

Philippines: Aquatic Emergency Preparedness and Response Systems for Effective Management of Transboundary Diseases



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Philippine Fisheries

- 9th among the top fish producing countries in the world in 2015 with its total production of 4.5 million metric tons of fish, crustaceans, mollusks, and aquatic plants (including seaweeds). The production constitutes 2.3% of the total world production of 199.7 million metric tons (FAO website)
- 11th in the world on aquaculture production of fish, crustacean and mollusk and shared about 1.02% to the total global aquaculture production of 76.6 million metric tons, valued over \$ 1.87 million (2015)
- 3rd largest producer of aquatic plants including seaweeds of about 1.57 million metric tons, nearly 5.33% of the total world production of 29.36 million metric tons (FAO website).



Philippine Fisheries Production 2016

Aquaculture
2,200,913.29 MT

Commercial
Fisheries
1,137,931.03 MT

Municipal Fisheries
1,016,948 MT

Value=228.9 Billion Pesos

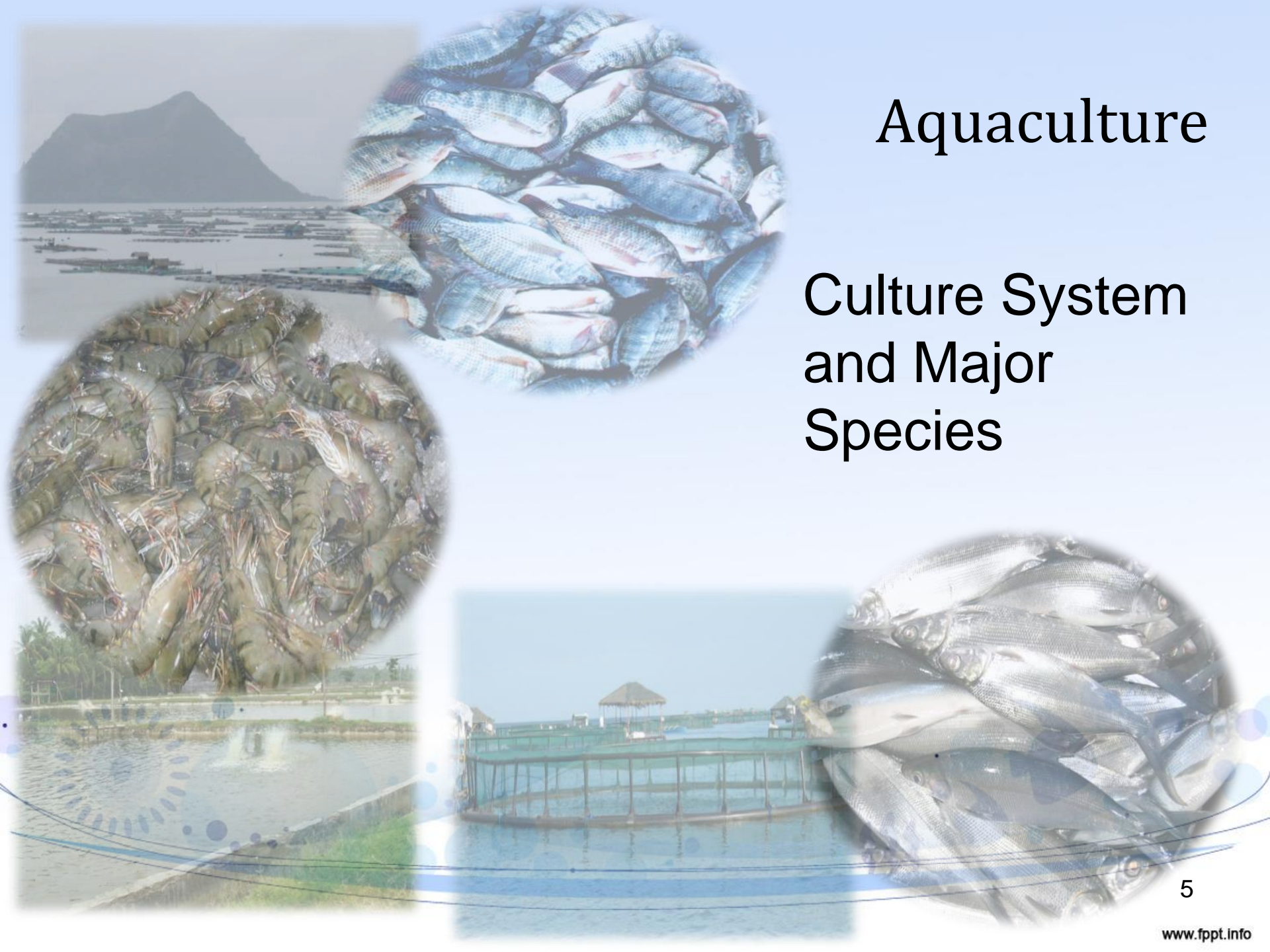
Export and Import of Fishery Products (2016)

Commodity	Export		Import	
	Quantity (MT)	FOB value ('000P)	Quantity (MT)	FOB value ('000P)
A. Fish, crustacean, mollusc, etc and preparation	204,999	34,590,159	349,954	20,138,054
Fish, fresh (live/dead), chilled/frozen	79,990	13,413,589	295,693	16,492,887
Fish, dried, salted/ brine; smoked fish	4,289	903,240	151	36,376
Crustaceans, molluscs and aquatic invertebrates, chilled/frozen	28,160	7,408,072	40,069	2,865,582
Fish and other aquatic invertebrates, prepared/ preserved	92,560	12,865,259	14,041	743,209
B. Shells and by-products	4,041	920,369	74	4,818
c. Miscellaneous fishery products and other by-products	48,179	9,863,257	34,138	2,305,314
Total	257,219	45,373,785	403,840	22,448,186

