



Association of Southeast Asian Nations

**Guidelines on Development of
Standard Operating Procedures for
Health Certification and Quarantine
Measures for the Responsible Movement
of Live Food Finfish**



Australian Government
AusAID



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1. Glossary of Acronyms and Abbreviations

AADCP:RPS	ASEAN Australia Development Cooperation Programme: Regional Partnership Scheme
AAPQIS	Aquatic Animal Pathogen Quarantine Information System
ASEAN	Association of Southeast Asian Nations
ASEC	ASEAN Secretariat
ASWGFi	ASEAN Sectoral Working Group on Fisheries
AusAID	Australian Agency for International Development
CA	Competent Authority
Cardno ACIL	Australian Managing Contractor for AADCP:RPS Programme
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
FAO	Food and Agriculture Organization of the United Nations
HC	Health Certificate
IATA	International Air Transport Association
LFF	Live Food Finfish
NACA	Network of Aquaculture Centres in Asia-Pacific
OIE	World Organisation for Animal Health
PCR	Polymerase Chain Reaction
QAAD	Quarterly Aquatic Animal Diseases Report
SOM-AMAF	Senior Official Meeting for ASEAN Ministers on Agriculture and Forestry
SOPs	ASEAN Standard Operating Procedures for Health Certification and Quarantine Measures for the Responsible Movement of Live Food Finfish
SPS	Sanitary and Phytosanitary (Agreement)
TG	FAO/NACA Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals

2. Definitions of Terms

The following terms have been modified from the terms in the OIE Aquatic Animal Health Code where appropriate for Live Food Finfish (LFF), and have been supplemented by additional terms as required.

Audit of Compliance

Activities undertaken by the Competent Authority to verify that the importers are complying with the requirements of the registration and permits.

CITES Permit/Certificate

A document issued by the relevant authority to regulate the trade of fish listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

Competent Authority

The National Authority with the officially approved responsibility and competency and is responsible to ensure and supervise the implementation of aquatic animal health management and quarantine measures.

Consignment

A group of LFF described in the Health Certificate and/or in the permit to import or export.

Containers

A transport appliance:

- a) specially constructed to facilitate the transport of LFF by one or several means of transport;
- b) constructed in a watertight way, easy to load and unload, and capable of being cleansed and disinfected (except when cages are used for transport in waterways);
- c) ensuring safe and optimal transport of LFF.

Health Certificate

A certificate issued by the Competent Authority of the exporting country attesting to the health status of a consignment of LFF.

Inspection

Action carried out by the Competent Authority in order to ensure that import/export of LFF satisfies the requirements of the Competent Authority with respect to the management of aquatic animal health. The inspection may call for clinical examination, laboratory tests and the application of other procedures that could reveal an infection that may be present in the fish.

Inspector

A technically competent person authorised by the Competent Authority for the purposes of inspecting and verifying compliance with the requirements of the Competent Authority concerning the import and export of LFF.

Live Food Finfish

The finfish are of a size suitable and intended for immediate human consumption. These animals should not be reared further but may be fed for short term maintenance at the end users' premises. They should not be diverted to other purposes (e.g. broodstock, research, recreation, re-stocking) or to other facilities holding other aquatic animals.

Movement Documents

Documents issued by the Competent Authority and other relevant authorities supporting the import/export of LFF.

Premises

A place where the LFF are produced or held, or where documents relating to the import/export of LFF are held.

Quarantine

Maintaining a group of LFF in isolation with no direct contact with other aquatic animals, in order to undergo observation for a specified length of time and, if appropriate, conducting tests and treatment, including proper treatment of the waste waters.

Quarantine Officers

A technically competent person authorised by the Competent Authority for the purposes of inspecting and certifying compliance with the health requirements of the Competent Authority concerning the import and export of LFF.

Third Party Service Provider

A laboratory or quarantine premises that is approved by the Competent Authority to carry out diagnostic work on disease or quarantine of LFF.

Traceability

The capacity to identify premises and other locations to and from which the LFF have moved during the import/export process.

Trans-boundary Disease

A disease that is highly contagious or transmissible, with the potential for very rapid spread irrespective of national borders and which may cause significant socio-economic and possibly public health consequences.

Trans-shipment

The movement of a consignment of LFF from the exporting to the importing country through a third country or third countries.

3. Aim and Purpose

The ASEAN Standard Operating Procedures (SOPs) for Health Certification and Quarantine Measures for the Responsible Movement of Live Food Finfish have been developed to reduce the risk of spread of transboundary diseases of aquatic animals by the movement of Live Food Finfish (LFF).

The SOPs document health certification and quarantine measures to be used by the Competent Authority (CA) for the responsible movement of LFF by land, sea and air among ASEAN Member States.

The SOPs take into consideration the existing variation in capacity among ASEAN Member States. They are designed in such a way that they can be adopted and implemented within the specific policy and legal framework of each country.

The SOPs have been written to help manage the movement of LFF for immediate consumption as human food. They are proposed to be a model for the subsequent development of SOPs to cover the management of movements of juvenile LFF for rearing and for other fish. Some elements of this document may be appropriate for those SOPs.

4. Background

The ASEAN Standard Operating Procedures (SOPs) for Health Certification and Quarantine Measures for the Responsible Movement of Live Food Finfish have been developed under the AADCP:RPS project 370-018, *Operationalise Guidelines on Responsible Movement of Live Food Finfish*. This project is coordinated by the ASEAN Secretariat (ASEC), the Network of Aquaculture Centres in Asia-Pacific (NACA) and AusVet Animal Health Services for Cardno ACIL who manages the AADCP:RPS programme for ASEC and the Australian Agency for International Development (AusAID).

A goal of the Vientiane Action Programme is to develop, harmonise and adopt quality standards and regulations for food, agriculture and forestry products. The workplan for this goal specifies the need to collect and compile national fisheries' sanitary and phytosanitary measures and regulations; harmonise the national sanitary measures into an ASEAN sanitary measure; and, publish the harmonised ASEAN sanitary fisheries measure.

