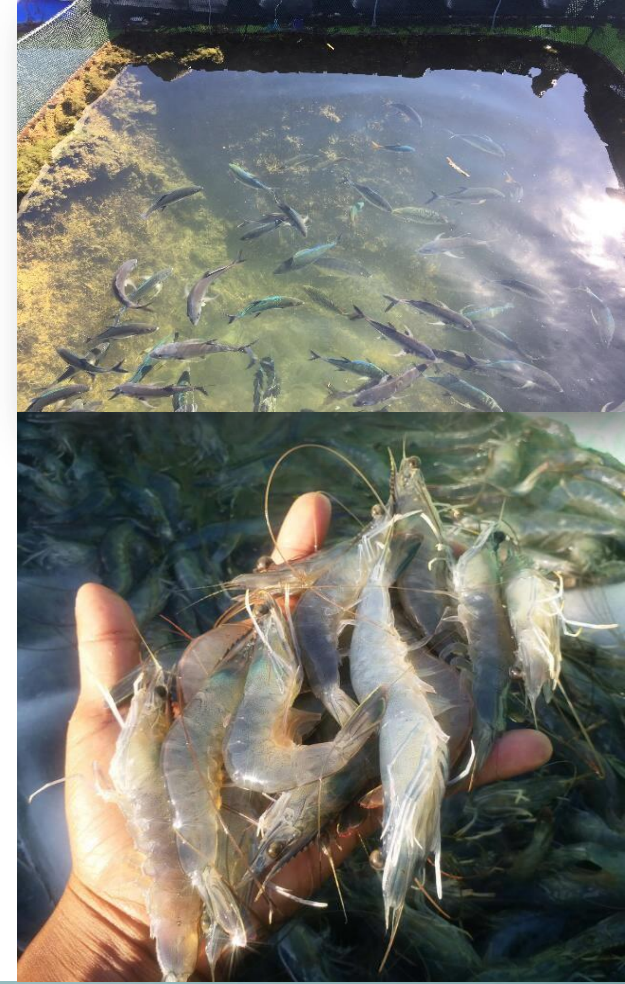


# ASEAN Regional Technical Consultation on Aquatic Emergency Preparedness and Response Systems for Effective Management of Transboundary Disease Outbreaks in Southeast Asia

Country Report: Brunei Darussalam

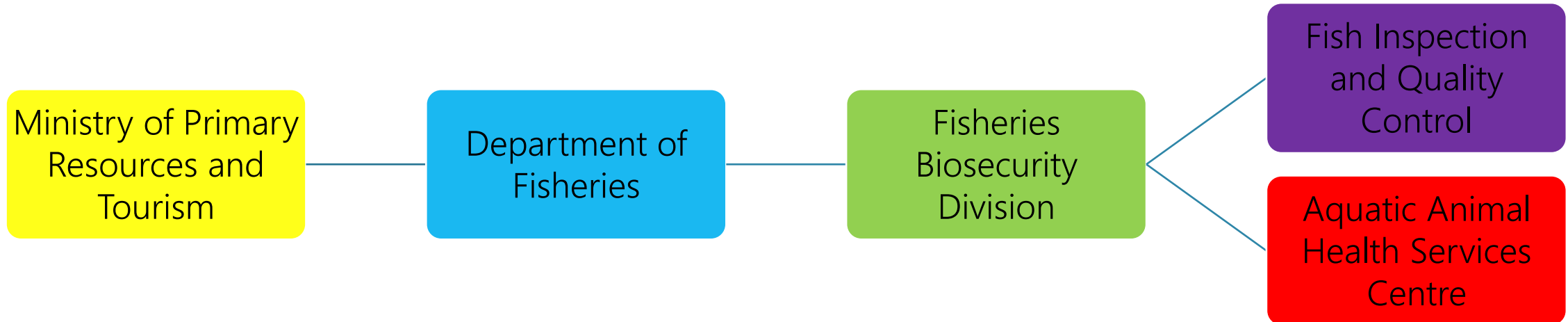
Norhaziyah Halim  
Aquatic Animal Health Services Centre  
Department of Fisheries