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Aquaculture

Culture System and Major Species



1. Legal Mandates

Republic Act 8550 (Philippine Fisheries Code of 1998)
giving the **Bureau of Fisheries and Aquatic Resources (BFAR)** of the **Department of Agriculture** the mandate for the development, management and conservation of fisheries and aquatic resources

Issued / Approved

**Fisheries Administrative Orders, Fisheries Office Orders
Memorandum Circulars** – to implement aquatic animal health management in the country

1.1 Implementing Rules and Regulations

Fisheries/Administrative Order/Circular	Title
Administrative Circular 03 series of 2018	Amendment to DA Administrative Order No 03 series of 2012 on Declaring the List of Notifiable Animal Diseases (<i>this include diseases of aquatic animals</i>)
FOO 241 series of 2017	Mandatory screening for Tilapia lake virus (TiLV) and issuance of Health Certificate for transboundary movement of tilapia for aquaculture purposes
FOO 112 series of 2015	Guidelines on the Health Certification of Live shrimps of all stages for transboundary movement
FGMO 04 series of 2015	Requirements for the issuance of Health Certificate for export of ornamental fish
FOO 100 series of 2015	Mandatory screening of shrimp (larvae, post larvae, juveniles, broodstock and spawners) for transboundary movement
FGMO 01 series of 2015	Submission of shrimp sample by BFAR accredited/ and registered <i>P. vannamei</i> and <i>P. monodon</i> hatcheries
BFAR Administrative Circular 251 Series of 2014	Traceability system for fish and fishery products

1.1 Implementing Rules and Regulations

Fisheries/Administrative Order Title

FGMO 03 series of 2013

Guidelines in the accreditation of *P. vannamei* and *P. vannamei* hatcheries

Administrative Order 01 series of 2012

Declaring the List of Notifiable Animal Diseases.

FGMO 02 series of 2011

Administrative guidelines and requirements on the issuance of Health Certificate for export of live aquatic animals

FAO No. 233 s. 2010

Aquatic Wildlife Conservation

FAO 225 series of 2007

Allowing the importation of the broodstock of Pacific White Shrimp, *Penaeus vannamei* and the culture of the offspring thereof.

1.1 Implementing Rules and Regulations

Fisheries/Administrative Order	Title
FAO 225-1 series of 2007	Allowing the importation of the broodstock of Pacific White Shrimp, <i>Penaeus vannamei</i> and the culture of the offspring thereof.
FAO 230 series of 2009	Allowing the importation and culture of the broodstock and post-larvae of Specific Pathogen Free/Specific Pathogen Resistant (SPF/SPR) Black Tiger Shrimp, <i>Penaeus monodon</i> and the culture of the offspring thereof.
FOO 247 series of 2006	Powers and functions of regulatory officers (Fish Inspectors, Fish Health Officers, Fisheries Quarantine Officers and Certifying Officers) for safety and quality assurance of fisheries and aquaculture products intended for human consumption
FMO 013 series of 2004	Imposition of active surveillance mechanism for all shrimp hatcheries nationwide as a part of strict implementation of the National Action Program to Control White spot syndrome virus (WSSV) in shrimp

1.1 Implementing Rules and Regulations

Fisheries/Administrative Order Title

FAO 221 series of 2003

Further regulating the importation of live fish and fishery/aquatic products under FAO No. 135 s. 1981 to include microorganisms and biomolecules.

