*Endorsed by the 30th ASWGFi on 20-22 June 2022*
*Adopted at 44th AMAF on 26 October 2022*

# Standard on ASEAN Good Aquaculture Practices for Food Fish

## Introduction and background

The Asian Economic Community (AEC) Blueprint for integration focuses strongly on the concept of a single market and production base which comprise five core elements: (i) free flow of goods; (ii) free flow of services; (iii) free flow of investment; (iv) freer flow of capital; and (v) free flow of skilled labour. In addition, the single market and production base also include two important components, namely, the priority integration sectors, and food, agriculture and forestry. The latter is important as the goal is to enhance intra- and extra-ASEAN trade and long-term competitiveness of ASEAN's food, agriculture and forestry products/commodities. A number of actions are listed to achieve this including the development and application of fisheries quality management systems that ensure food safety and support the competitive position of ASEAN fisheries products on world markets.

Aquaculture and the production of food fish for local consumption and international trade is becoming very important to the economies of many developing countries in South East Asia, some of which have become leading exporting nations both to other countries in the region and to international markets. Six countries in South East Asia including Indonesia, Malaysia, Myanmar, the Philippines, Thailand and Viet Nam, all but ranked among the top twenty five countries in terms of aquaculture volume. Cambodia, with its productive inland fisheries was also ranked amongst this list. Aquaculture in the South East Asian countries is not only important because of its contribution to food security and nutrition but it is an important component of the economic fabric that supports the country social development. Many ASEAN Member States (AMSs) depend heavily on the fisheries sub-sector as a major contributor to national and regional social and economic development with the income generated and a large number of the work force employed in it.

As ASEAN progresses to a single economy it is essential that uniform standards are introduced across the ASEAN member States (AMS). This means that a set agreed standard needs to be in place so that existing GAqP can have a point of harmonisation. There are however a number of issues that had to be addressed before this standard was produced and agreed by the ASEAN member States.

Issues that had to be resolved included the areas that this standard had to cover, the extent that this standard covered areas of concern, what types of aquaculture products were covered by this guideline and how this standard was going to be used by each AMS.

The Guidelines on ASEAN GAqP for Food Fish was developed through a series of workshops in 2014, and was subsequently adopted by the 36th AMAF Meeting on 23 September 2014. On 14-15 August 2017, the Special SOM-38th AMAF Meeting agreed to establish the Task Force on Multilateral Arrangement for the Mutual Recognition of Agri-food Standards and Conformity Assessment (TF-MAMRASCA) to steer and administer the preparation of Mutual Recognition Arrangement. Following the series of Meetings of the TF-MAMRASCA from 2019-2021, the Expert Working Group on ASEAN GAqP (EWG-ASEAN GAqP) through the ASWGFi was requested to review the Guidelines on ASEAN GAqP for Food Fish into a “Standard”, and to examine the possibility of whether to include the ASEAN Shrimp GAP as a separate standard or integrate it with the ASEAN GAqP for Food Fish as one standard under MAMRASCA.

The EWG ASEAN GAqP held a series of meetings to discuss and develop recommendations to the ASEAN Sectoral Working Group on Fisheries (ASWGFi) on the above proposals.

**The 30th ASWGFi Meeting held on 22-23 June 2022 agreed on the following recommendations of the EWG-ASEAN GAqP:**

- Revise the Guidelines on ASEAN GAqP for Food Fish and merge with the Standard on ASEAN Shrimp GAP into one standard.

- Focus on the food fish considering the guidance from the ASEAN Economic Community (AEC) Blueprint, the ASEAN cooperation in fisheries and aquaculture will focus its efforts on the promotion of intra-ASEAN and external trade, improving competitiveness, quality assurance and ensuring safety of fisheries products.

- Separate GAqP standard produced in three parts, according to aquaculture groups, namely (i) Food Fish, (ii) Ornamental Fish and (iii) Aquatic Ornamental Plants and Seaweeds, the latter two will be further developed.

The Standard on ASEAN GAqP for Food Fish was developed by harmonising the previous Standard on ASEAN Shrimp GAP (2012) and the Guidelines on ASEAN GAqP for Food Fish (2014) using the FAO Technical Guidelines on Aquaculture Certification as the reference document.

The Standard on ASEAN GAqP for Food Fish focuses on four aspects, namely: food safety, animal health and welfare, environmental integrity and socio-economic including the facilitation of gender equality.

