Guidelines on ASEAN Good Aquaculture Practices (ASEAN GAqP) for Food Fish

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Guidelines on ASEAN Good Aquaculture Practices (ASEAN GAqP) for Food Fish

The ASEAN Secretariat
Jakarta

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Introduction

Introduction and Background

The ASEAN Economic Community (AEC) Blueprint for intergration 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) free 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 Southeast Asia, some of which have become leading exporting nations both to other countries in the region and to international markets. Six countries in Southeast 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 Southeast 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 AMS 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 guidelines and standards are introduced across the AMS. This means that a set agreed guideline 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 guideline was produced and agreed by the AMS.

Issues that had to be resolved included the areas that this guideline had to cover, the extent that this guideline covered areas of concern, what types of aquaculture products were covered by this guideline and how this guideline was going to be used by each AMS. A number of workshops organised by the ASEAN Secretariat were held and the working group agreed on the following;

- 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 guidelines produced in three parts, according to aquaculture groups, namely (i) Food Fish, (ii) Ornamental Fish and (iii) Aquatic Plants, the latter two to be produced in the next phase of the project.

The GAqP that was developed by the team of experts is part 1 and focuses is only on Food Fish, the documents used as reference to develop this GAqP guideline document include the ASEAN Shrimp GAqP and the FAO Technical Guidelines. The GAqP document produced focuses on four section, food safety, animal health and welfare, environmental integrity and socio-economic aspects including the facilitation of gender.

Purpose and Scope of ASEAN GAqP (Food Fish)

The 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 of ASEAN GAqP (Food Fish) is to enhance the harmonisation of GAqP programs within the ASEAN region will fulfil one of the major requirements set down by the AEC Blueprint for integration by 2015. The AEC Blueprint will 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 (Food Fish) covers practices that are mainly aimed at preventing or minimising the risks in four areas of production. Namely food safety, animal health and welfare, environmental integrity and socio-economic aspects associated with aquaculture of Food Fish. The coverage of GAqP (Food Fish) will include mariculture, coastal aquaculture/ brackish water culture, and freshwater culture excluding shrimp. The agreed GAqP will cover all phases of farm operation, including pre production, production, harvesting and post-harvest handling prior to transportation.

How ASEAN GAqP (Food Fish) was Developed

ASEAN GAqP (Food Fish) was developed by AMS representatives shown in the acknowledgment section at a workshop designed specifically for this task. All aspects of the ASEAN GAqP were considered and the following document is based on the outcome of this workshop. The team of experts considered two documents as well as their country GAqP (if they had one in place). The documents used the ASEAN Shrimp GAP and the FAO Technical Guidelines on aquaculture certification as the reference documents.

Part 1

Asean GAqP for Food Fish

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.

Figure 1: Allowing milkfish spawner to recover from anesthesia

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. Aquaculture operations should use feeds and feed ingredients which do not contain unsafe levels of biological, chemical and physical contaminants and/or other adulterated substances. All ingredients which are used in feed manufactured or prepared on farm must be free from prohibited substances.

4. 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.

5. 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.

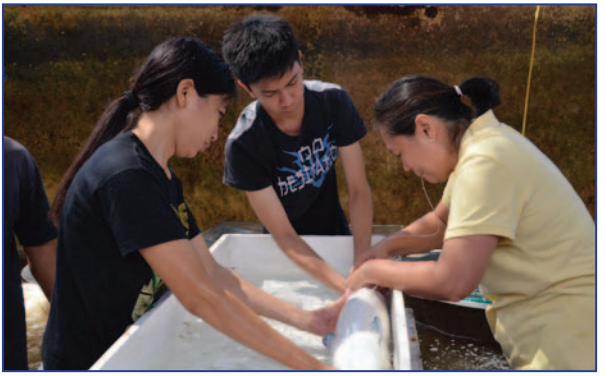


Figure 2: Cannulation of milkfish spawner

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

7. 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.

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

9. 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.

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

11. 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.

12. Identification, classification, integrated management and monitoring programmes should be implemented in bivalve molluscs

Figure 3: Packing milkfish spawners for long-distance transport

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.