FAO 214 series of 2001

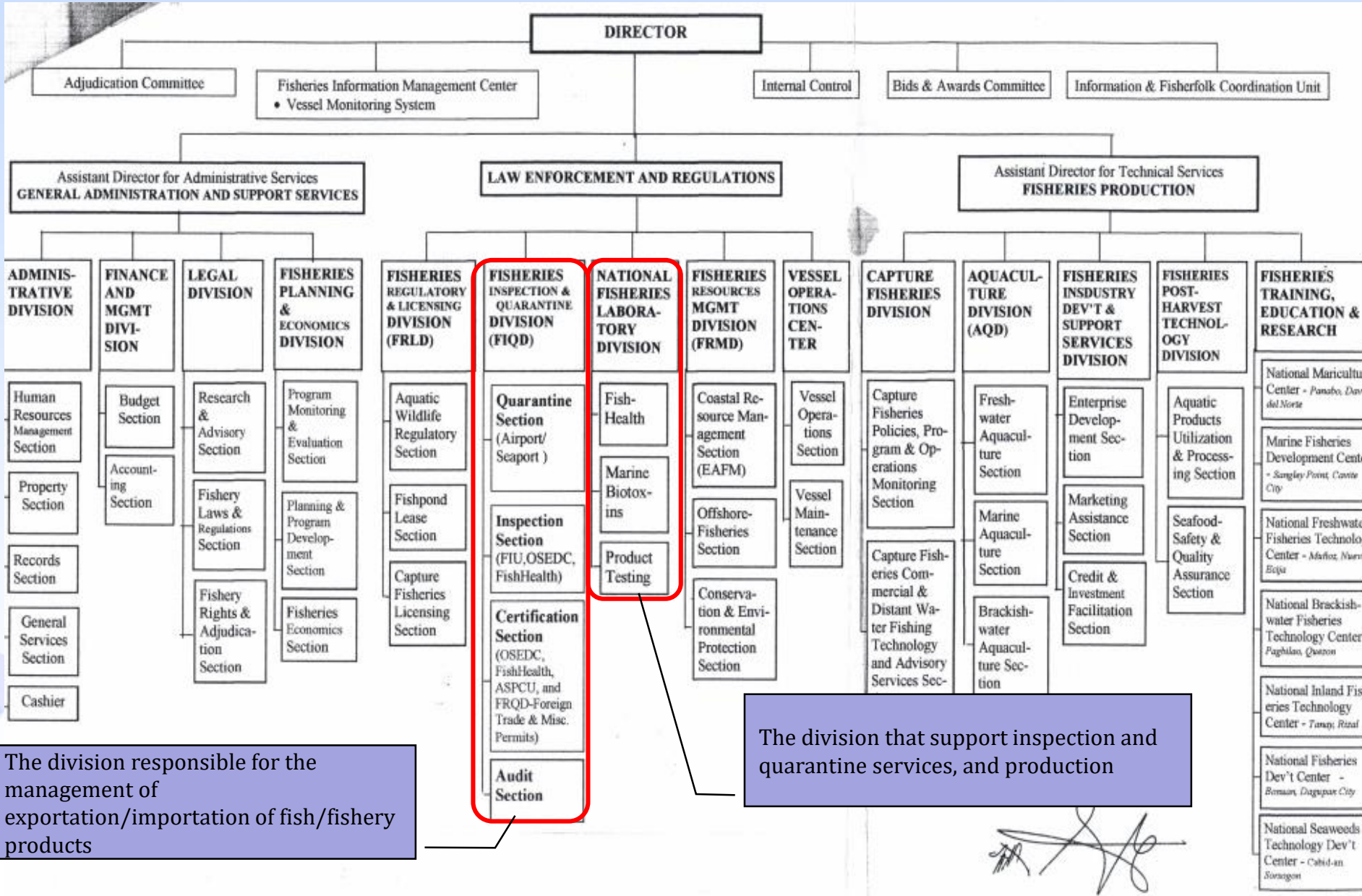
Code of Practice for Aquaculture

FAO 220 series of 2001

BFAR Fish Health Laboratories and collection of fees and charges thereof



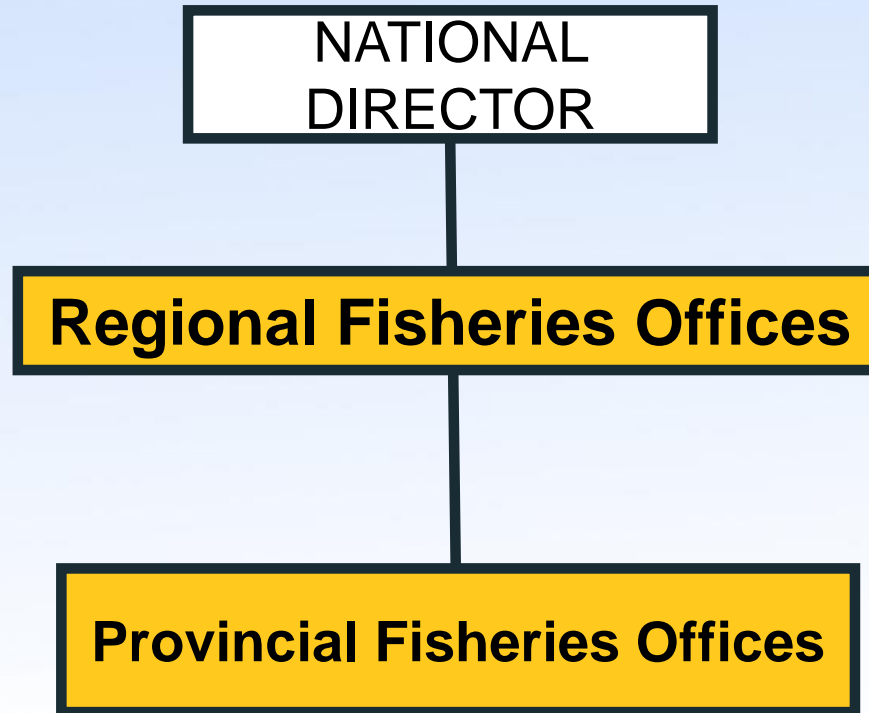
1.2 BFAR Organizational Structure - Central Office



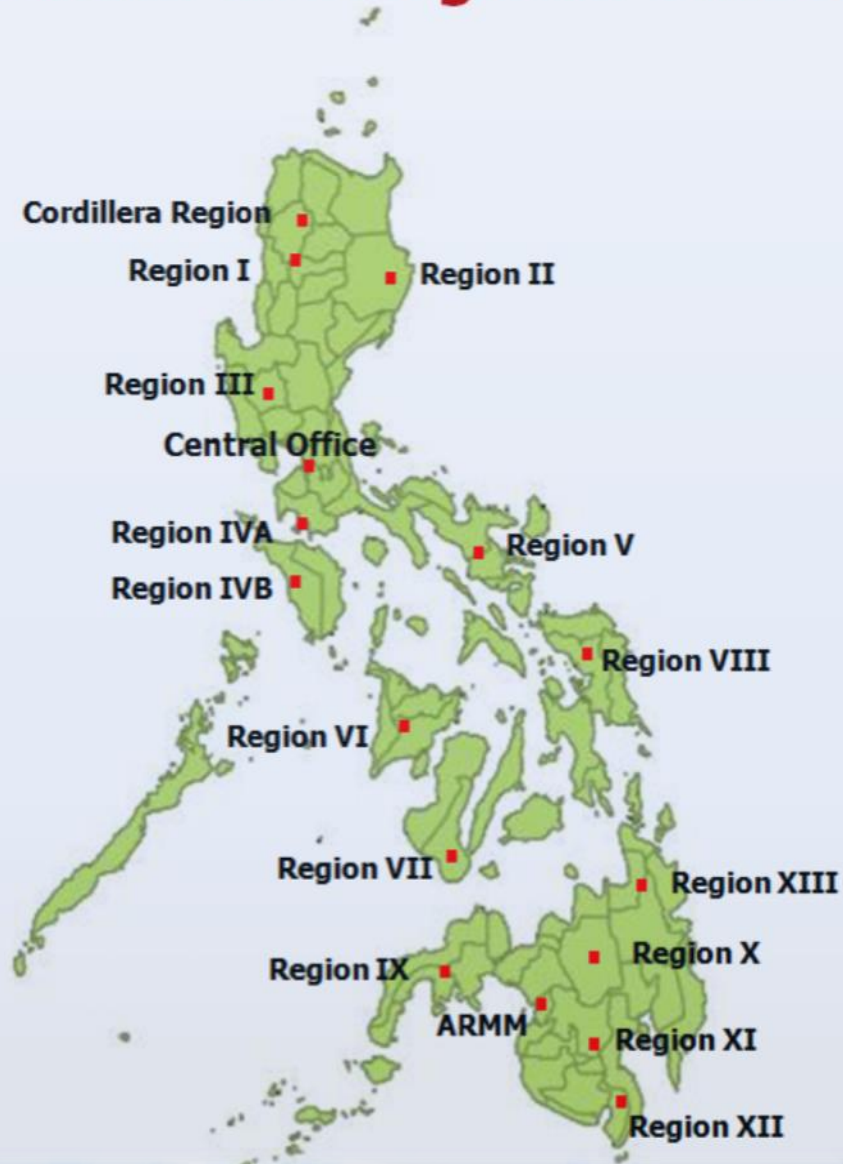
The division responsible for the management of exportation/importation of fish/fishery products