The ASEAN Sectoral Working Group on Fisheries (ASWGF) and the Senior Official Meeting for ASEAN Ministers on Agriculture and Forestry (SOM-AMAF) are responsible for this initiative. A Regional Seminar on *Harmonisation of Quarantine Procedures for Live Fish among ASEAN Member Countries* in February 2003 in Penang, Malaysia resulted in draft guidelines for the international movement of live fish. The draft guidelines was presented and agreed at the 11th Meeting of ASWGF in May 2003 in Vientiane, Lao PDR. The Meeting agreed that the scope and title of the guidelines be changed to *General Guidelines on Responsible Movement of Live Food Fin Fish* and that comprehensive procedures for implementation of the *Guidelines* at the operational level should be developed. The SOPs have built on the recommendations of the *Guidelines*.

The *Guidelines* are also consistent with the *Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and the Beijing Consensus and Implementation Strategy*, 2000 (TG) and the *Manual of Procedures* for the implementation of the TG (2001). The *OIE Aquatic Animal Health Code* (Ninth Edition, 2006) and *Manual of Diagnostic Tests for Aquatic Animals* (Fifth Edition, 2006) have been used in the development of the SOPs.

The SOPs also complement the national responsibilities under existing international standards for management of food safety and residues (for instance, *Codex Alimentarius*) and other environmental considerations (for instance, *CITES*).

The first step in developing the SOPs was to develop an inventory of the countries' current practices. This took place in early 2006. The First Policy Workshop was held in Bangkok, Thailand in April 2006 where all 10 ASEAN countries were represented. At the Workshop, a draft Table of Contents for the SOPs was developed, tasks were allocated, and leaders and members of four working groups were selected. ASEC and NACA briefed ASWGFi on the progress at its meeting in Manila, Philippines in June 2006.

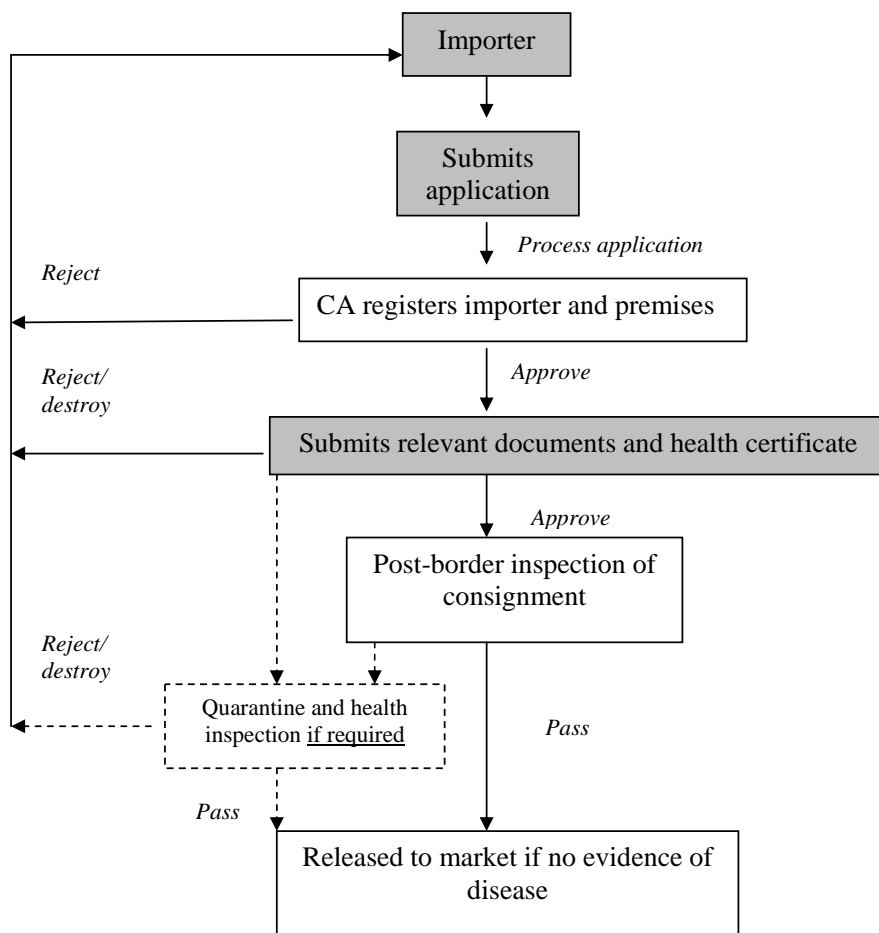
Following that, a leaders' workshop was conducted in Johor Bahru, Malaysia in September 2006 where the first draft of the SOPs was developed. The draft was circulated to the working group members for consideration and comments and the ASWGFi members for information before the Second Policy Workshop which was held in the Philippines in February 2007. The Final Draft SOPs were approved at the Workshop.