**Purpose and scope of ASEAN GAqP (Food fish)**

The ASEAN Member States (AMS) share the similar farming system and facilities, climate pattern and common commodities. National Good Aquaculture Practices (GAqP) programme implemented in the AMS varies with some countries having government certified systems and others beginning the journey with awareness programs for farmers.

The purpose of ASEAN GAqP for Food Fish is to enhance the harmonisation of GAqP programs within the ASEAN region and will fulfil one of the major requirements set down by the AEC blueprint for integration by 2025, which is to transform ASEAN into a single market and production base, a highly competitive economic region, a region of equitable economic development, and a region fully integrated into the global economy.

The scope of the ASEAN GAqP for Food Fish covers practices that are mainly aimed at preventing or minimising the risks in aquaculture production with emphasis on: food safety, animal health and welfare, environmental integrity and socio-economic aspects.

The coverage of ASEAN GAqP for Food Fish include mariculture, coastal aquaculture/ brackish water culture, and freshwater culture of finfishes, crustaceans, molluscs, echinoderms, and other food fishes. The agreed GAqP covers all phases of farm operation, including pre-production, production, harvesting and post-harvest handling prior to transportation

**How ASEAN GAqP forFood fish was developed**

The ASEAN GAqP for Food Fish was revised into a standard by the EWG ASEAN GAqP. All aspects of the ASEAN GAqP for Food Fish were considered and the revised document is based on the outcome from the series of meetings held from 2021-2022.

The EWG-ASEAN GAqP considered their national GAqP (If they had one in place), and the three documents, namely: the Standard on ASEAN Shrimp GAP (2012), the Guidelines on ASEAN GAqP for Food Fish (2014), and the FAO Technical Guidelines on Aquaculture Certification (2011) as the reference documents.

**Structure of ASEAN GAqP for Food Fish**

The ASEAN GAqP for Food Fish consists of four modules covering 1) Food Safety, 2) Animal Health and Welfare, 3) Environmental Integrity, and 4) Socio-economic Aspects. These modules are aligned to the Minimum Substantive requirements which are listed in the FAO Technical Guidelines on Aquaculture Certification.

## Food Safety

**Principle: Aquaculture activities should be conducted in a manner that ensures food safety by implementing appropriate national or international food safety standards and regulations including those defined by FAO/WHO Codex Alimentarius.**

**Agreed GAqP:**

1. Aquaculture facilities should be located in areas where the risk of contamination is minimized or where sources of pollution can be controlled or mitigated in acceptable levels and according to national law and regulations.

2. Where feed is used, aquaculture operations should include procedures for avoiding feed contamination in compliance with international standards or national regulations as determined by internationally agreed standards.

3. Feed and feed ingredients used in the aquaculture operation shall not contain unsafe levels of biological, chemical and physical contaminants and/or other adulterated substances. No prohibited substances shall be used in feed manufactured or prepared on farms.

4. Feeds should be handled and stored in such a way to prevent spoilage, mold growth and contamination.

5. Farmers should only purchase commercial feed that has been registered to the competent authority and properly labelled in compliance with requirements of the competent authority.

6. All veterinary drugs and chemicals for use in aquaculture shall comply with national regulations, as well as international guidelines. If veterinary drugs and chemical treatment is necessary, use only registered veterinary drugs and chemicals and follow the instruction on the manufacturers label or as advised by competent authority.

7. Probiotics and biological agent inputs should be registered with, and approved by, the relevant/competent authorities.

8. Water used for aquaculture should be of a quality suitable for the production of fish which is safe for human consumption.

9. The source of brood stock, and seed for culture (larvae, post-larvae, fry and fingerling) should be such that it reduces the risk of carryover of potential human health hazards into the growing stocks.

10. Data related to food safety should be recorded, kept, maintained and made accessible during culture and for at least 24 months after production.

11. Aquaculture facilities should be designed, operated and maintained in ways that prevent contamination from workers, sewage/toilets, domestic animals, machinery oil/fuel and other possible sources in order to maintain hygienic conditions.

12. Appropriate harvesting and post harvest handling, of aquaculture products within the farm should be practiced to minimise contamination and physical

damage. Water and ice used during harvesting and grading should be of quality suitable for the production of food which is safe for human consumption. Water and ice used during harvesting and grading should be of quality suitable for the production of food which is safe for human consumption.