The division that support inspection and quarantine services, and production

Organizational Structure Regional Office



BFAR Central and Regional Offices



1.3 Regulatory Activities

Fisheries Inspection and Quarantine Division (FIQD)

Fisheries Quarantine Section

Conducts fisheries quarantine and quality inspection of all fish and fishery/aquatic products coming into and going out of the country by air or water transport, to detect the presence of fish pests and disease

Fisheries Inspection Section

ISO 17020, 3rd party inspection body accredited by PAB

Implements an inspection system for import and export of fisheries and aquatic products and fish processing establishments consistent with international standards to ensure product quality and safety

Fisheries Certification Section

Provides written or equivalent assurance of food and food control systems compliant to food safety requirements
Issues SPS Import Clearance, Export Commodity Clearance, Sanitary Health Certificate via Traces or paper certificate for export, Fish Health Certificate, and other special certification such as HACCP, GMP, and GAQP compliance.

Fisheries Audit Section

Conducts an independent examination of regulatory functions to determine whether activities and related results comply with planned objectives

Regulatory Activities

General Procedures/Border Control for Imported Fishery Products

Receiving and assessment of import documents from the importer



Breaking of seal and physical inspection of imported products



Resealing of container van



Document processing and release to Bureau of Customs (BOC)

Regulatory Activities

General Procedures on Application for eSPS for Imported Fishery Products by Accredited Importers

Proposed commodities as importables uploaded by client



Evaluation and approval of importables



Online application for SPS Import Clearance



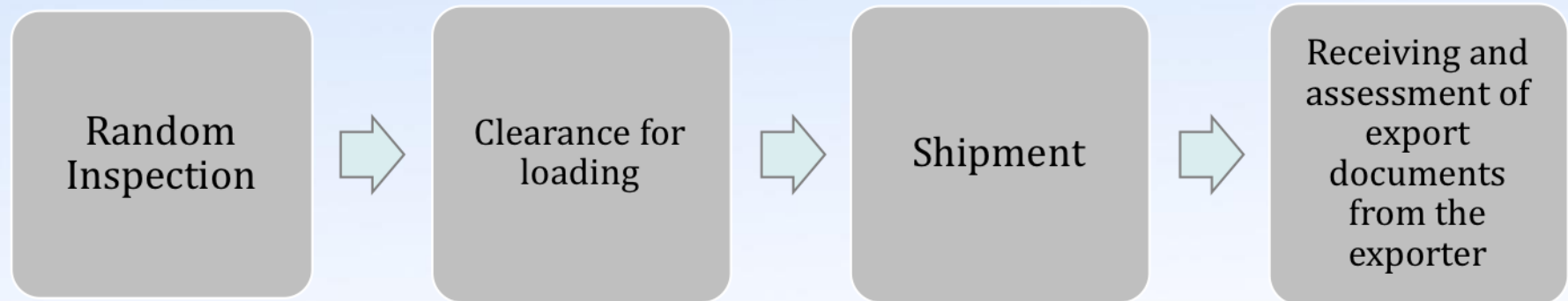
Evaluation



Approval / eSPS clearance generated.