5. Flow-chart of the Export and Import Process

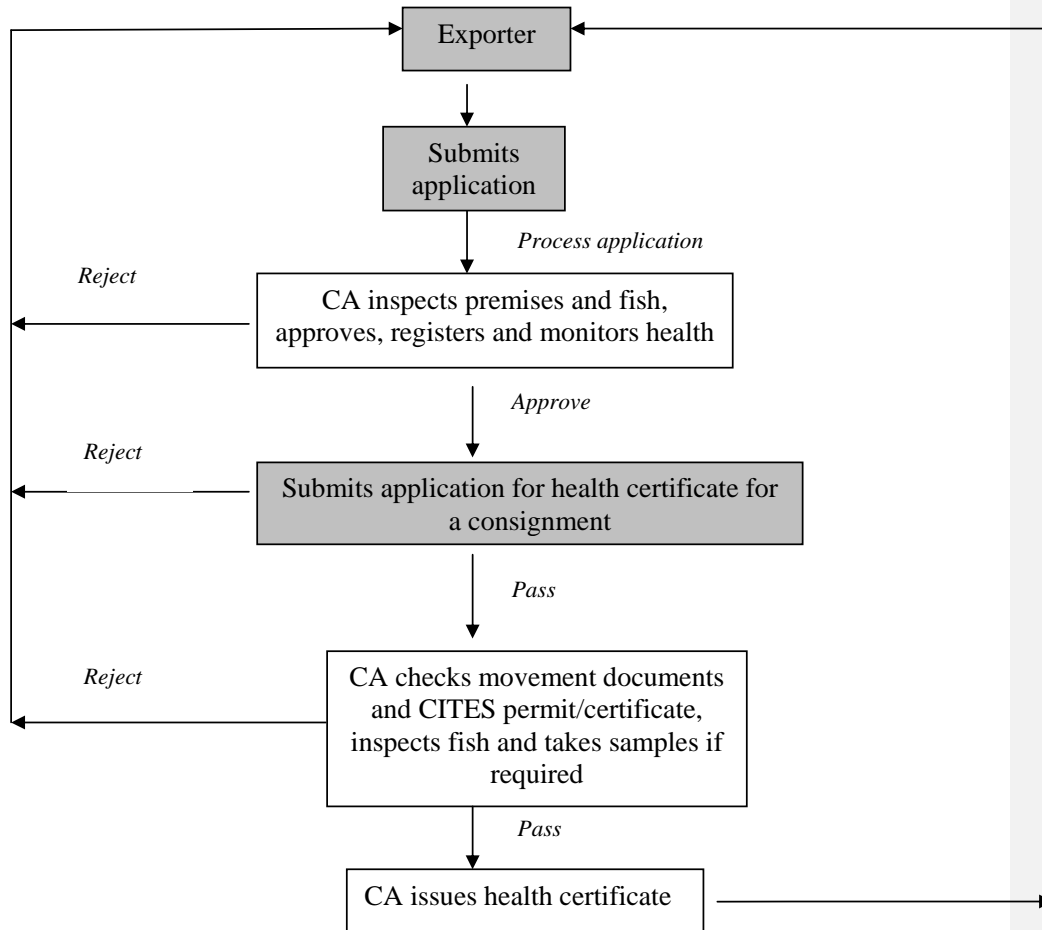
The following charts describe the typical process that is undertaken in the export and import of Live Food Finfish (LFF) in ASEAN and has been adapted and modified from the models in the *General Guidelines on Responsible Movement of Live Food Fin Fish*.

(Note: Shaded boxes denote actions by importers and exporters.)

Flow-chart for the Quarantine and Health Certification Procedures of Imported Live Food Finfish



Flow-chart for the Procedures in the Issuance of Health Certificate for Export of Live Food Finfish



6. Competent Authority

A Competent Authority (CA) should be responsible for the following:

- a) Technical and diagnostic capacity.
- b) Implement quarantine.
- c) Import/export registration.
- d) Coordinate with other relevant agencies.
- e) Approve third party service provider (laboratory, quarantine facilities).
- f) Determine the national list of diseases for the purpose of disease control in aquatic animals.
- g) Maintain high levels of technical competence.
- h) Report to, notify and communicate with OIE and other ASEAN countries.
- i) Issue health certificates that comply with importing countries' requirements.
- j) Inspect premises, animals and documents for the purpose of health certification.
- k) Right of entry to inspect premises, vehicles, trains, boats and aircraft.
- l) Collect samples for monitoring and surveillance.
- m) Seize and destroy suspected diseased fish and materials used in their transportation.
- n) Interrogate people suspected of illegal imports.
- o) Prosecute people for illegal imports.
- p) Authority to require production of movement documents.
- q) Traceability and audit of compliance.
- r) Maintain a current list of species for which a CITES permit/certificate is required.

7. Communication

7.1 The Competent Authority (CA) should actively communicate with the following stakeholders about the management of diseases associated with the movement of LFF:

- Importers, distributors and retailers.
- Producers, suppliers and exporters.
- Suppliers and other service providers to fish farms.
- Staff of the CA, especially inspection and quarantine personnel.
- Relevant national government agencies, academic and research institutions.
- Other ASEAN CAs bilaterally and multilaterally through ASWGFi.

7.2 The CA should advise national stakeholders about:

- Disease prevention and control for listed diseases in Appendix C.
- New or amended laws and regulations.
- Procedures for import and export registration.
- Outbreaks of listed diseases, unusual and new diseases, and actions being taken.
- Requirement to notify serious endemic, exotic or unusual diseases.
- Recognition of transboundary aquatic animal diseases.
- LFF that are prohibited for import and export.

7.3 The CA should notify other ASEAN CAs and other relevant international organisations such as OIE and NACA about:

- Current laws and regulations regarding import and export.
- Outbreaks of listed diseases, unusual and new diseases, and actions being taken.
- LFF that are prohibited for import and export.
- Procedures for recalling consignments after export.
- Information on current or proposed risk analyses for LFF.
- Contact person(s) for LFF import and export matters.

8. Diseases Covered by the SOPs

The criteria for the inclusion of diseases in Appendix A is that a disease is an economically important pathogen to the trade of LFF in ASEAN, taking into consideration the OIE-listed diseases and NACA/FAO-listed diseases for Quarterly Aquatic Animal Diseases (QAAD) Reporting.

The occurrence of the disease in the species has been confirmed by the CA by Level II for bacterial and fungal diseases and Level III for viral diseases, and reported by the CA in QAAD. This list should be updated as required.

Implementing these SOPs should reduce the risk of spreading these pathogens between countries. It should also reduce the risk of spreading some other pathogens, including emerging pathogens.

Although some of these pathogens have been reported from many ASEAN countries, it is still in the interest of aquatic animal health in ASEAN countries to prevent further introductions where possible.

Surface bacterial infections and infestations by ectoparasites and fungi should normally be treated in the preparation of LFF for export and are not considered a serious risk.

9. Diagnostic Standards and Capability

- 9.1 The Competent Authorities (CAs) of both exporting and importing countries should implement the following agreed procedures for disease investigation and testing for the purposes of health certification and investigating suspected diseases.
- 9.2 These SOPs provide information that should be used by the inspectors, quarantine officers and supporting laboratories in all countries for the diagnosis of listed diseases at Level I as the minimum standard.

Table of Aquatic Animal Health Diagnostic Levels

LEVEL	SITE	ACTIVITY
I	Field	Observation of animals and the environment Clinical examination Gross pathology
II	Laboratory	Parasitology (microscopy) Bacteriology Mycology Histopathology
III	Laboratory	Virology Electron microscopy Molecular biology (PCR) Immunology

- 9.3 The CAs should develop and disseminate Level I disease information sheets or cards in the local languages containing the information in Appendix C and supplemented with photographs of typical gross findings.
- 9.4 Countries with the capability to undertake high level (Level II and III) diagnostics may apply these techniques and tests where appropriate. Information to support Level II and III diagnostics should be accessed from *OIE Aquatic Animal Diagnostics Manual*, *Asian Diagnostic Guide* and *AAPQIS*.

