

PHILIPPINES IMPLEMENTATION EXPERIENCE

Farm-Level Biosecurity Assessment in Small-Scale Tilapia Hatcheries

Regional Workshop for WOAHA Focal Points for Aquatic Animals

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Farm-Level Biosecurity Assessment in Small-Scale Aquaculture

Philippines (BFAR) participated in the WOAHA Regional Training Workshop
May 6-9, 2025 (Bangkok, Thailand)

Objectives:

1. Train participants on the use of the biosecurity assessment tool.
2. The workshop standardized farm-level biosecurity assessment form.
3. Demonstrate field application of the questionnaire.





Assessment Tool



KEY BIOSECURITY AREAS ASSESSED





National Implementation



01

Conducted in Regions III and IV-A

Implementation focused on **small-scale tilapia hatcheries**.



02

June 3 – July 25, 2025

Assessment activities were carried out over **eight weeks**.



03

Used WOAHA standardized questionnaire

Adopted the **questionnaire** developed and validated during the **regional workshop**.



04

Evaluated biosecurity practices

Assessed key biosecurity measures in **small-scale tilapia hatcheries**.



05

Identified biosecurity gaps and opportunities

Identified **biosecurity gaps** and areas for improvement.

N=100



58 Farms

REGION IV-A

CALABARZON

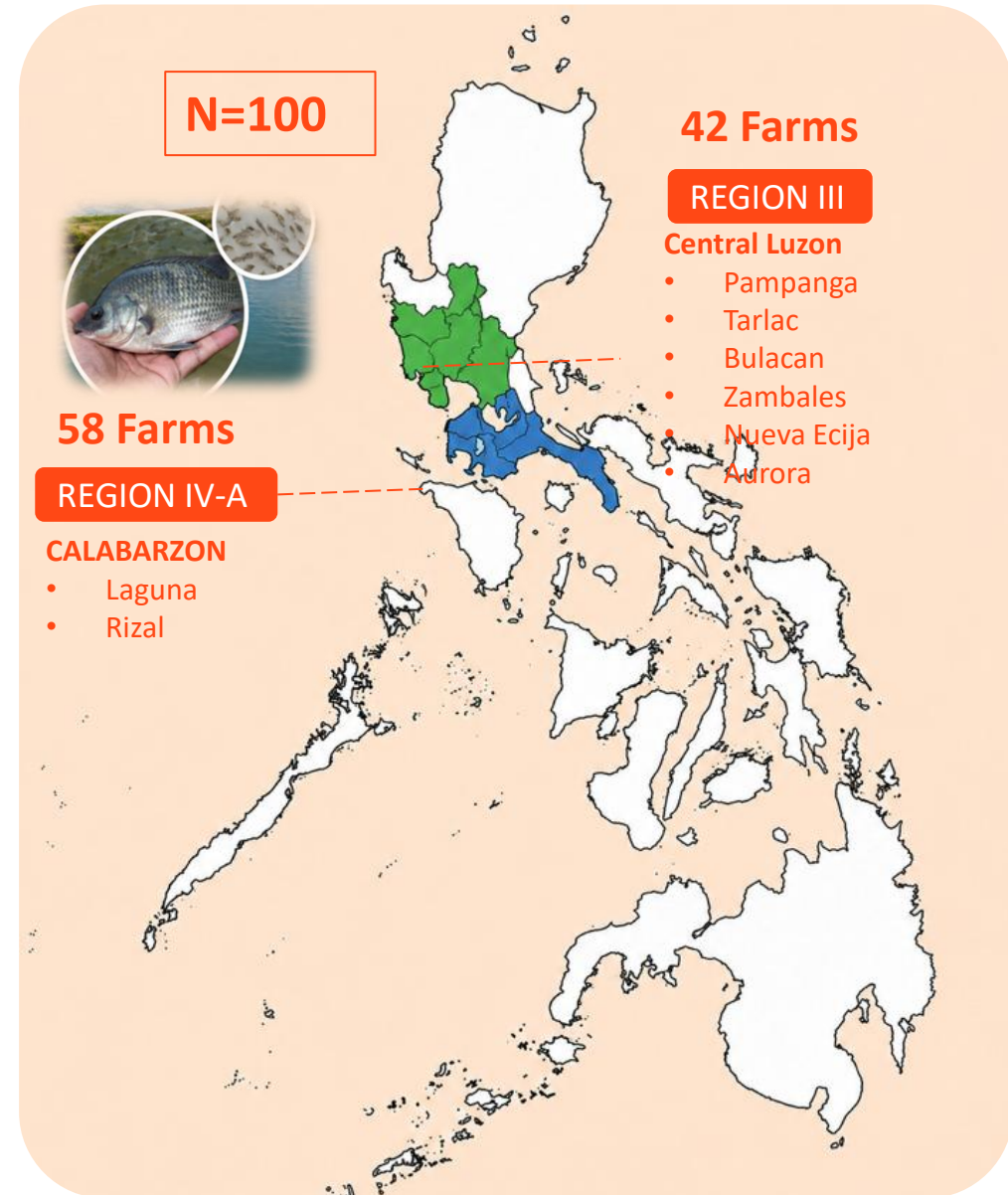
- Laguna
- Rizal

42 Farms

REGION III

Central Luzon

- Pampanga
- Tarlac
- Bulacan
- Zambales
- Nueva Ecija
- Aurora





National Implementation



Questionnaire Administration
through structured interview



Biosecurity Validation
and risk factor assessment



Stakeholder Engagement
and assessment discussion



2
Regions
Surveyed



8 Weeks
Implementation
Period



100
Representative
Hatcheries Assessed



9
Provinces
Covered



Key Reflections

01



BASELINE INSIGHTS

The tool provided a structured way to measure farm practices, even in the absence of records, giving a clear picture of current biosecurity status.