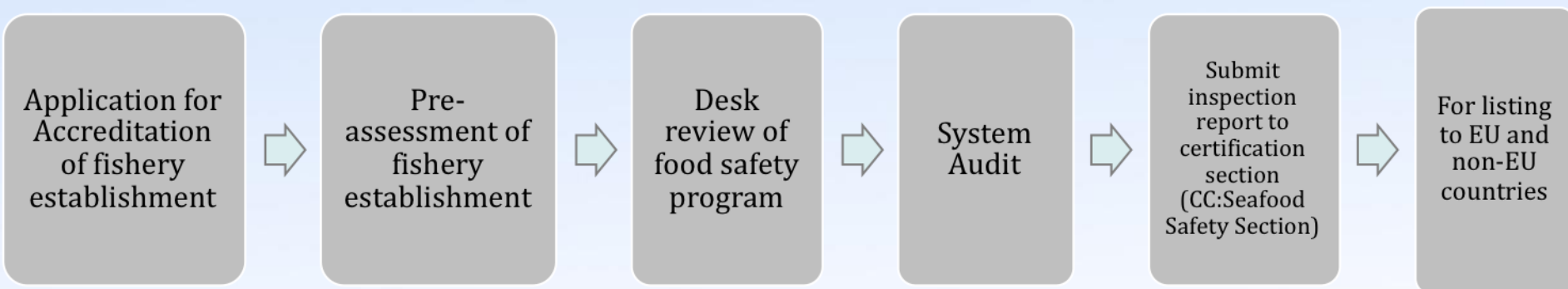
Regulatory Activities

General Procedures on the Exportation of Fishery Products



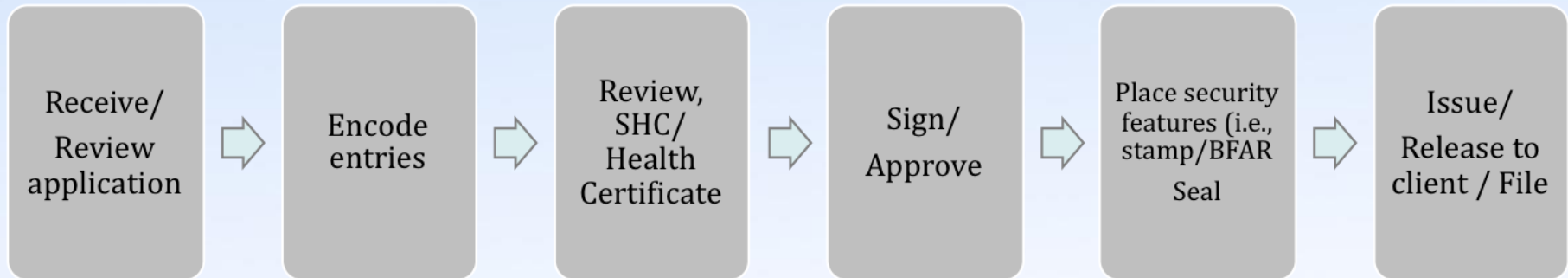
Regulatory Activities

General Procedures for the Accreditation of fishery Products and Establishments for Export



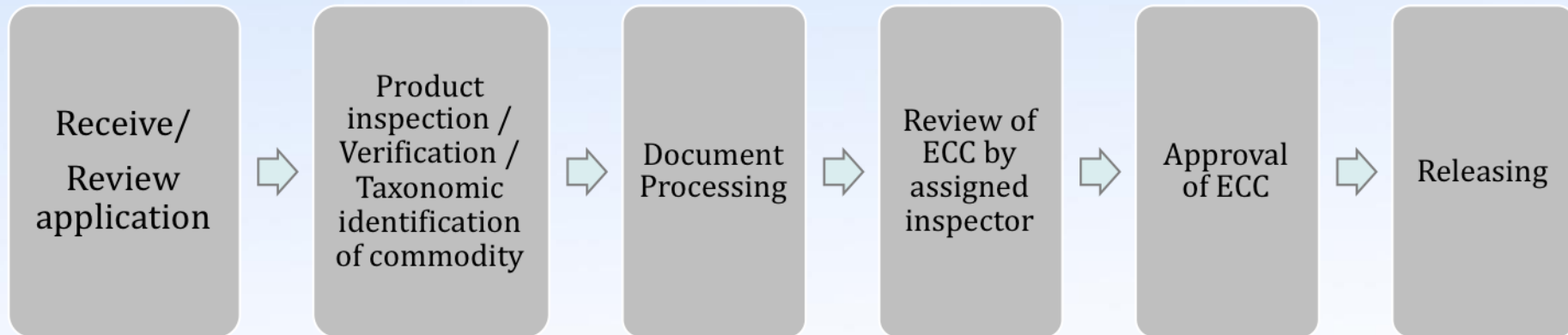
Regulatory Activities

General Procedures for the Issuance of Sanitary Health Certificate and Fish Health Certificate for fish and Fishery/Aquatic Products for Export



Regulatory Activities

General Procedures for the Issuance of Export Commodity Clearance



Regulatory Activities

General Procedures on the Internal Audit of the Quality Management System of BFAR Regulatory Offices



1.3 Regulatory Activities

NATIONAL FISHERIES LABORATORY DIVISION (NFLD)

Fish Health Laboratory

Implements the National Residue Control Program to ensure safety of fish and fishery/aquatic products
Implements the National Disease Monitoring Control Program to ensure control of disease in fish production and trade

Aquatic Toxicology Laboratory

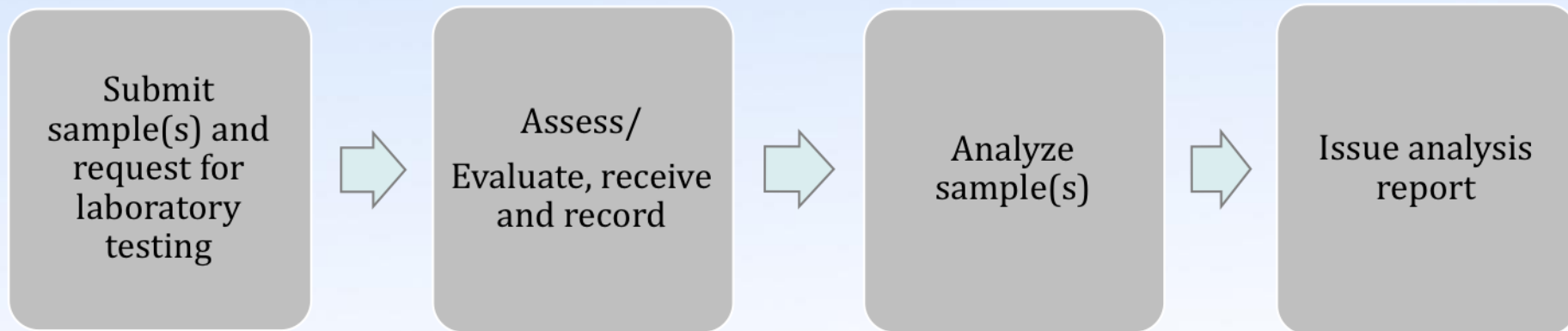
Implements the National Fish and Shellfish-Marine Biotoxin Monitoring and Reporting Program to ensure that fish and shellfish products and harvest areas are safe from marine biotoxins and Harmful Algal Blooms (HABs)

Fisheries Product Testing Laboratory

Provides fish product testing services in support to quarantine, inspection and certification services for the analysis of chemical, biological and physical contaminants in fish and fishery products to ensure product safety and quality