10. Registration of Importer and Exporter

The Competent Authority (CA) should set the requirements for the registration of importers and exporters of LFF consistent with the following standards:

10.1 Importers

- Business registration with relevant government authority.
- Registration with trade or customs authority, where required.
- Inspection of registered premises and/or quarantine facilities.
- Written application including a list of countries from which LFF should be imported, routes of entry, handling, holding and distribution facilities, expected volume or number of consignments and species of LFF to be imported per annum.
- Declaration that fish imported under this registration should be used only as LFF and should not be diverted to any other purposes.

10.2 Exporters

- Business registration with relevant government authority.
- Registration with trade or customs authority, where required.
- Inspection of premises for location, water quality, fish handling facilities, quarantine facilities and other fish that are present.
- Written application including proposed countries of destination, exit points, handling, holding and transport facilities, expected number of consignments and species to be exported per annum.

10.3 A model form for the Application for Registration as Importer/Exporter of LFF is in Appendix D.

11. Health Certification for Live Food Finfish

Health certification should be based on the certification of consignments. In future, standards may be developed for health certification of production facilities.

11.1 The Competent Authority (CA) should:

- Establish clearly defined mechanisms to receive, process and consider applications for issuance of *Health Certificates* (HC) for the export of LFF that also satisfy traceability requirements.
- Determine conditions for issuing, suspending, cancelling or refusing a HC.
- Advise importers and exporters of the process.
- Have the power to issue HCs based on inspection of premises and/or consignments.
- Appoint technically qualified inspectors to inspect premises and/or consignments for the purpose of HC.

- 11.2 The Health Certificate should comprise the following details:
- A unique reference number.
 - Name, address, contact details and registration number of exporter.
 - Name, address and country of importer.
 - Location(s) of production or capture.
 - Country and place of trans-shipment (if appropriate).
 - Mode of transport.
 - Species identification, mass, quantity or number, and whether captured or cultured.
 - Declaration by CA of the health status including:
 - Date and place of the inspection of consignments.
 - Inspection and test results for the listed diseases.
 - Statement that the fish in the consignment are free from signs or other evidence of listed diseases and are healthy.
 - Date and place of issue, signatory and official stamp of CA.
 - Maximum period for certification before export should be 3 days.
 - Maximum period for validity of HCs should be 10 days. CAs may require shorter period where appropriate.
- 11.3 A model Health Certificate is in Appendix E.

12. Transportation Requirements

- 12.1 Fish should be transported in containers at appropriate stocking densities and with adequate high quality water and oxygenation to maintain the particular species.
- 12.2 The CA should ensure that people involved in the transport of LFF dispose of waste water and sick or dead fish so as not to transmit the pathogen to wild or farmed fish. This may require disinfection before proper disposal.
- 12.3 For transport by air, it should comply with the International Air Transport Association (IATA) requirements (in Appendix G).

13. Requirements at the Point of Export

- 13.1 Quarantine officers of the Competent Authority (CA) should require the following documents prior to export:
- a) Permit to export consignment, issued by the relevant authority of the exporting country.
 - b) Health certificate, issued by the CA.
 - c) CITES permit/certificate, where applicable.
 - d) Trans-shipment report, where applicable.

14. Requirements at the Point of Import

- 14.1 Quarantine officers of the Competent Authority (CA) should require the following documents prior to clearing the consignment.
- a) Permit to import consignment, issued by the relevant authority.
 - b) Health certificate, issued by the CA of the exporting country.
 - c) CITES permit/certificate, where applicable.
 - d) Trans-shipment report, where applicable.
- 14.2 Quarantine officers of the CA should also visually inspect the consignment for evidence of disease.
- 14.3 Where the consignment meets the requirement of the importing CA, the consignment should be cleared.
- 14.4 Where the consignment does not meet the requirements, the CA should consult with the parties concerned, after which the consignment should be:
- a) seized and placed in quarantine, or
 - b) destroyed, or
 - c) returned to the exporting country.
- 14.5 An approved government or private quarantine premises should meet the standards outlined in Appendix H.
- 14.6 Animals may be held in quarantine during which time the animals should be inspected and tested to rule out the listed diseases.
- 14.7 If evidence of disease is detected in the quarantine, the consignment should be destroyed or returned to the exporting country following consultation with the relevant parties.
- 14.8 If there is no evidence or suspicion of disease, the consignment should be cleared.

15. Requirements for Trans-shipment

This section refers to the movement of Live Food Finfish (LFF) from the exporting country to the final destination, and LFF being unloaded and reloaded in third country, and the standards that should be met in the trans-shipping country.

- 15.1 Trans-shipped Consignments should remain under the control of the Competent Authority (CA) in the designated area at the port of entry or exit.
- 15.2 Where Consignments remain in the original vessels or shipping containers, or where the integrity of the Containers remains intact, no further action should be taken.
- 15.3 Where Consignments are removed from shipping containers or other packaging, they should be examined by the relevant authority to determine if the Containers are intact and have remained sealed. Where the Containers are intact, it may be opened by the agent or CA for the purposes of aeration or water change.
- 15.4 Where the Container is not intact, the CA should:
 - Consult with the responsible agent about the action to be taken.
 - Inspect the Consignment on-site to ensure that it is fit for onward movement.
 - Ensure that the following steps are undertaken:
 - Re-package in new or disinfected, clean Containers that are refilled with high quality water appropriate for the particular species, re-aerated with oxygen, and officially sealed and stamped and marked as re-packed.
 - Properly dispose of or disinfect sick and dead fish, used packaging material and water.
 - Issue trans-shipment report that should include fault detected, action taken, date, place, and signature of the CA.
- 15.5 Where fish are transported by land or sea in open Containers, the CA should inspect the Consignment and documents at the points of entry and exit and may secure the Container to ensure the integrity of the shipment.
- 15.6 Where water is replaced or supplemented, only high quality water appropriate for the particular species should be used and waste water should be properly disposed of.
- 15.7 No fish from the transit country should be added to the Consignment.
- 15.8 Where the fish are found to be diseased or are suspected to be diseased, the CA and interested parties should be consulted and the fish should be destroyed or returned to the exporter.