13. Workers should be trained on farm level hygienic practices to ensure they are aware of their roles and responsibilities for protecting aquaculture products from contamination and deterioration throughout the production cycle.

14. Identification, classification, integrated management and monitoring programmes should be implemented in bivalve molluscs growing areas to prevent microbiological, chemical and reduce biotoxin contamination. Relaying and depuration of bivalve molluscs, where necessary, to remove microbial contamination should be carried in accordance with the requirements of the Codex.

## Animal health and welfare

**Principle: Aquaculture activities should be conducted in a manner that assures the health and welfare of farmed aquatic animals, by optimizing health through minimizing stress, reducing aquatic animal disease risks and maintaining a healthy culture environment at all phases of the production cycle.**

**Agreed GAqP:**

1. Aquatic animal health management programmes and movement of aquatic animals and aquatic animal products should take place in accordance with the relevant provisions in the OIE Aquatic Animal Health Code to prevent introduction

or transfer of diseases and infectious agents pathogenic to aquatic animals while avoiding unwarranted sanitary measures.

2. A culture environment should be maintained at all phases of the production cycle adapted to the species raised, to benefit aquatic animal health and welfare, and reduce the risks of introduction and spread of aquatic animal diseases. In particular, by

    - implementation of management practices that reduce the likelihood of disease transmission within and between aquaculture facilities and natural aquatic fauna, and reduce stress on animals for the purpose of optimizing health;

    - routine monitoring of stock and environmental conditions for early detection of aquatic animal health problems; and

    - On occurrence or an outbreak of any disease of aquatic animals, farmers should notify and seek advice from the relevant authority or other available expertise.

3. Veterinary medicines should be used in a responsible manner and in accordance with applicable national legislation or relevant international agreements/guidelines that ensure effectiveness for animal health with consideration of safety of public and protection of the environment.

4. Treatment and control of diseases with authorized veterinary drugs should be carried out only on the basis of a proper diagnosis.

5. Use of species in polyculture or integrated multitrophic aquaculture should be carefully considered in order to reduce potential risk of disease transmission.

6. Farm workers and managers should be trained on good aquatic animal health and welfare management practices to ensure they are aware of their roles and responsibilities in maintaining aquatic animal health and welfare in Aquaculture.

7. Seed should be of good quality/healthy and from reliable source.

8. Record keeping of animal health and movement for traceability purposes should be maintained during culture and for at least 24 months after harvesting.

## Environmental Integrity

**Principle: Aquaculture should be planned and practiced in an environmentally responsible manner in accordance with applicable national and international rules and regulations. Ensuring environmental integrity requires that environmental impacts of planning, development and operational practices for aquaculture are addressed.**

**Agreed GAqP**

1. Environmental impact assessments should be conducted if required by national law and according to national legislation, prior to approval of establishment of aquaculture facilities/farms.

2. Location of aquaculture farm should be in accordance with local and national plans and regulations on environmental protection.

3. Rehabilitation of damaged habitats caused by previous aquaculture operation should be encouraged.

4. Effective mitigation measures should be taken if the current practices are damaging habitat/environment.

5. Regular monitoring of farm environmental quality should be carried out.

6. Records keeping of use of inputs, management of effluents, habitat rehabilitation, and environmental monitoring should be kept and maintained at least 24 months.

7. Measures should be adopted to promote efficient water management and use, as well as proper management of effluents to reduce impacts on surrounding land, and water resources.

8. Where possible, hatchery produced seed should be used for culture. When wild seeds are used, they should be collected using responsible practices or in accordance with national laws and regulations where they exist.

9. Exotic species are to be used only when they pose an acceptable level of risk to the natural environment, biodiversity and ecosystem health.

10. Where genetic material of an aquatic organism has been altered in a way that does not occur naturally, science-based risk assessment should be used to address possible risks on a case-by-case basis.

11. Farm infrastructure construction and waste disposal should be conducted responsibly. The farm should take appropriate measures to:

    a) Dispose of solid wastes and garbage in an environmentally sound way; and
    b) Dispose of dead fish/shrimp in a hygienic manner especially after disease outbreak.

12. Feeds, feed additives, chemicals, veterinary drugs, antimicrobials, fertilizer and fuel should be used responsibly to minimize their adverse impacts on the environment.