Figure 4: Monitoring abalone in cage culture set up

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:

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

Figure 5: Paddle wheel aerators in intensive ponds

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

5. 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.

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

7. 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.

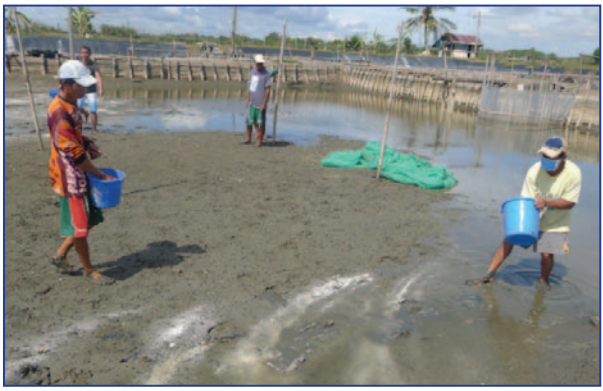


Figure 6: Liming pond

2. Regular monitoring of farm environmental quality should be carried out, combined with good record-keeping and use of appropriate methodologies.

3. 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.

4. 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.

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

Figure 7: Mending and maintenance of bamboo frames

6. 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.

7. Farm infrastructure construction and waste disposal should be conducted responsibly.

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

9. 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.

Figure 8: Monitoring abalone in cage culture set up

2. Workers should be provided with decent working conditions for both genders.

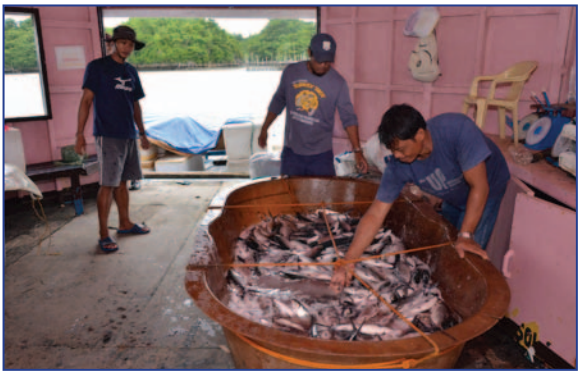


Figure 9: Harvest of milkfish-cage culture

3. Child labour should not be used in a manner inconsistent with ILO conventions and international standards.

4. Farm operators shall demonstrate equal rights on public land and water use for local communities following National Laws and Regulations.