Regulatory Activities

General Procedures for Fisheries Laboratory Testing



1.3 Regulatory Activities

REGIONAL FISHERIES OFFICES

Regional Fisheries Inspection and Quarantine Unit

- Regional monitoring inspection to check compliance with, SSOP
- Border inspection
- Health certification
- LTP (Domestic clearance) issuance

Regional Fish Health Laboratory

- Farm inspection for hygiene, disease surveillance and sampling for disease detection and residue analysis
- Laboratory analysis for disease detection, water quality and residue analysis

Early Warning System

2.1 National CA monitoring system/mechanism on emerging/existing transboundary diseases

BFAR Central and Regional Fish Health Laboratories conducts Monitoring of the aquatic animal diseases (OIE listed and other Important aquatic animal diseases)

BFAR also coordinates with other laboratories for aquatic animal diseases (SEAFDEC AQD, Fish Health lab, NPPC, DA Biotech, academe)

BFAR Central Office (OIE/NACA Focal Point) collate/consolidate/review prepare the Aquatic animal disease reports for submission to the OIE/NACA.

BFAR, through OIE Delegate submit notification to OIE (emerging disease e.g, TiLV)

2. Early Warning System

2.1 National CA monitoring system/mechanism on emerging/existing transboundary diseases

- Precautionary measure on the emerging transboundary disease through issuance of temporary suspension of importation from country affected by disease, until country status is confirmed.
- Domestic movement control through health certification from the emerging disease.
- Information gathered from research studies on characterization of the pathogen and susceptibility studies.
- Inclusion in the monitoring program emerging transboundary disease.
- Laboratory methods for detection

2. Early Warning System

2.2 Networking mechanisms of the national competent authority with trading partners

- Monitoring of disease events in other countries through the OIE website
- Submission of aquatic disease information to the OIE/NACA disease reporting
- Notification on detection of significant disease of imported aquatic animals to the CA of product origin
- Provide country aquatic disease status and management to the questionnaire for exporting country when required by the importing country CA on trade
- Country mission of trading partner on status of aquatic animal health

3. Early Detection System

3.1 Competencies on recognition and reporting of a disease emergency

Personnel	Competencies
a) Frontline personnel - fish farmers, brokers, processors	-Trainings, congresses, awareness seminars on good aquaculture practice (GAqP) and biosecurity -Compliances to requirements for establishment registration and accreditation -IEC materials such as disease cards -Experience -Sharing of knowledge with other stakeholders -Consultations on emerging diseases

3. Early Detection System

Personnel	Competencies
<p>b) Local government personnel -regional fish health & quarantine and extension officers,LGUs</p>	<ul style="list-style-type: none">- Trainings and updating thru congress- IEC materials- monitoring and surveillance activities- field exposure on practices,- coordination with farmers
<p>c)National Government - Regulatory officers, laboratories and researchers</p>	<ul style="list-style-type: none">-Trainings-improve laboratory capabilities on early detection of pathogens-develop guidelines on reporting of disease outbreaks-Research works/publication by reeseachers-network with other countries working on aquatic animal health-OIE/NACA bulletin-Literature search-continuous staff development program

3. Early Detection System

3.2 Standard Operating Procedures

- Approved SOP on the implementation of residue monitoring program-farm registration process, farm inspection and sampling for disease and residue analysis as required by the laboratory.
- Manual of Procedures for implementation of regulatory activities on animal health and quarantine.
- The BFAR-NFLD and Regional Fish Health Laboratories conduct disease surveillance and monitoring for important aquatic animal diseases (Passive Surveillance).
- The NFLD supervises the activities and set direction for the operation of the RFHL and also coordinates with other laboratories that provides diagnostic/laboratory services.



Department of Agriculture
Bureau of Fisheries and Aquatic Resources
Fisheries Inspection and Quarantine Division

Fisheries Quarantine Section

MANUAL OF OPERATIONS



Pre-border and Post-border
Quarantine Unit



Border Quarantine Unit

2 0 1 8



Disease Information and
Notification Unit



Risk Analysis Unit

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Bureau of Fisheries and Aquatic Resources



Regional Fish Health Laboratory

MANUAL OF OPERATION NATIONAL RESIDUE MONITORING PROGRAM

This Manual of Operation is issued under the authority of:

Regional Director

Master Copy

29 May 2011

Revision 0

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3. Early Detection System

3.3 Awareness Building and Training Programs

- Provides training programmes to government and industry personnel (GAqP and disease and health management) .
- There are training plans for each year for continued staff development and capacity building.
- BFAR FHOs attended trainings on aquatic animal health provided by other agencies or organizations such as:(SEAFDEC,NACA, FAO, OIE, EU, JICA)
- The BFAR Fish Inspectors have attended and participated in various trainings related to:
 - risk based inspection;
 - auditing;
 - records management;
 - export requirements for aquaculture products including legislations of importing countries and certification.

3. Early Detection System

3.4 National Information Sharing Networks

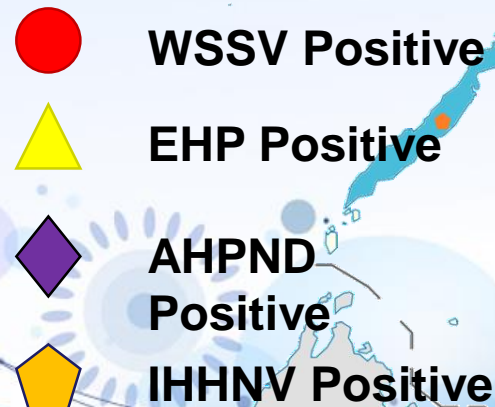
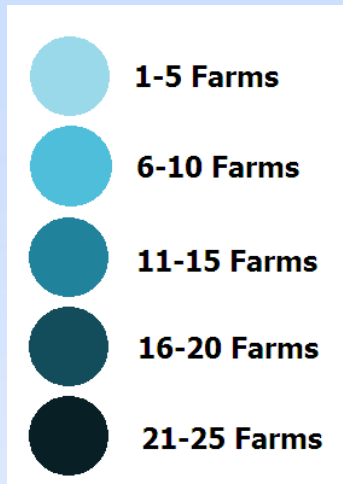
- Plan to establish Network of Aquatic Animal Health Professionals for convenient distribution and update of information on different aquatic animal diseases composed of academe, government and private institutions
- The Fish Health Network that conducts annual reporting and planning each year, and meeting/workshops when necessary for updates and harmonize implementation of national program on fish health