02



GAP IDENTIFICATION

The lack of record-keeping emerged as a major weakness, highlighting the need for farmer training and simple documentation systems.

03



FARMER AWARENESS

The assessment process itself encouraged farmers to reflect on their practices, raising awareness of risks and areas for improvement.

04



ACTIONABLE FEEDBACK

Structured scoring and feedback made biosecurity recommendations practical and easier to adopt at the farm level.

05



POLICY RELEVANCE

Aggregated results provided evidence for government and technical teams to design interventions, capacity-building, and surveillance integration.



Challenges Encountered

01

LIMITED RECORDS & DOCUMENTATION



- Record-keeping was largely absent.
- Production and health data often relied on farmer recall.

02

LIMITED UNDERSTANDING OF BIOSECURITY



- Concepts such as quarantine, disinfection, and traceability were not always well understood.
- Some routine practices were perceived as adequate biosecurity measures.

03

LOGISTICAL CONSTRAINTS



- Travel, scheduling, and farm accessibility affected field implementation.
- Assessments required considerable time for interviews and observations.

04

RESOURCE LIMITATIONS



- Limited resources and infrastructure constrained implementation of recommended practices.
- Some biosecurity measures were not feasible for small-scale operators.



Lessons Learned



Questionnaire Applicable to Small-Scale Hatcheries

The assessment tool was suitable for evaluating biosecurity practices in tilapia hatcheries.



Direct Observation Validates Responses

Farm visits were essential to verify questionnaire responses and actual practices.



Immediate Feedback Improves Farmer Engagement

On-site recommendations encouraged discussion and increased farmer participation.



Simple Record-Keeping Systems Are Needed

Most farms lacked documented production and health records.



Assessment Improves Biosecurity Awareness

The assessment process itself encouraged farmers to reflect on existing practices.



Findings Can Support Future Extension and Surveillance Programs

Results can guide extension activities, surveillance planning, and biosecurity initiatives.



BIOSECURITY IEC MATERIAL

KEY FEATURES



- Explains the **concept** and **importance of biosecurity**.



- Identifies **common disease entry pathways**.



- Provides **practical biosecurity measures** for aquaculture farms.



- Promotes **record-keeping** and **disease prevention**.



- Aligns with **WOAH Aquatic Animal Health Code principles**.

STRENGTHENING BIOSECURITY IN AQUACULTURE



What is Biosecurity

Definition

Set of **management** and **physical measures** designed to **reduce the risk** of introduction, establishment, and **spread of aquatic animal diseases**, pathogens, and pests.

Key Ideas

- ✓ Prevents **disease entry** and **spread**
- ✓ Applies to **grow-out farms** and **hatcheries**

Importance of Biosecurity?

Why it matters?

- Protects **aquatic animal health**
- Reduces **antibiotic use** and **AMR risk**
- Prevents **economic losses**
- Supports **sustainable aquaculture** and **fisheries**
- Enhances **food security** and **livelihoods**

Risk Pathways for Disease Entry and Biosecurity Measures

PATHWAY	BIOSECURITY
Live aquatic animals (stocking and movement)	Quarantine and Health Certification
Equipment and vehicles	Disinfection and restricted access
Water (source contamination)	Filtration, disinfection, and monitoring
Wild animals	Netting, fencing, and pest control

PATHWAY	BIOSECURITY
Personnel or visitors	Footbaths, training, PPE, and logbooks
Feed and additives	Certified feed, and proper storage
Improper waste disposal	Waste segregation, regular collection and proper disposal

Applying Biosecurity Measures

Key Actions

- ✓ Develop a **biosecurity plan**
- ✓ Assign **responsibilities**
- ✓ **Train staff**
- ✓ Conduct **risk assessments**
- ✓ Keep **records** and **monitor**
- ✓ Prepare for **outbreaks**

Improving farm practices through prevention

References:

- Food and Agriculture Organization of the United Nations (FAO). (2023). The Progressive Management Pathway for Aquaculture Biosecurity – Guidelines for Application. FAO Fisheries and Aquaculture Technical Paper No. 689. Rome. <https://doi.org/10.4060/cc6858en>
- World Organisation for Animal Health (WOAH). (2023). Aquatic Animal Health Code (24th ed.). Paris, France: WOAHA. Retrieved from <https://www.woah.org/en/what-we-do/standards/codes-and-manuals/aquatic-code>

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Future Directions

01



1. Integrate into Hatchery Registration and Monitoring

- Incorporate key biosecurity indicators into BFAR hatchery registration and monitoring processes.
- Use assessment results to update farm profiles and risk information.

02



2. Strengthen Extension and Capacity Building

- Develop targeted training modules based on common gaps identified.
- Promote biosecurity awareness and good aquaculture practices among hatchery operators.

03



3. Support Disease Surveillance and Risk Management

- Use biosecurity assessment results to prioritize hatcheries for health monitoring and surveillance.
- Integrate findings into risk analysis and early warning activities.

04



4. Conduct Nationwide Biosecurity Baseline Survey

- Scale up the use of the questionnaire to more regions and hatcheries.
- Establish a national baseline on biosecurity practices to track progress over time.

05



5. Inform Policy and Program Development

- Use aggregated data to inform policies, guidelines, and national biosecurity strategies.
- Strengthen collaboration with LGUs, industry, and partners for sustainable implementation.



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Thank you