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

6. Safe farm work conditions must be ensured at all times in line with the OH&S conventions of the ILO.

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

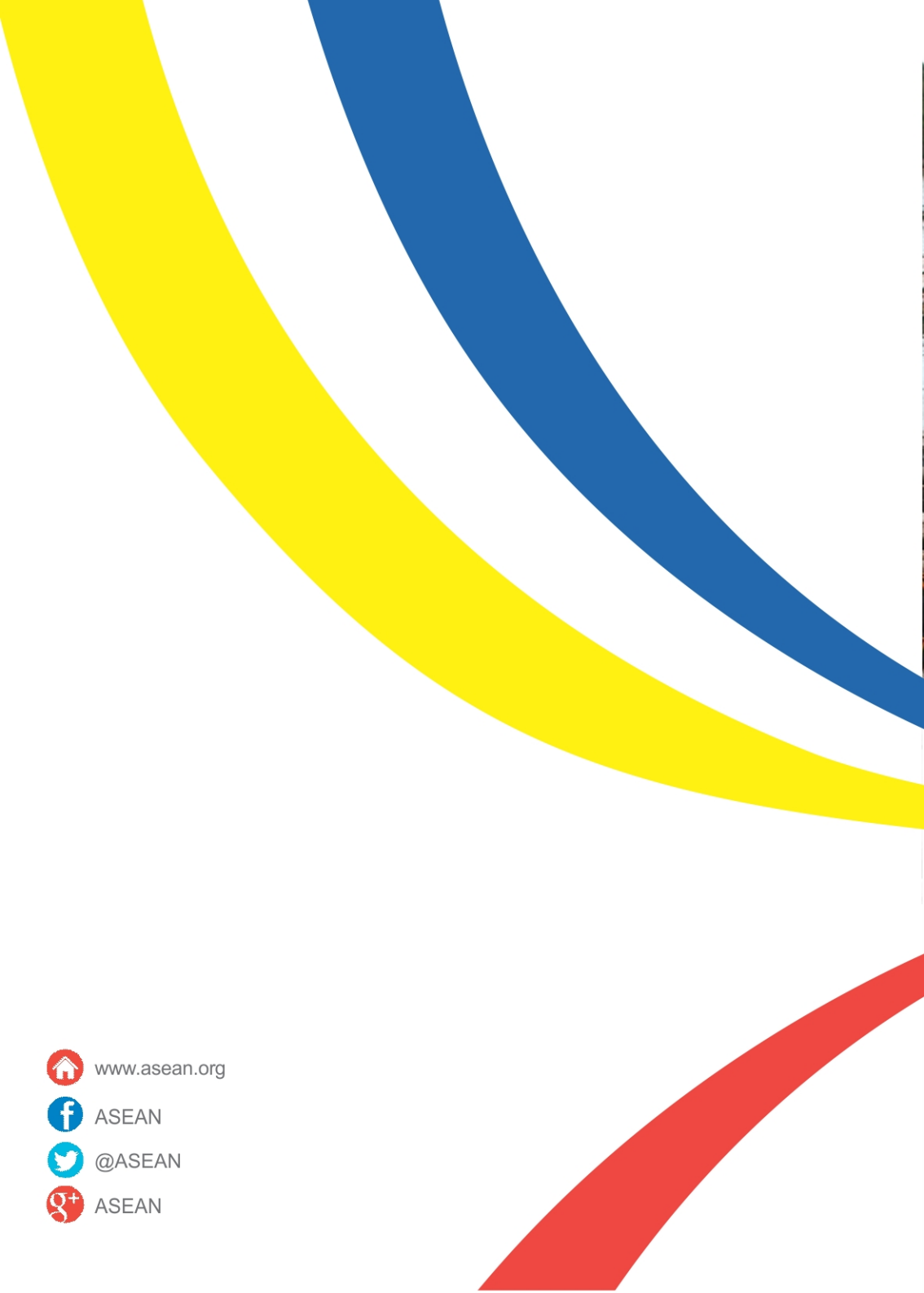
Figure 10: Harvest of Asian seabass from cage

Annex

GLOSSARY

1.	**Pre-production**	The period before the start of production such as acquiring and preparing aquaculture facilities for farming. For example pond preparation, layout, etc.
2.	**Water use**	Water used for the purposes of conducting an aquaculture operation.
3.	**Post-harvest**	Stage of aquaculture immediately after harvesting including cleaning, sorting, cooling and packing.
4.	**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.
5.	**Prohibited Substance**	A substance that has been banned for use in aquaculture.
6.	**Genetic Material**	Any material of aquaculture species, including reproductive and vegetative propagation material containing functional units of heredity.
7.	**Hygiene**	All conditions and measures necessary to ensure the safety and suitability of food at all stages of the food chain and in the aquaculture production cycle. (FAO Codex Alimentarius).
8.	**Multi-trophic**	Involving species of different trophic levels of the same food chain.
9.	**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.
10.	**Aquaculture Facility**	Tools, equipments, materials, area, establishment, farm, zone that is involved in aquaculture.

11.	**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). *The farming of aquatic organisms including fish, molluscs, crustacean and aquatic plants (FAO).*
12.	**Food Fish**	Aquatic animals grown for human consumption.
13.	**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.
14.	**Production**	The process of culture or growing aquaculture product for sale or use.
15.	**Blackwater**	Source-separated wastewater from toilets, containing faeces, urine and flushing water (and eventually anal cleansing water in 'washing' community). (WHO)
16.	**Exotic**	An animal that is not a native to the country or ecosystem to which it could be intentionally or unintentionally introduced.



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