15.9 The CA should facilitate international and transit transport operations among Member Countries that are consistent with *Protocol 8 on Sanitary and Phytosanitary Measures to Implement the ASEAN Framework Agreement on the Facilitation of Goods in Transit* (Appendix F).

16. Management of Risk and Auditing in the Importing Country

16.1 The Competent Authority (CA) should take steps to minimise the risks of imported Live Food Finfish (LFF) being diverted to be used for purposes other than human consumption (for instance, as broodstock, recreational or ornamental fish or for exhibition and research) by:

- Including a clear declaration on the application to import that the fish should be used for human consumption only.
- Requiring importers to maintain a register of each consignment which should be inspected by the CA.
- Auditing the register.

16.2 The Importer's register should be maintained for 3 years and comprise the following data for each consignment:

- Health Certificate (HC) reference number.
- Name of exporter and country of origin.
- Dates of arrival and release.
- Mass, quantity or number of each fish species.
- Names and addresses of people whom the importer distributed the fish to.

16.3 The CA should ensure that the importers undertake the following measures to minimise the risk of contamination of wild and farmed fish and waterways:

- Sterilisation and safe disposal of waste water.
- Disinfection of equipment.
- Disposal of sick or dead fish.
- Disposal of container or packing material.

16.4 In the event of an outbreak, the CA should implement a contingency plan.

17. Reference and Resource Documents

AAPQIS (Aquatic Animal Pathogen and Quarantine Information System). 2004. *Food and Agriculture Organization of the United Nations*. Rome, Italy. <http://www.aapqis.org>.

Anonymous. 2004. The International Standard for the Trade in Live Reef Food Fish. Issue 1 July 2004. 13 p.

AQIS, 1999. Conditions for the importation of live freshwater ornamental finfish into Australia. Australian Quarantine and Inspection Service, Department of Agriculture, Fisheries and Forestry, Canberra.

Bondad-Reantaso, M.G., McGladdery, S.E., East, I. and Subasinghe, R.P. (Eds.) (2001). Asia Diagnostic Guide to Aquatic Animal Diseases. *FAO Fisheries Technical Paper No. 402*, Supplement 2. Rome, FAO. 240 p.

Department of Fisheries Malaysia. *Manual on Good Management Protocol for Live Fish Movement*. Aquaculture Division. Ministry of Agriculture and Agro-based Industry Malaysia. (Final Editing 2006).

General Guidelines on Responsible Movement of Live Food Fin Fish. February 2003, Penang, Malaysia (Unpublished report to ASWGF).

FAO/NACA. 2000. Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and the Beijing Consensus and Implementation Strategy. *FAO Fisheries Technical Paper No. 402*. Rome, FAO. 2000. 53 p.

FAO/NACA. 2001. Manual of Procedures for the Implementation of the Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals. *FAO Fisheries Technical Paper 402. Suppl. 1*. Rome, FAO. 2001. 106 p.

OIE (2006a). Aquatic Animal Health Code. Ninth Edition. World Organisation for Animal Health, Paris, France. 210 pp. (Accessed on 18 September 2006 from http://www.oie.int/eng/normes/en_acode.htm).

OIE (2006b). Manual of Diagnostic Tests for Aquatic Animals. Fifth Edition. World Organisation for Animal Health, Paris, France, 470 pp. (Accessed on 18 September 2006 from http://www.oie.int/eng/normes/en_acode.htm).

WTO (1998). Understanding the WTO Agreement on Sanitary and Phytosanitary Measures. (Accessed on 20 September 2005 from http://www.wto.org/english/tratop_e/sps_e/spsund_e.htm).

SEAFDEC AQD Philippines (2001) *Husbandry and Health Management of Grouper*. for the APEC Fisheries Working Group 01/ 2000.

APPENDIX A

List of Diseases for the Purpose of Standard Operating Procedures

The criteria for the inclusion of diseases in this list is that a disease is an economically important pathogen to the trade of Live Food Finfish (LFF) in ASEAN, taking into consideration the OIE-listed diseases and NACA/FAO-listed diseases for Quarterly Aquatic Animal Diseases (QAAD) Reporting.

The occurrence of the disease in the species has been confirmed by the CA by Level II for bacterial and fungal diseases and Level III for viral diseases, and reported by the CA in QAAD.

Disease	Host Species
<p>Viruses: 1. Viral Nervous Necrosis (VNN) Disease <i>Syn:</i> Viral Encephalopathy and Retinopathy (VER)</p>	<p>To date, the disease has been reported in at least 30 fish species, with the greatest impact in:</p> <ol style="list-style-type: none"> 1. Sea bass (<i>Lates calcarifer</i>) 2. All Groupers (reported in <i>Epinephelus akaara</i>, <i>E. fuscogutatus</i>, <i>E. malabaricus</i>, <i>E. moara</i>, <i>E. septemfasciatus</i>, <i>E. tauvina</i>, <i>E. coioides</i> and <i>Cromileptes altivelis</i>) 3. Jack (<i>Pseudocaranx dentex</i>) 4. Parrotfish (<i>Oplegnathus fasciatus</i>) 5. Puffer (<i>Takifugu rubripes</i>) 6. Flatfish (<i>Verasper moseri</i>, <i>Hippoglossus hippoglossus</i>, <i>Paralichthys olivaceus</i>, <i>Scophthalmus maximus</i>)
<p>2. Grouper Iridoviral Disease <i>Syn:</i> Sleepy Grouper Disease (SGD) Grouper Iridovirus (GIV) Grouper Iridovirus of Taiwan (TGIV) Singapore Grouper Iridovirus (SGIV)</p>	<ol style="list-style-type: none"> 1. All Groupers (reported in <i>Epinephelus coioides</i>, <i>E. tauvina</i>, <i>E. awoara</i>, <i>E. malabaricus</i>, <i>E. akaara</i> and <i>Cromileptes altivelis</i>) 2. Seabass (<i>Lates calcarifer</i>)
<p>3. Koi Herpesvirus Disease (KHVD)</p>	<p>Common carp (<i>Cyprinus carpio</i>)</p>
<p>4. Grass Carp Reovirus (GCRV) Disease <i>Syn:</i> Grass Carp Hemorrhagic Virus (GCHV) Fish Reovirus (FRV)</p>	<ol style="list-style-type: none"> 1. Grass carp (<i>Ctenopharyngodon idella</i>) 2. Black carp (<i>Mylopharyngodon piceus</i>) 3. Topmouth gudgeon (<i>Pseudorasbora parva</i>) <p>Suspected Host/Transient Carriers</p> <ol style="list-style-type: none"> 1. Bighead carp (<i>Aristichthys nobilis</i>) 2. Silver carp (<i>Hypophthalmichthys molitrix</i>) 3. Golden carp (<i>Carassius auratus</i>) 4. Common carp (<i>Cyprinus Carpio</i>)