# Presentation Overview

- Organizational structure – responsible for AAH
- Legislation and policies
- Current situation of aquatic animal health
- Fisheries industries
- Early warning system
- Surveillance programs
- Early detection system
- Disease diagnostics
- Disease reporting system
- Early response system
- Issues and gaps

# Organizational structure



- Development and management of export certification program including coordination with Industry Management & Support Services Division to ensure compliance to importing countries requirement;
- Responsible for National Residue Management Program (NRMP) and the Departmental contact for CODEX; EU; USDA; and importing countries authorities
- Responsible for management and mitigation program on fisheries/ aquatic animal health to support the sustainability and productivity agenda of the Department, including establishing compliance approaches to importation of fisheries products which pose risks to fisheries industries
- Responsible for carrying out fisheries diagnostic services (pathology and parasitology) and management of the Diagnostic Lab

# Legislations and policies

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## Legislation and policies in place in relation to aquatic animal health

- Department of Fisheries is the competent authority for fisheries product which includes live and frozen fish and shrimps, processed
- Department of Fisheries is responsible for the national aquatic animal health policy and planning including maintaining the quality of aquatic animals and their products to meet Brunei and international standards
- AAHSC is responsible for aquatic animal health under DOF

# Legislation and policies in placed in relation to aquatic animal health

1. Fisheries Order 2009
2. National pathogen list for aquatic animal diseases
3. Manual of Brunei Darussalam on Good Aquaculture Practices For Shrimp Farms
4. Manual of Brunei Darussalam on Good Aquaculture Practices For Fish Farms
5. Department of Fisheries Action Plan for Disease Occurrence
6. Manual of Brunei Darussalam on Official Controls for Exported Fishery Products

## LIST OF DISEASES CONCERN TO BRUNEI DARUSSALAM'S AQUACULTURE INDUSTRY

	OIE LISTED DISEASES	NATIONAL LISTED
FISH	<ol style="list-style-type: none"> <li>1. Koi Herpes Virus (KHV)</li> <li>2. Spring Viraemia of Carp (SVC)</li> <li>3. Red Seabream Iridovirus (RSIV)</li> <li>4. Epizootic Ulcerative Syndrome (EUS)</li> </ol>	<ol style="list-style-type: none"> <li>1. Viral Nervous Necrosis</li> <li>2. Iridovirus</li> </ol>
CRUSTACEAN	<ol style="list-style-type: none"> <li>1. White Spot Syndrome Virus (WSSV)</li> <li>2. Infectious Myonecrosis Virus (IMNV)</li> <li>3. Infectious Hypodermal and Haemopoietic Necrosis Virus (IHHNV)</li> <li>4. Taura Syndrome Virus (TSV)</li> <li>5. Yellow head Virus (YHV)</li> <li>6. <i>Macrobrachium rosenbergii</i> Nodavirus (MrNV)</li> <li>7. Acute Hepatopancreatic Necrosis Disease (AHPND)</li> </ol>	<ol style="list-style-type: none"> <li>1. <i>Enterocytozoon hepatopenaei</i> (EHP)</li> </ol>

# Fisheries Industries



# FISHERIES INDUSTRIES

**FISHERIES  
INDUSTRIES**  
TARGETS BY 2020

Growth in Production  
CAGR **43.7%** (2015 - 2020)

## FISHERIES PRODUCTION

VALUE		EXPORT	
<b>B\$ 681</b> million	<b>38%</b> Of primary resources production	<b>120.6%</b> CAGR (2015-2020)	<b>B\$ 209</b> million

### PRODUCTION (VALUE BY CATEGORY)



AQUACULTURE  
**B\$ 404**  
million (60%)



