Food and Agriculture Organization of the United Nations | SUSTAINABLE DEVELOPMENT GOALS

First physical meeting of the
FAO Technical Working Group on the Progressive Management Pathway for Improving Aquaculture Biosecurity (PMP/AB TWG 3/2022)

Gaeta, Italy
28 June - 01 July 2022

TOOLKIT 3: Biosecurity action plans (enterprise and national level)

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GCP/GLO/352/NOR: "Responsible use of fisheries and aquaculture resources for sustainable development"

Proposed template for preparing PMP/AB tool Working Document for Gaeta meeting

The purpose of the working document is to provide brief information and a draft 'structure' that will guide the further development of the tool – always within the context of PMP/AB, sectoral and national context, and pragmatic application on the ground.

The PMP/AB TWG will discuss and advice on the scope and steps for completion of the tool.

The below is just an example; please feel free to revise, expand to fit the concerned tool.

Name of tool	**Tool 3a**: Biosecurity action plans (enterprise and national levels)
Lead/Co-lead	Stian; Alain; Saraya
Description	• Supports PMP/AB Stages 1, 2, 3 and 4 **1-2 are in Stage 1.** **3-5 are in Stage 2** **6 is Stage 3 and become Stage 4 when involving trade or movement across borders,** • Supports implementation of biosecurity plans at enterprise and national levels in line with the general principles for biosecurity: 1. **Identification of Transmission pathways and mitigation measures (**Giving consideration to the type of production system): Aquatic animals/seeds, aquatic animal products and aquatic animal waste (equivalent for plants), water, fomites, vectors and personnel and visitors. 2. **Risk analysis to identify and evaluate disease threats and ensure that risks are appropriately and efficiently addressed**. The analysis can range from a simple to a complex analysis depending on the objectives of the biosecurity planning, circumstances of the farms and the disease risks. Step1: Hazard identification; Step 2: Risk assessment: Step 3: Risk management 3. **Biosecurity plan development:** Measures to address identified risks should be evaluated on the basis of their potential effectiveness, initial and ongoing costs, and management requirements.

	4. Management practices should be integrated into the establishments' operating procedures and relevant training provided to personnel. 5. Appropriate records and documentation to demonstrate effective implementation of the biosecurity plan. 6. A schedule for routine reviews and audits of the biosecurity plan should be described. Triggers for *ad hoc* review must be determined (e.g. disease outbreaks, changes to infrastructure, production techniques, or risk profiles). Third party audits may be required where recognition of the biosecurity measures is required by customers, or regulators, or for market access. Also taking into consideration: • Prudent use of antimicrobials • Food safety • Environment At regional/national level 1) Registration of aquaculture facilities (georeferenced location, production type, cultured species, etc) 2) Registration of aquaculture supporting vessels (well boat, service boat, feed boat) 3) System for collection and record of production and health related data, movement of live aquatic organisms in and out of facilities 4) System for collection and record of boat movement data 5) System for (passive and/or active) surveillance of the national aquatic pathogens 6) Risk assessment and risk management of aquaculture area, shared water environment
Scope	Develop a Step-wise guidance for designing and implementing biosecurity action plans at enterprise and national level.
Assessment tools and other requirements	• WOAH PVS Tool-Aquatic • Chapter 4.1. Biosecurity for aquaculture establishments (WOAH Aquatic Code) • Best practices or aquaculture management guidance for implementing the ecosystem approach for Indonesia and beyond (FAO) • Farm level biosecurity hierarchy (China experience) c/o Huang Jie • 12-points check list for active surveillance (Melba et al) • Internal biosecurity audit form (Alain) • Smart technology in Shrimp Biosecurity (Dr. Yun Duk-Hyun)

	• Web-based apps for quantification of biosecurity measures at individual site, regional, national levels (NVI)
Training requirements	Physical, virtual, hybrid

	Past and ongoing experience:
	• Multidisciplinary team
	• Physical courses: 10 days including field and meetings with Competent Authority
	• Virtual course:
	  ○ Part 1: 12-point surveillance checklist: 27 hours (3 hrs/day, 3x/week, 3 weeks)
	  ○ Part 2: Surveillance data analysis workshop (3 days)
	Example of completed virtual course: 31 August to 16 September 2021
	https://www.fao.org/nems/rss/html_nems_detail.asp?event_id=41322

Technical competencies of members of SubTWG	Experience in aquatic establishment biosecurity (some should have experience in biosecurity for small scale aquaculture) Suggested names to be targeted; and/or call for expression of interest
Links to relevant documents	Chapter 4.1. Biosecurity for aquaculture establishments (WOAH Aquatic Code) Best practices or aquaculture management guidance for implementing the ecosystem approach for Indonesia and beyond (FAO) Farm level biosecurity hierarchy (China experience) c/o Huang Jie
Other information:	WOAH RR-AP: Development of regional awareness materials for biosecurity in aquaculture establishments.