<p>Bacterial</p> <p>5. Streptococcosis.</p>	<ol style="list-style-type: none"> 1. Tilapia (<i>Oreochromis nilotica</i>, <i>O. mossambica</i>) 2. Common carp (<i>Cyprinus carpio</i>) 3. Rabbitfish (<i>Siganus canaliculatus</i>) 4. Grouper (<i>Epinephelus malabaricus</i>, <i>E. bleekeri</i>)
<p>Fungal</p> <p>6. Epizootic Ulcerative Syndrome (EUS)</p>	<ol style="list-style-type: none"> 1. All Snakehead 2. All Catfish 3. Some Carps 4. Silver barb (<i>Puntius gonionotus</i>)

APPENDIX B

Standard Procedures for Inspection and Sampling

The Standard Procedures for Inspection and Sampling have been developed taking into consideration the sampling methods described by the OIE in the *Manual of Diagnostic Tests for Aquatic Animals 2006*.

1. Visual Inspection

- Where the fish can be easily seen in the containers (including ponds and tanks), conduct close visual examination and look for Level I diagnostic features of listed diseases as described in Appendix C.
- Where fish cannot be seen clearly, containers should be moved to where it can be visually examined.
- Where the container is open or unsealed, the CA should require the person responsible for the consignment to present the fish for visual examination.

2. Sampling and Diagnosis when Disease is Suspected

- A number of the most severely affected fish should be collected.
- Fish should be alive when collected.
- For bacteriology and mycology, fish should be sent to the laboratory alive.
- For virology, fish may be killed and the whole fish or its organs packed separately in sealed aseptic refrigerated containers or on ice, and immediately submitted to the laboratory.
- If necessary, organs samples can be aseptically collected and preserved in 10% formalin for histopathology and 95% ethyl alcohol for PCR.
- A label that identifies the consignment, and the place and time of sampling must be attached to the sample.
- The CA should provide a statement of the number and description of collected fish to the person responsible.
- The CA should ensure that the examination of the samples (at Level II and III as appropriate) and reporting of the results should be finalised as quickly as possible, so as not to cause unnecessary delay to the import/export process.

Comment [A1]: Or "sample"

**Methodology for Disease Detection and Diagnosis
Presumptive Diagnosis-Level I: Gross Observations**

VIRUSES

1. Viral Nervous Necrosis (VNN)

- Abnormal swimming behaviour, especially cork-screw swimming.
- Bloatedness (swim-bladder inflation) in juvenile of the host species.
- Mortalities.
- Different species show different gross clinical signs. Non-feeding, weight loss and colour changes in association with behavioural abnormalities should be considered as suspicious.

2. Grouper Iridoviral Disease

- Extreme lethargy.
- Few visible external signs except for darkened body colour.
- High mortality rates in all age groups including marketable sized grouper.
- Enlarged spleen and kidney.

3. Koi Herpesvirus Disease (KHVD)

- Disorientation, erratic swimming behaviour and mass mortality.
- Pale/irregular colouration of the gills and skin.
- Severe gill necrosis.
- Superficial branchial and skin haemorrhages.
- Occasionally sunken eyes and congestion of fins.
- Ulceration of the skin.

4. Grass Carp Reovirus

- Exophthalmia.
- Dark body colour.
- Haemorrhages at the base of fins, gill covers and mouth cavity.
- Internally, haemorrhages throughout the musculature.
- Enteritis (red intestine).
- Haemorrhagic gills or pale gills.
- Haemorrhages in organs such as liver, spleen, kidney and intestine.

It is important to distinguish the disease from bacterial red spot disease in grass carp and other bacterial enteritis. Mixed infection with bacteria or secondary bacterial infection can often lead to similar clinical and pathological changes.

BACTERIAL

A. *Streptococcus* sp.

Clinical signs vary among the species of affected fish. The most common signs are:

- Erratic swimming.
- Darkening of body colour.
- Exophthalmia ('pop' eyes) and corneal opacity.
- Haemorrhages on the opercula and the bases of the fins.
- Ulceration of body surface.
- Areas particularly affected are the dorsum, just anterior to the caudal peduncle, the operculum, and around the mouth.
- Lesions are frequently seen in the anal area, involving the anal fin and also the vent itself.
- The liver is generally pale with numerous areas of focal necrosis, while the spleen is enlarged with rounded edges.
- The heart often manifests pericarditis and the peritoneal cavity is often distended with blood tinged serous exudates.
- Liquid intestinal content.

FUNGAL

1. Epizootic Ulcerative Syndrome (EUS)

Outbreaks have been associated with the mass mortality of various species of freshwater fish in the wild (including rice-fields, estuarine, lakes and rivers) and in the farms, especially in snakeheads and mullet.

The signs of the disease include:

- Fish becomes darker.
- Infected fish may float below the surface of the water, and become hyperactive with a very jerky pattern of movement.
- Red spots may be observed on the body surface, head, operculum or caudal peduncle.
- Large red and grey shallow ulcers, often with brown necrosis, are observed in the later stages.
- Large superficial hemorrhagic lesions occur on the flank or dorsum.
- Fungal hyphae may be seen in lesions in advanced stages.

In highly susceptible species such as snakehead, the lesions are more extensive and can lead to complete erosion of the posterior part of the body, or to necrosis of both the soft and hard tissues of the cranium, so that the brain is exposed in the living animal.

APPENDIX D

**Model Application for Registration
as an Importer or Exporter of Live Food Finfish**

1. Type of Application (✓)

Exporter:	Producer	Collector	Agent
Importer:	Wholesale	Retailer	Agent

2. Applicant

Name of Applicant			
Address		Contact Number	
		Telephone	
		Facsimile	
Contact Person		E-mail	
Business Registration No.		Trade/Customs Registration No.	