13. To minimise the negative environmental impacts, aquaculture farms should take into account the use of appropriate measures to minimise the escape of cultured aquatic animals.

14. Farm workers and managers should be trained in environmental management and mitigation of impact to ensure they are aware of their responsibilities in protecting the environments.

## Socio-economic aspects

**Principle: Aquaculture should be conducted in a socially responsible manner, within national rules and regulations, having regard to the ILO-convention on labour rights not jeopardizing the livelihood of aquaculture workers and local communities. Aquaculture contributes to rural development, enhances benefits and equity in local communities, alleviates poverty, and promotes food security. As a result, socio-economic issues should be considered at all stages of aquaculture planning, development and operation. The importance of corporate social responsibility from aquaculture to local communities should be recognized.**

**Agreed GAqP:**

1. Workers should be treated responsibly and in accordance with national labour rules and regulations and, where appropriate, relevant ILO conventions.

2. Workers should be provided wages, benefits and working conditions according to national laws and regulations.

3. Child labour shall not be used in a manner inconsistent with national regulations and ILO conventions/standards.

4. Farm operators should demonstrate equal rights on public land and water use for local communities following national laws and regulations.

5. Farm operators should take into account efforts to minimise potential adverse impacts on the local community during all phases of farm operation.

6. Safe farm work conditions shall be ensured at all times in line with the Occupational Health and Safety (OH&S) conventions of the ILO.

7. Workers should not be discriminated on the basis of gender.

## GLOSSARY

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| 1. | **Harmonisation** | The establishment, recognition and application of common standards by different members (adapted from Sanitary and Phytosanitary (SPS) agreement). |
| 2. | **Standard** | A standard is a document established by a consensus of subject matter experts and approved by a recognized body that provides guidance on the design, use or performance of materials, products, processes, services, systems or persons (ISO Definition). |
| 3. | **Traceability** | The ability to follow the movement of a product of aquaculture or inputs such as feed and seed, through specified stage(s) of production, processing and distribution. It includes the ability to trace the history, application or location of an entity by means of recorded identification. |
| 4. | **Pre-production** | The period before the start of production such as acquiring and preparing aquaculture facilities for farming. For example pond preparation, layout, etc. |
| 5. | **Water use** | Water used for the purposes of conducting an aquaculture operation. |
| 6. | **Post-harvest** | Stage of aquaculture immediately after harvesting including cleaning, sorting, cooling and packing. |

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| 7. | **Broodstock** | A group of mature aquatic organisms used in aquaculture for breeding purposes. Broodstock can be a population of aquatic organisms maintained in captivity or from a wild population. |
| 8. | **Prohibited Substance** | A substance that has been banned for use in aquaculture. |
| 9. | **Genetic Material** | Any material of aquaculture species, including reproductive and vegetative propagation material containing functional units of heredity. |
| 10. | **Multi-trophic** | Involving species of different trophic levels of the same food chain. |
| 11. | **Child Labour** | Employment of children less than 15 years of age in any work that deprives children of their childhood, interferes with their ability to attend regular school, and that is mentally, physically, socially or morally dangerous and harmful and the employment of young people (15-18 years of age) where that work involves hazardous activities. |
| 12. | **Aquaculture Facility** | Tools, equipments, materials, area, establishment, farm, zone that is involved in aquaculture. |
| 13. | **Aquaculture** | The farming of aquatic organisms involving intervention in the rearing process to enhance production and the individual or corporate ownership of the stock being cultivated (FAO). |

14. **Food Fish** — Aquatic animals, including fishes, molluscs, crustaceans, and echinoderms, grown and harvested for human consumption.

15. **Animal Welfare** — Means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and distress. Good animal welfare requires disease prevention and veterinary treatment, appropriate shelter, management, nutrition, humane handling and humane slaughter/killing. Animal welfare refers to the state of the animal; the treatment that an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment.

16. **Production** — The process of culture or growing aquaculture product for sale or use.

17. **Exotic Animal** — An animal that is not a native to the country or ecosystem to which it could be intentionally or unintentionally introduced.

18. **Fertilisers** — Fertilisers are natural or synthetic substances that are used in ponds to stimulate the production of the natural food organisms in the pond and to maintain the water quality. The use of natural fertilisers includes those derived from plant residues and animal manure, except for raw manure.

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