nd **Second** most farmed fish worldwide

$USD 9.8 billion – estimated market value of farmed tilapia

Affordable source of **protein** for **millions** worldwide

>100 countries where tilapia is farmed

Since its detection in 2014, the pathogen has spread to 16 countries across 3 continents, including:



Chinese Taipei, India, Indonesia, Israel, Thailand, Malaysia and the Philippines

Containing and minimizing the impact of Tilapia lake virus is possible

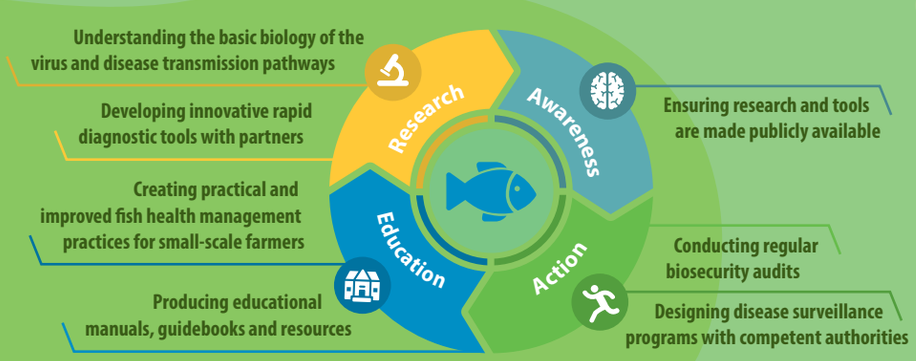
The risk of disease spread is high where there are shared water sources and active trade between countries.

What's needed to prevent the spread of Tilapia disease:

- Better **surveillance** and **early detection**
- **Early reporting** of disease
- A stronger **culture of reporting** suspected disease
- **Improved biosecurity** and **quarantine** measures across the value chain
- **Special attention** is needed for **small-scale farmers**
- **Greater awareness** of the disease and **mitigation actions**
- **Compliance** with regional and international guidelines for **responsible transboundary movement** of live aquatic animals
- **Tighter control** of **international trade** of tilapia for breeding and farming
- **Strengthened governance** of veterinary and aquatic animal health services (e.g. more investment and resources)

Actions and recommendations

The CGIAR Research Program on Fish is managing and mitigating the spread of Tilapia lake virus:



There is no evidence of fish viruses causing disease in humans and there have been no reports of any human health-related issues related to the consumption of fish affected by Tilapia lake virus.

For further information, please see:
Identification of a novel RNA virus lethal to tilapia https://doi.org/10.1128/JCM.00827-14
Characterization of a novel Orthomyxo-like virus causing mass die-offs of tilapia https://doi.org/10.1128/mBio.00431-16
Tilapia lake virus (TiLV): What to know and do? https://hdl.handle.net/20.500.12348/115
Tilapia lake virus: a threat to the global tilapia industry? https://hdl.handle.net/20.500.12348/717
Experimental infection reveals transmission of tilapia lake virus (TiLV) from tilapia broodstock to their reproductive organs and fertilized eggs https://hdl.handle.net/20.500.12348/3796

fish.cgiar.org