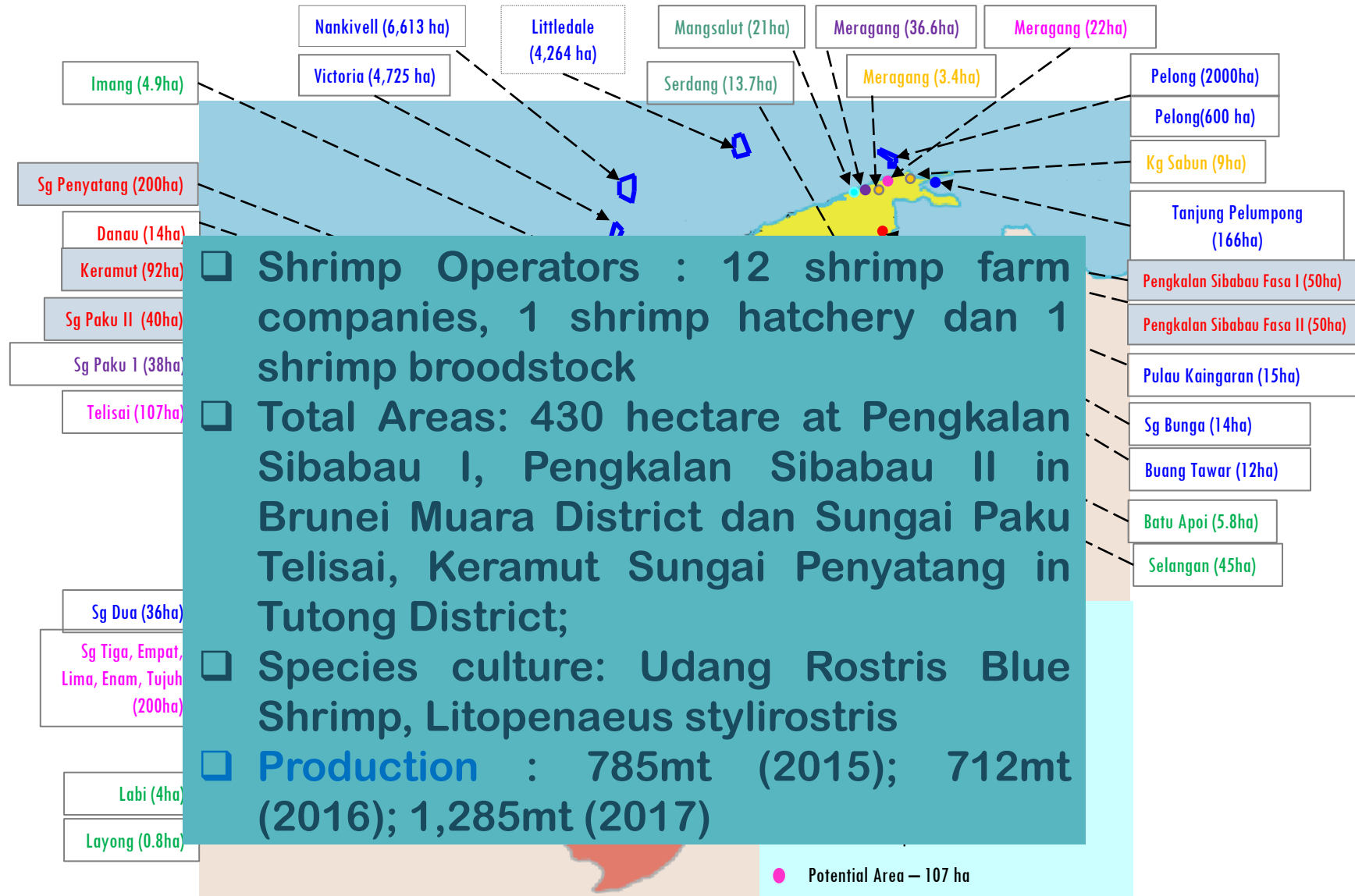
CAPTURE  
**B\$ 112**  
million (17%)



PROCESSING  
**B\$ 164** million (24%)