3. Early Detection System

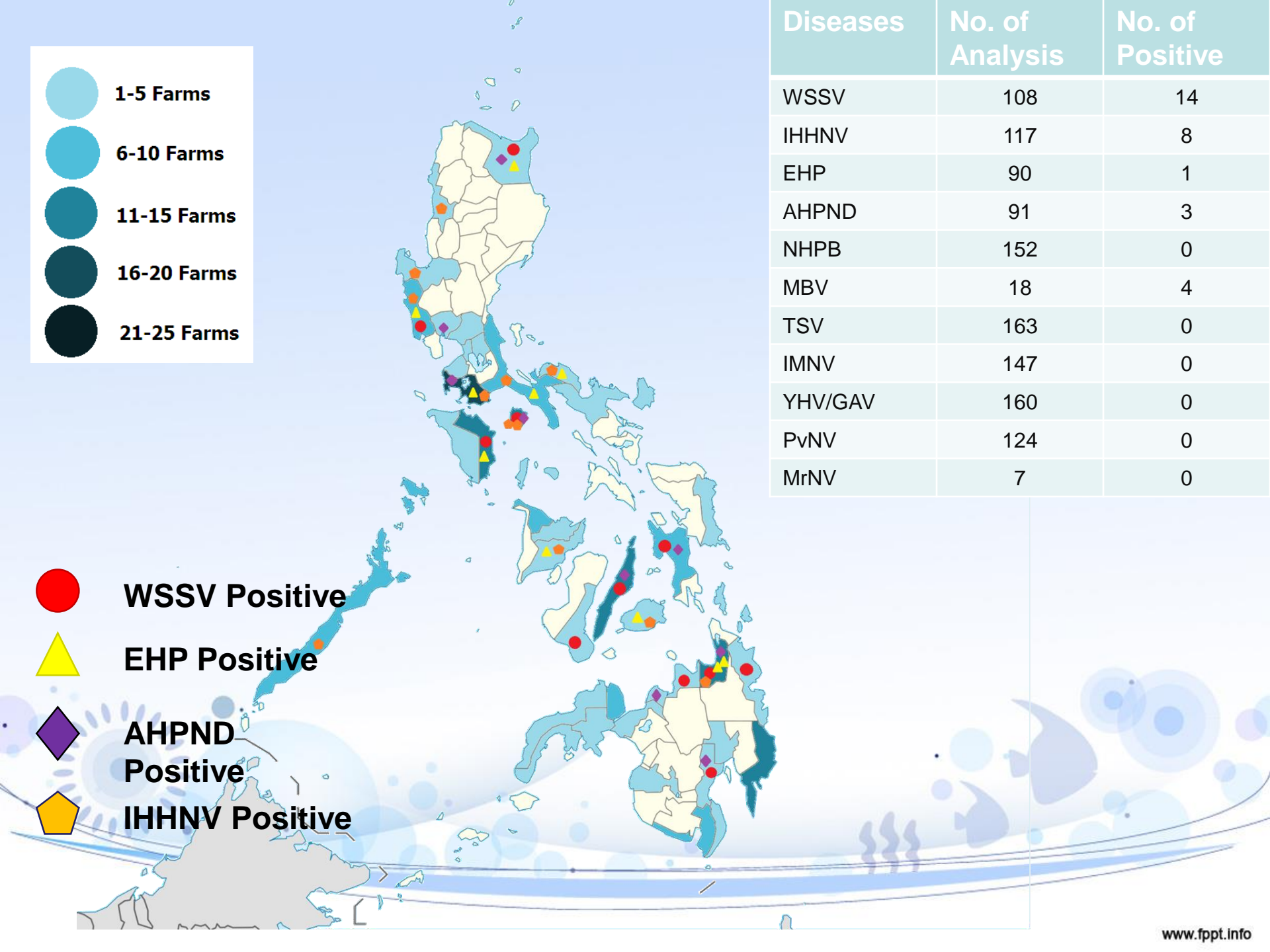
3.5 Surveillance Systems

- BFAR-NFLD and BFAR Regional Fish Health Laboratories (RFHL) conduct disease surveillance and monitoring for important aquatic animal diseases.
- The NFLD supervises the activities and set direction for the operation of the RFHL and also coordinates with other laboratories (SEAFDEC AQD, Fish Health lab and NPPC lab) that provides diagnostic/laboratory services.
- Results of disease surveillance and monitoring are use in the formulation of disease control measures and regulations





Diseases	No. of Analysis	No. of Positive
WSSV	108	14
IHNV	117	8
EHP	90	1
AHPND	91	3
NHPB	152	0
MBV	18	4
TSV	163	0
IMNV	147	0
YHV/GAV	160	0
PvNV	124	0
MrNV	7	0



3. Early Detection System

3.6 Disease Reporting Systems

- BFAR is the agency responsible for disease notification and reporting system.
- Disease reports were received or taken from BFAR Central and Regional Fish Health Laboratories and other laboratories.
- Disease information is disseminated to the BFAR officials and to Regional laboratories.
- In case of detection and confirmation of important exotic disease, BFAR notify/inform the stakeholders.
- BFAR (OIE National Focal Point for Aquatic Animals) through the OIE Delegate submits quarterly aquatic animal disease reports to the OIE Regional Office and NACA Headquarters.