2. Species to be Imported/Exported*

Species	Source (wild / culture)	Countries	Volume/Number of consignments per annum	Entry/Exit* points

* Delete as necessary

3. Description and Location of Handling, Holding and Distribution Facilities

4. Declaration by Applicant

I, the undersigned, being an authorised representative of the applicant declare that the above information is correct.

I also declare that fish that are imported under this registration should be used only for immediate human consumption and should not be diverted to any other purposes.

Signature	
Name	
Date	

5. Receipt of Application by Representative of CA

Name	
Designation	
Signature	
Date	
Reference No.	

APPENDIX E

**Model Health Certificate
for Movement of Live Food Finfish within ASEAN**

HC No: _____

1. Country of Origin

Name of Country		Registration Number	
Name of exporter		Contact Number	
Address		Telephone	
		Facsimile	
		E-mail	

2. Country of Destination

Name of Country			
Name of importer		Contact Number	
Address		Telephone	
		Facsimile	
		E-mail	

3. Country and Place of Trans-shipment (if applicable)

Name of Country		Entry point	
Mode of Transport		Exit Point	

4. Species Identification, Mass Quantity or Number, Captured or Cultured

Species	Source (wild/cultured)	Location of source	Number (pieces)	Weight (kg/tonnes)

5. Certification by CA of Health Status

I, the undersigned, certify that the Live Food Finfish in the present consignment have been examined and recognised as officially unaffected by the following diseases for which they are susceptible to (refer to Appendix A attached):

Name of the Disease	Inspected (✓) or Not Applicable (NA)	Level of Diagnosis
1. Viral Nervous Necrosis (VNN)		
2. Grouper Iridoviral Disease		
3. Koi Herpes Virus (KHV) Disease		
4. Grass Carp Reovirus (GCRV) Disease		
5. Streptococcosis		
6. Epizootic Ulcerative Syndrome (EUS)		
7. Other Diseases:		

This certificate is valid for a maximum of 10 days from the date of issuance.

Official Service Institution		On	
Competent Authority (Seal, Stamp and Signature)	Signature		
	Name		
	Title and Qualification		

PROTOCOL 8

**Sanitary and Phytosanitary Measures
to Implement the ASEAN Framework Agreement on
the Facilitation of Goods in Transit**

The Governments of Brunei Darussalam, the Kingdom of Cambodia, the Republic of Indonesia, Lao People’s Democratic Republic, Malaysia, the Union of Myanmar, the Republic of the Philippines, the Republic of Singapore, the Kingdom of Thailand and the Socialist Republic of Viet Nam, Member States of the Association of Southeast Asian Nations (hereinafter referred to as “**Contracting Parties**”);

RECALLING the ASEAN Framework Agreement on the Facilitation of Goods in Transit signed on 16 December 1998 in Ha Noi, Viet Nam (hereinafter referred to as “**the Agreement**”);

RECOGNISING that Articles 19, 22 and 25 thereof provide for the conclusion of implementing Protocols which shall form integral parts of the Agreement;

RECALLING further the Ha Noi Plan of Action which was adopted by the Heads of State/Government of ASEAN at the Sixth ASEAN Summit in Ha Noi, Viet Nam on 15-16 December 1998 stipulates to operationalise the Agreement by the year 2000;

DESIRING to encourage and facilitate inter-state and transit transport operations among the Contracting Parties;

REITERATING that the conclusion of this Protocol shall provide for the efficient and effective arrangement for transit trade among the Contracting Parties;

NOW, WHEREFORE, the Contracting Parties have agreed as follows:

Article 1 Definitions

1. For the purpose of this Protocol:

a) “Goods” mean:

- any plant, plant product or any other object or material capable of harbouring or spreading plant pests;
- any animal, including aquatic animal, animal product or any other object or material capable of harbouring or spreading animal diseases and zoonoses; and
- foods, beverages and feedstuffs capable of containing additives, contaminants, toxins or disease-causing organisms harmful to human or animal life or health,

other than those goods which are prohibited or restricted for movement in the territories of a Contracting Party as specified under any of the other Protocols of the ASEAN Framework Agreement on the Facilitation of Goods in Transit.

b) “Sanitary and Phytosanitary measures” mean any measures applied:

- to protect animal or plant life or health within the territory of the Contracting Party from risks arising from the entry, establishment or spread of pests, diseases, disease-carrying organisms or disease-causing organisms;
- to protect human or animal life or health within the territory of the Contracting Party from risks arising from additives, contaminants, toxins or disease-causing organisms in foods, beverages or feedstuffs;
- to protect human life or health within the territory of the Contracting Party from risks arising from diseases carried by animals, plants or products thereof, or from the entry, establishment or spread of pests; or
- to prevent or limit other damage within the territory of the Contracting Party from the entry, establishment or spread of pests.

Sanitary or phytosanitary measures include all relevant laws, decrees, regulations, requirements and procedures including, *inter alia*, end product criteria; processes and production methods; testing, inspection, certification and approval procedures; quarantine treatments including relevant requirements associated with the transport of animals or plants, or with the materials necessary for their survival during transport; provisions on relevant statistical methods, sampling procedures and methods of risk assessment; and packaging and labeling requirements directly related to food safety.

Article 2
Scope of Application

1. The provisions of this Protocol apply to the transit of goods in the territories of the Contracting Parties, particularly where transit among ASEAN Member States which are parties to this Protocol is involved.

Article 3
Obligations

1. Pursuant to Article 19 of the Agreement, the Contracting Parties hereby agree that the laws, regulations, and procedures for the transit of goods in their respective territories shall be listed in the Annex to this Protocol. In the enforcement of their SPS measures, the Contracting Parties agree to be guided, where possible, by relevant standards, guidelines and recommendations developed by international and regional organisations such as the Codex Alimentarius Commission, the International Office of Epizootics, the International Plant Protection Convention (IPPC) and ASEAN.
2. The Contracting Parties hereby agree to ensure that their national sanitary and phytosanitary laws, regulations and procedures for the transit of goods in their respective territories are readily available to any interested Party. The list of national sanitary and phytosanitary laws, regulations and procedures of Contracting Parties governing the transit of particular goods in their respective territories as established under Article 3(1) is annexed to this Protocol, which is an integral part of this Protocol.
3. Each Contracting Party shall notify the ASEAN Secretariat of any change to its national sanitary and phytosanitary laws, regulations and procedures in the Annex for dissemination by the ASEAN Secretariat to all other Contracting Parties.
4. The Contracting Parties further agree to mutually consult with each other to establish bilateral, multilateral or ASEAN sanitary and phytosanitary arrangements and inspection procedures to facilitate the transit of particular goods via their territories where national sanitary and phytosanitary laws, regulations and procedures on the transit of such particular goods in their respective territories have not yet been established.