# AQUACULTURE INDUSTRIAL SITE





# SHRIMP FARMS SITES



**PENKALAN SIBABAU PHASE II (50Ha)**



**SG. PAKU I (38 Ha)**



**SUNGAI PENYATANG (200 Ha)**



**KERAMUT (92 Ha)**



**PENKALAN SIBABAU ZONE I (50 Ha)**

# Current situation of aquatic animal health in aquaculture

- Shrimp and fish aquaculture farms are free from OIE listed diseases
- SPF shrimp fry are supplied to the farmers
- At present, there is only 1 broodstock centre and 1 hatchery to supply shrimp fry to the shrimp farms
- Biosecurity measures are in place in hatchery and farms through the implementation of Brunei Good Aquaculture Practise (BGAqP)

# Early warning system – surveillance program

- National monitoring system to demonstrate disease free status for farms in accordance with OIE Aquatic Code
- Part of aquatic animal health information systems for disease reporting to international bodies; OIE / NACA
- If positive result detected, species susceptible to the disease would be subjected to health improvement, containment, farm disinfection and/or disease eradication
- Active surveillance for shrimp aquaculture industry
- Passive surveillance for fish aquaculture industry
- Risk analysis carried out for introduction of new species into Brunei's aquatic ecosystem

# National monitoring and surveillance program activities

## Food Safety program

- Hygiene on Board Program (HOB) for vessel
- National Residue Monitoring Program (NRMP) for shrimp farms
- HACCP for processing plants

## Aquatic Animal Health program

- Disease surveillance for shrimp hatchery and farms [submit reports to OIE]
- Water quality monitoring

**Implementation of Biosecurity measures**



**Certification of Brunei Good Aquaculture Practise (BGAqP)**

# Aquatic Animal Health Status

## Brunei Darussalam declares itself free from white spot disease, Taura syndrome, yellowhead disease and infectious myonecrosis

*Information received through the Delegate of Brunei Darussalam to the OIE, Dr Dabeding Dullah, Department of Agriculture, Brunei Darussalam*

This is a self-declaration of freedom from white spot disease (WSD), Taura syndrome (TS), yellowhead disease (YHD) and infectious myonecrosis (IMN) for the entire territory of Brunei Darussalam, in accordance with the conditions required by the *Aquatic Animal Health Code 2009 (the Aquatic Code)* and by the *Manual of Diagnostic Tests for Aquatic Animals 2006 (the Aquatic Manual)*.

### Shrimp cultured in Brunei Darussalam

Brunei Darussalam started developing aquaculture in the 1970s. The shrimp aquaculture industry is the leading fisheries industry and has contributed 80% of the total national aquaculture production. Specific pathogen-free (SPF) blue shrimp (*Penaeus stylirostris*) is the major species cultured and was introduced from