I found the summary we have done for DUAQUA which objectives were:

1) Mapping of existing biosecurity routines using meta-analysis and expert knowledge elicitation approaches; 2) Develop guidelines for master biosecurity plans and best management practices; 3) Identify critical control points and control measures using HACCP and risk assessment approaches; 4) Develop and test analytical tools for quantification of biosecurity measures, and risk profiling. Making the tools available on a digital platform; 5) Testing the digital analytical tools on user groups to gain practical experience of whether the basis is sufficient and identifying weaknesses;

We decide to work with 3 models: land-based facilities with RAS, open freshwater systems and open seawater systems to develop master biosecurity plans for the different production systems

Development of guidelines for master biosecurity plans. Biosecurity procedure guidelines targeting the main risks identified in each of the three master biosecurity plans defined previously will be developed

based on the tryptic: Isolation / Control of movement / Sanitation. For land-based units in RAS systems, emphasis will be put on intrans and effluents controls, structuring biosecurity measures already implemented in most of these units in a stronger plan integrating validation methods for the measures applied and a contingency plan often missing. As finfish and shellfish production in RAS faced similar sanitary risks and biosecurity failures, common biosecurity guidelines which will then be adapted to the specific productions will be proposed. For open and flowthrough production systems either in sea cages or in ponds fed with seawater or freshwater, biosecurity approach will be focusing on protecting the farmed population from pathogen hazards and early detection. At sea, regional measure such as zoning, sanitary risk linked to well boats movements, culling of infected fish need to be considered. The objective will be to review and improve existing biosecurity plans implemented in the industry and validate them

List of volunteers, contributors, suggested lead

No	Tool	Volunteers, contributors, suggested lead
1	Step wise guidance for pilot testing (using PMP/AB checklists and indicators): skeleton has been prepared by JRA	Mark, Alicia
2	PMP/AB governance mechanisms (end-point of PMP/AB application) –	Rohana
	Many ideas were generated from the two multistakeholder consultations (DC and Paris) that can be used as basis https://www.fao.org/documents/card/en/c/cb0745en https://www.fao.org/documents/card/en/c/ca4891en/	
3	Biosecurity actions plans (enterprise and national levels)	Stian, Saraya
	• a draft document on 10-point biosecurity best practices (know your: (1) fish, (2) pathogens, (3) systems, (4) contamination pathway, (5) source healthy seeds, (6) maintain good husbandry, (7) prudent use of antimicrobials, (8) respect food safety, (9) respect the environment, (10) have a good biosecurity plan (c/o Melba) • WOAH aquatic code chapter on farm biosecurity • Farm level biosecurity hierarchy (China experience) c/o Huang Jie	
4	Risk assessments: JRA, Brett	JRA, Brett, Saraya
	Example training course module: https://www.fao.org/publications/card/en/c/b5727837-3cec-5f33-a301-ce64b0dbb852/	
5	Emergency preparedness	Stian, Victoria
	For those who participated in the FAO/NORAD round table discussion in Dec 2019 in Rome, a draft guidance document C*ontingency planning for aquatic animal mass mortality events: guidance on effective preparedness, response, recovery and review* is available and this can also be used as starting point to develop a practical tool (being finalised) https://www.fao.org/3/a0090e/a0090e00.htm https://www.fao.org/documents/card/en/c/cb2612en/	
6	PPP	Marc
	https://www.fao.org/cofi/43803-058361d8762ef9d2197aa2d01c4a4175c.pdf	
7	Training modules for tools	Marc, Rodrigo, Stian
	• Training of trainors (ToT): get country nationals involved for various reasons (knowledge of country, sector, language, etc. • Different levels • Country context	