Article 4
Emergency Measures

1. Notwithstanding the obligations of the Contracting Parties contained in this Protocol, each Contracting Party may in the case of disease and pest outbreaks, take and implement appropriate emergency measures to protect the life and health of persons, animals, or plants in their territory, and the Contracting Party implementing the measures shall immediately notify

relevant Contracting Parties and the ASEAN Secretariat, of the particular measures and the products covered.

Article 5 Institutional Arrangements

1. The ASEAN Senior Officials Meeting of the ASEAN Ministers on Agriculture and Forestry (SOM-AMAF) shall be the responsible body for the monitoring, review, coordination and supervision of all aspects relating to the effective implementation of this Protocol.
2. The SOM-AMAF shall submit, through the ASEAN Secretariat, regular reports of the progress of implementation of this Protocol to the Transit Transport Coordinating Board, for further action.
3. The ASEAN Secretariat shall provide the necessary technical support and assistance to SOM-AMAF in its functions and responsibilities under this Protocol.

Article 6 Final Provisions

1. This Protocol shall be deposited with the Secretary-General of ASEAN who shall promptly furnish a certified copy thereof to each Contracting Party.
2. This Protocol shall supplement the ASEAN Framework Agreement on the Facilitation of Goods in Transit signed on 16 December 1998 in Ha Noi, Viet Nam and, as between the Contracting Parties to this Protocol, the Agreement and this Protocol shall be read and interpreted together as one single instrument.
3. This Protocol is subject to ratification or acceptance by the Contracting Parties. The Instrument of Ratification or Acceptance shall be deposited with the Secretary-General of ASEAN who shall promptly inform each Contracting Party of such deposit.
4. This Protocol shall enter into force upon the deposit of Instruments of Ratification or Acceptance by all Contracting Parties with the Secretary-General of ASEAN.
5. Any amendment to the provision of this Protocol shall be effected by consent of all the Contracting Parties.

IN WITNESS WHEREOF, the undersigned, being duly authorised to sign by their respective Governments, have signed this Protocol No. 8 on Sanitary and Phytosanitary Measures to Implement the ASEAN Framework Agreement on the Facilitation of Goods in Transit.

DONE at Phnom Penh on this 27th day of October 2000 in a single copy in the English language.

APPENDIX G

International Air Transport Association (IATA) Requirements for Live Fish

*Source: http://www.iata.org/whatwedo/live_animals/index.htm
Last referenced: 1 September 2006*

- IATA regulations prohibit travel times of more than 48 hours for live fish.
- Anesthetic use is not approved for live food finfish.
- When shipping live fish, the International Airline Transportation Association (IATA) rules call for the filing a Shipper's Certification for Live Animals in duplicate.
- To ensure that wildlife trade is carried out in accordance with the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) treaty, an export permit must be issued for each shipment and the scientific authority from the exporting country must have advised a management authority that the export will not be detrimental to the species in the wild.

Shipment Markings/Labelling for Live Finfish

Shipment markings and labelling should be in English in addition to the language which may be required by the importing or exporting country.

All live finfish shipments should be marked with at least one IATA live animal label and Up arrows. Finfish should be packed to survive for 48 hours transit time from the time of acceptance by the airline.

The shipper should clearly print the acceptable temperature range in Centigrade and Fahrenheit on the outside of the box in which the finfish are packed. The time and date when the finfish is packed should also be indicated.

Points to Remember:

- 1) All live finfish shipments should have at least one IATA live animal label.
- 2) The full name, address and contact number of the shipper, consignee and a 24-hour contact.
- 3) The scientific and common name of the finfish and quantity of each species contained in the container as shown on the shipper's certification.
- 4) Up arrows on all four sides of the container whenever possible.
- 5) Print acceptable temperature range in Centigrade and Fahrenheit on the outside of the box.

Country/Region of Origin:

- Gross and net weight (in kilos and pounds).
- Number of each package, size of case.
- Port of entry overseas.
- Shipper and receiver.
- Final destination and order number.

Special Packaging for Live Finfish

- Spiny finfish should be placed in an inner container of hard plastic within a polyethylene bag separated from an outer polyethylene bag by several layers of paper. Only one species should be contained per bag. The inner bag should be filled with water to approximately one third of its capacity.
- It is recommended that expanded polystyrene containers, sheets or other insulating material be used to maintain an appropriate temperature and to protect the fish from rough handling.

APPENDIX H

Standards for an Approved Quarantine Premises for Aquatic Animals

- a) The location of the approved quarantine premises is easily accessible to facilitate inspection by the Competent Authority.
- b) The quarantine premises must be located in an area free of flood, away from any other aquaculture establishments including recreational fish farms and food processing plants, and natural aquatic systems such as rivers, lakes, wetlands and reservoirs.
- c) The quarantine room or area must have a clear signage.
- d) The quarantine room or area is used exclusively for quarantine purposes.
- e) The quarantine room must be fully enclosed, and the walls and floor must be impervious and sufficiently smooth to facilitate cleaning and disinfection. Windows, if installed, must be sealed or screened against entry of insects. The door must be self-closed and fitted with insect screen or insect proof screen door.
- f) The floor must be able to contain spilt water and must facilitate complete drainage into a treatment tank or reservoir approved by the Competent Authority.
- g) The used water must be treated before discharge.
- h) Adequate facilities must be provided to disinfect all equipment used.
- i) Facilities must be provided for the staff and inspectors to wash their hands and footwear prior to entering and leaving the quarantine room.
- j) All tanks and associated equipment must be properly and clearly labelled for the purpose of inspection.
- k) All tanks must provide good visibility to facilitate inspection.
- l) The quarantine room must be lit sufficiently to permit inspection.
- m) Only authorised person(s) can access the quarantine room.