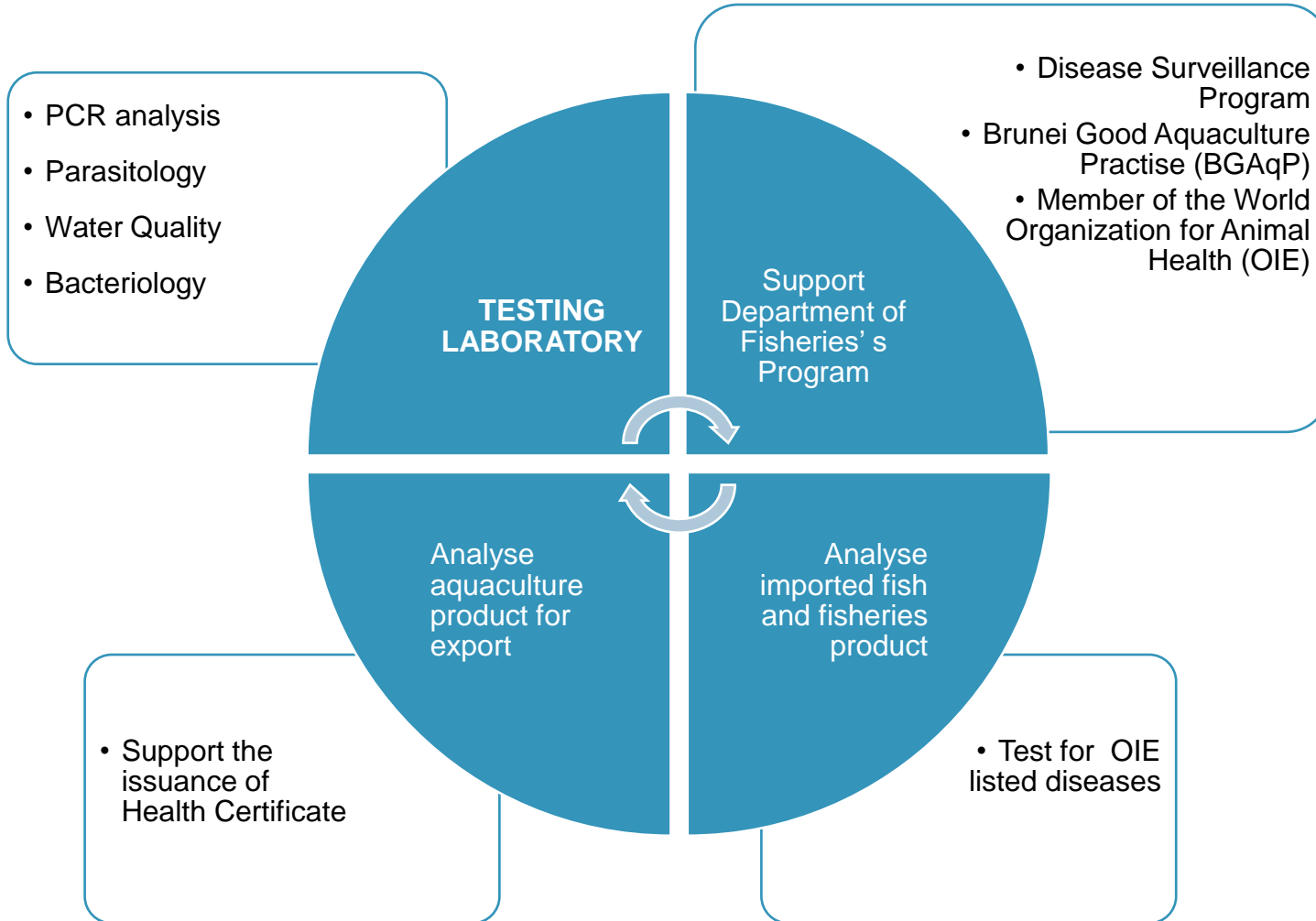


OIE

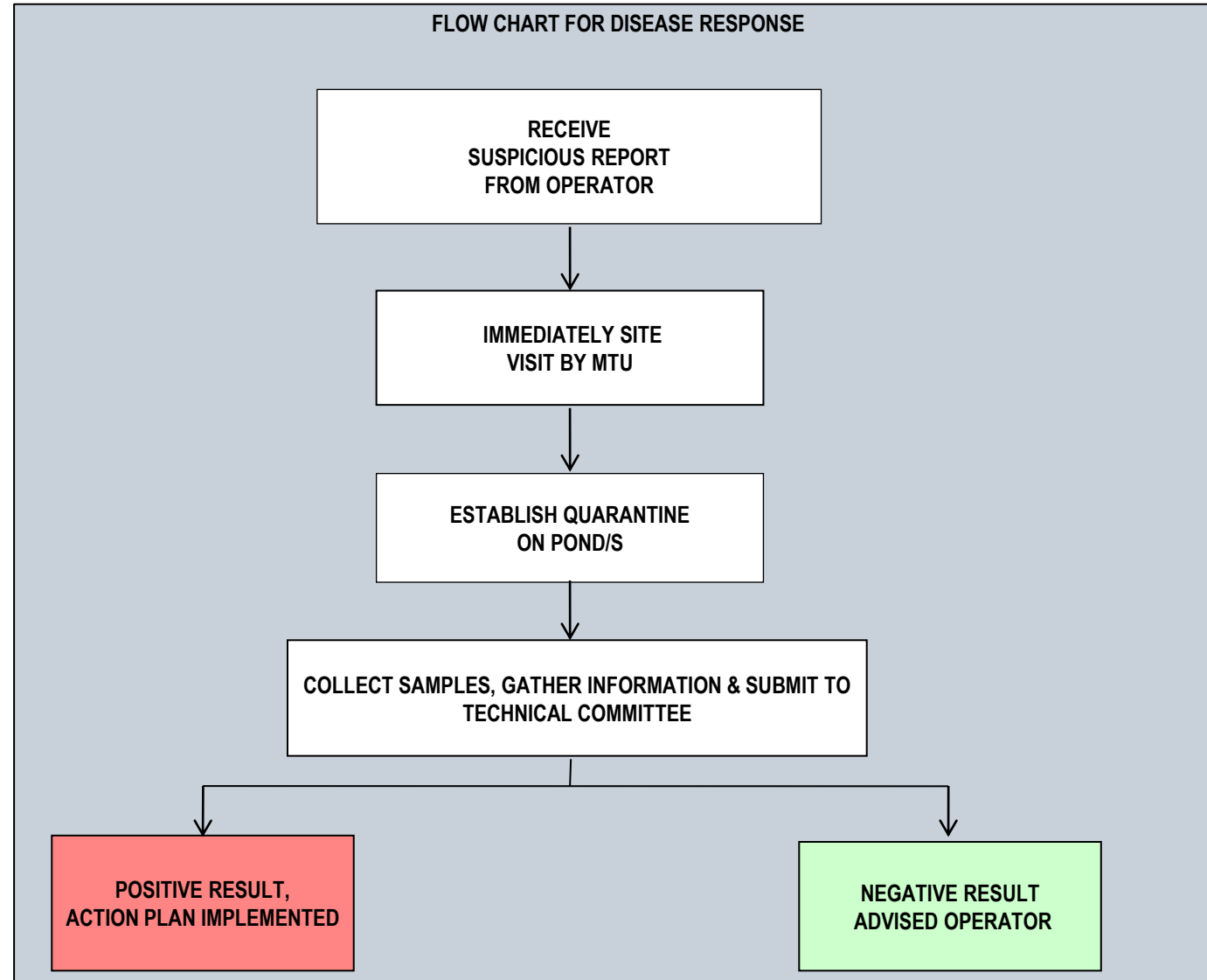
# Early detection system

- Department of Fisheries have conducted training courses and on-ground awareness building for fish farmers and fisheries staff from the Mobile Technical Unit and Aquatic Animal Health Services Centre on recognizing signs of the listed disease, emerging disease or unexplained mortality;
- Pamphlets and posters on disease fact sheet related to farmer's cultured commodities have been distributed to help recognize signs of diseases in their farms;
- Department of Fisheries also advise farmers to notify immediately in response to any clinical signs or mortalities in the farm – to conduct immediate investigation
- Ongoing training courses on laboratory diagnostics to build and maintain national expertise

# Aquatic Animal Health Services Centre (AHHSC)



- Established since 2007
- Participated Proficiency Test;
  - University of Arizona in 2010 for YHV, TSV, WSSV AND IHHNV
  - CSIRO in 2018 for WSSV & YHV