3. Early Detection System

3.7 Diagnostic Capability/ Capacity

- Approved SOP on aquatic animal disease diagnosis for fish health laboratories. SOPs are reviewed and updated according to standard, OIE for disease detection, ISO/IEC 17025:2005, proficiency testing program participation
- Central Fish Health Laboratories and 15 Regional Fisheries Laboratories (some with satellite laboratories)
- The central laboratory serves as the national reference laboratory
- Application for ISO/IEC 17025:2005 for diagnostics method using PCR for PAB assessment

4. Early Response System

4.1 Personnel competencies on identification of a disease emergency, risk associated with suspected pathogen, confirmation of aetiology of the disease, reporting to competent authority, formulation of control options

Frontline Personnel (fish farmers, health professionals)

- Trainings conducted by BFAR, academe and other institution
- Congress participation
- Experience and shared practices
- Assistance from extension officers (Government and Private such feedmillers and other suppliers)
- SOPs developed and implemented by Stakeholders organization of stakeholders in case of disease outbreaks

4. Early Response System

Local Government personnel and industry

- Training on fish health management, monitoring and reporting provided by designated Regional Fish Health Officers
- Assistance to farmers
- Familiarity with the information required to be gathered important on incidence (photograph, sample/no., location of sampling and other pertinent information)

4. Early Response System

National Government Personnel

- Provides Training on fish health management, good aquaculture practices and biosecurity, monitoring and reporting
- Workshop (harmonization of activities)
- Continuous conduct of trainer's training to BFAR RGFOs and LGUs
- Continuous updating of these trainings with the latest information



4. Early Response System

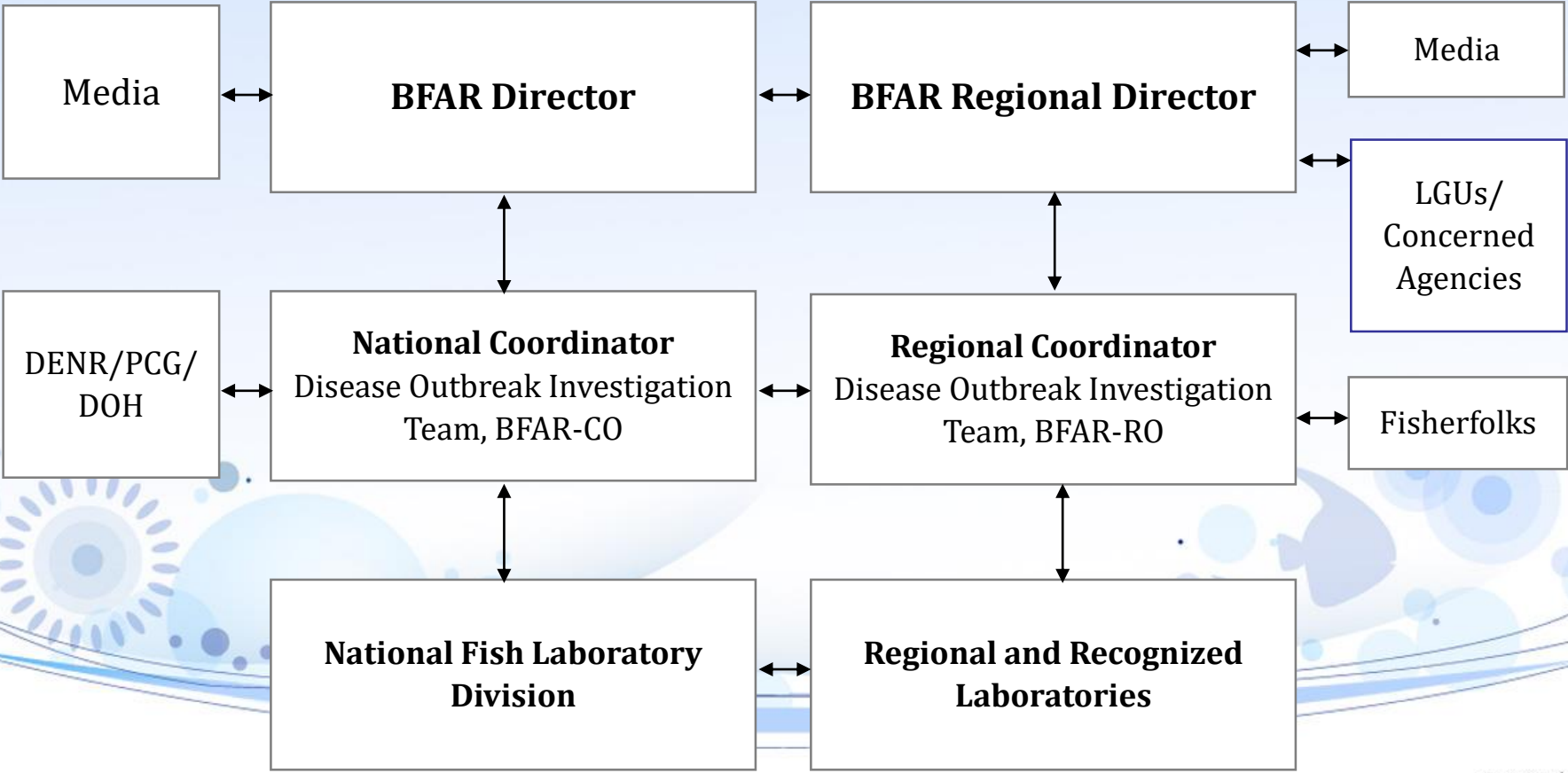
4.2 Awareness Building and Training Programs

- Stakeholders congresses (tilapia, shrimp and bangus)
- Seminar/trainings of government, LGUs and stakeholders
- Training on aquatic animal health, biosecurity and GAqP requirements
- IEC materials (GAqP, biosecurity, disease cards)
- Coordination/linkages between government implementer and concerned stakeholders

4. Early Response System

4.3 Standard Operating Procedures

Structure for Communication and Coordination in the Conduct of Disease Emergency Investigation



Thank You

