

Executive Summary
Strengthen Biosecurity, Biosafety, and Ecosystem Health in Aquaculture.

Aquaculture is a rapidly growing pillar of Africa's food security, nutrition, and economic development, but its expansion is increasingly threatened by weak biosecurity, biosafety, and ecosystem management. Inadequate disease surveillance, poor on-farm practices, weak biosafety guidelines, insufficient laboratory and quarantine infrastructure, and fragmented institutional roles leave farms vulnerable to trans-boundary aquatic animal diseases such as Tilapia Lake Virus (TiLV) and White Spot Syndrome Virus (WSSV).

Uncontrolled movement of live aquatic organisms, climate change impacts, and environmental degradation further compound these risks.

Addressing these challenges is essential to protect biodiversity, safeguard livelihoods, maintain market access, and build resilience. This requires evidence-based strategies aligned with international standards (WOAH, FAO, Codex), regional cooperation, and a One Health approach that integrates human, animal, and environmental health considerations.

Key action priorities include:

1. Strengthening disease prevention and control through national and regional surveillance systems, early warning networks, accredited laboratories, and enforced quarantine measures.
2. Integrating ecosystem protection into aquaculture licensing by mandating environmental impact assessments, carrying capacity studies, and compliance with effluent management and waste disposal guidelines.
3. Improving on-farm biosecurity with practical guidelines, farmer training, audits, and adoption of bio-secure infrastructure.
4. Enhancing climate resilience via research on tolerant species, water quality management, and disaster preparedness plans.
5. Developing robust legal and institutional frameworks with clear mandates, harmonized standards, and strong enforcement.
6. Promoting regional and international collaboration for information sharing, joint training, and coordinated outbreak responses.
7. Mobilizing investment through public–private partnerships for climate-smart and bio-secure infrastructure and technology.
8. Strengthening African laboratory cooperation through existing initiatives such as:
    - AU-IBAR's Pan-African Aquatic Animal Health Network (PAAH-NET), which connects veterinary and fisheries labs across member states.
    - WOAH/OIE Reference Laboratories in Africa (e.g., Centre for Infectious Disease Control, South Africa; and Centre de Recherches Océanologiques, Côte d'Ivoire), which support diagnosis and training.
    - Regional networks under SADC, ECOWAS, and IGAD, which coordinate disease surveillance, lab accreditation, and knowledge exchange.
    - Africa One Health Laboratory Network (OHLN), which links human and animal health labs and provides a model for aquatic health surveillance.

These networks provide a strong foundation for building a continent-wide system of accredited aquatic animal health laboratories that can share diagnostic capacity, standardize testing protocols, and enable rapid exchange of surveillance data to improve early

detection and coordinated responses to emerging diseases.

Policy recommendations urge African Union institutions, regional economic communities, and member states to:

1. Establish harmonized biosecurity and biosafety control frameworks.
2. Expand laboratory capacity through AU-IBAR and REC-supported lab networks.
3. Strengthen traceability and quarantine systems to foster safe regional fish trade.
4. Incentivize compliance and innovation through certification, eco-labeling, and tax incentives.
5. Embed climate-smart approaches into aquaculture planning and licensing.

Conclusion

Strong biosecurity, biosafety, and ecosystem health are not just technical requirements, they are strategic investments in Africa's sustainable aquaculture future. Strengthened African laboratory cooperation through AU-IBAR, OIE reference centers, and regional lab networks will provide the backbone for disease monitoring, early warning, and safe trade. With coordinated commitment from governments, private sector, regional organizations, and development partners, Africa can protect its aquatic biodiversity, enhance resilience to emerging threats, and position aquaculture as a safe, competitive, and sustainable driver of the Blue Economy. Immediate action is critical to prevent economic losses, environmental damage, and erosion of consumer confidence in aquaculture products.



For more information:

African Union – Interafrican Bureau for Animal Resources (AU-IBAR)
Kenindia Business Park Museum Hill, Westlands Road
P.O. Box 30786-00100 Nairobi, Kenya Tel:+254 (20) 3674 000
Email: ibar.office@au-ibar.org Website: www.au-ibar.org