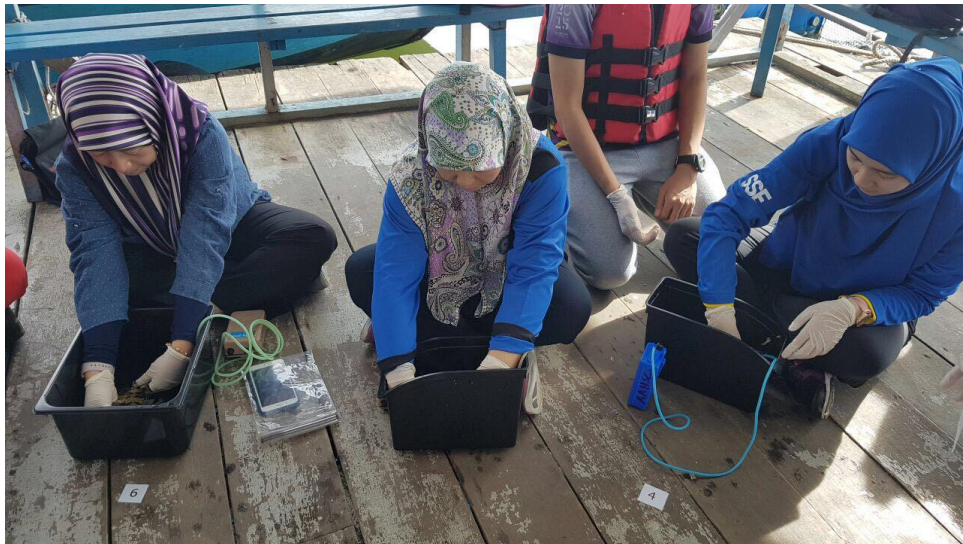
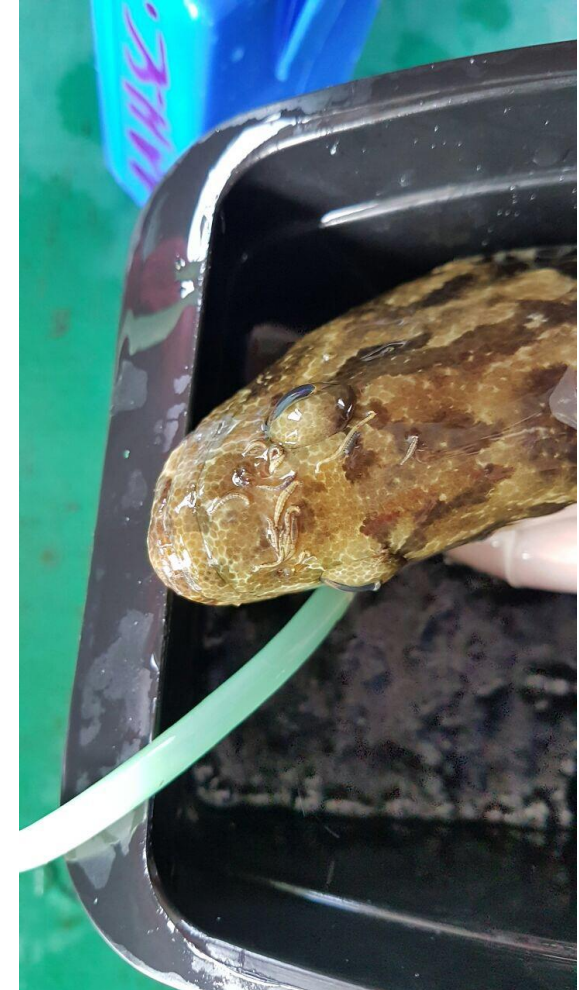


- Networking mechanisms of national competent authority with trading partners: government to government, ASEAN FDA

# SOP

- SOP for Aquatic Animal Health Services Centre Laboratory Analysis
- Manual of Brunei Darussalam on Good Aquaculture Practices For Shrimp Farms
- Manual of Brunei Darussalam on Good Aquaculture Practices For Fish
  - Disease risk management: control spread of disease
  - Disease prevention and treatment

## Awareness building and training programs – on-going training and info-sharing with farmers

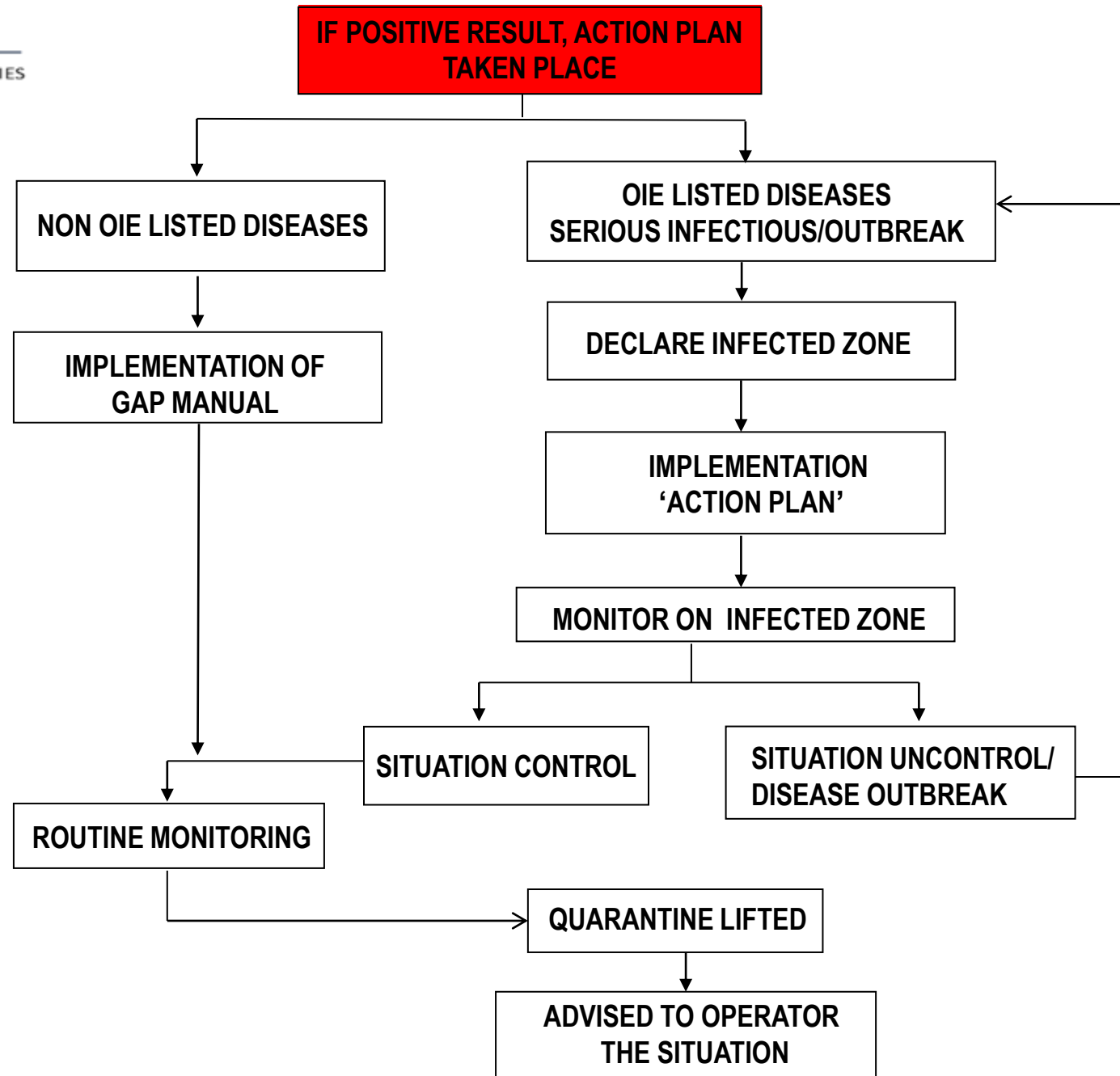


# Disease reporting system

- National
- Farmers are obliged to report to Department of Fisheries on any abnormal mortalities/morbidity observed
- International – member of OIE, WTO
- QAAD reporting OIE/NACA, OIE six monthly & annual reporting

# Early Response System

- Containment, mitigation and eradication of disease
- Awareness building and training
  - Ongoing training courses on laboratory diagnostics to build and maintain national expertise
- SOP
  - Department of Fisheries Action Plan for Disease Occurrence
  - SOP for Aquatic Animal Health Services Centre Laboratory Analysis
  - Manual of Brunei Darussalam on Good Aquaculture Practices For Shrimp Farms
  - Manual of Brunei Darussalam on Good Aquaculture Practices For Fish
    - Disease risk management: control spread of disease
    - Disease prevention and treatment



## Issues and gaps

- Enforcing legislation through simulation exercises to review effectiveness the AEPR system
- Intensive training on individual roles and responsibilities for officers and personnel involved in the contingency plan of action
- Financial support plans for emergency diseases
- Strengthen public extension / education programs

**-Thank you-**