



Changing Global Environment

How regulator has responded to expand exports and grow

By Department of Fish

The

Changing Global Environment

- **Climate Change and Impacts on Fisheries and Aquaculture**
 - increase in frequency and intensity of extreme weather with huge consequences i.e. Flooding and sea water rises, change of water temperature, change in species composition and distribution, coral bleaching , increase in storms and cyclones
- **Huge Wasted damaged our environment**
- **More resistance of various diseases**
- **Natural resources have been over exploited**
- **More natural disasters**
- **High population and much longer life**
- **Technology and communication grow fast**
- **World become smaller and time become shorter**
- **More international trade requirements in both SPS and TBT issues**

People in ASEAN Region

- Fisheries sector plays a very important role to the national economy, It has been the main supplier of food protein
- Climate Change impacts on Fisheries and Aquaculture
- Fisheries resources has been declined tremendously in three decades
- More international trade requirements in both SPS and TBT issues

Thai Fish Industry

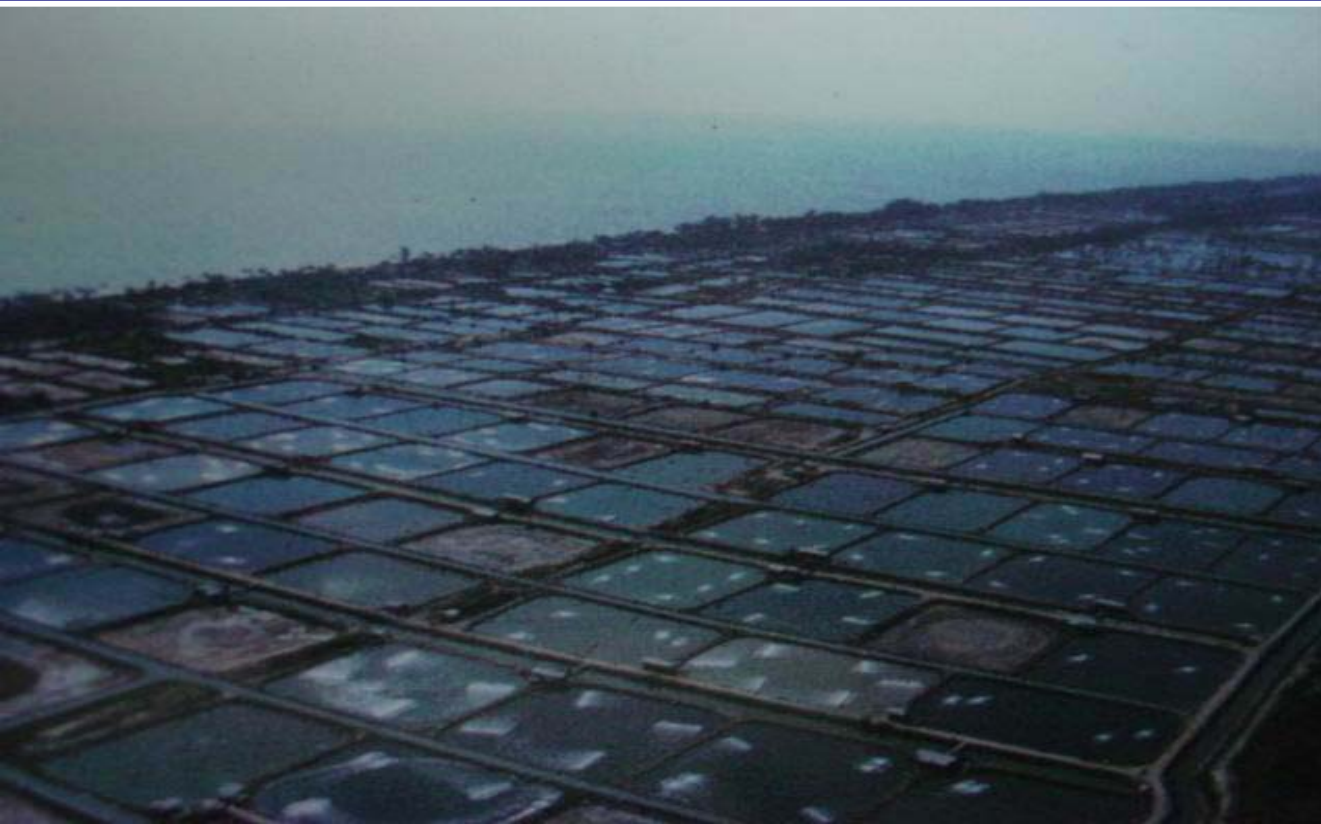
- Ranked in top five of exported agricultural commodities
- Important products: Frozen shrimp and canned tuna

Capture Fishery Products for Export

1. Imported capture fish: Tuna, Mackerel, sardines, fish producing surimi, Cephalopod. (each year Thailand imports approx 800,000 MT of fish for processing i.e. Tuna, Mackerel, Sardine, fish for surimi from more than 50 countries)
 - Inspected by DOF Inspection officers
 - Mostly managed by RFMOs e.g. IOTC, WCFPC
2. Marine capture fish from high sea.
3. Marine Fish catch from national waters.

Marine Shrimp Farming in Thailand

- Extensive Shrimp Farming since more than 80 years
- Semi-intensive shrimp farming since 1973
- Intensive shrimp farming since 1985



Production area

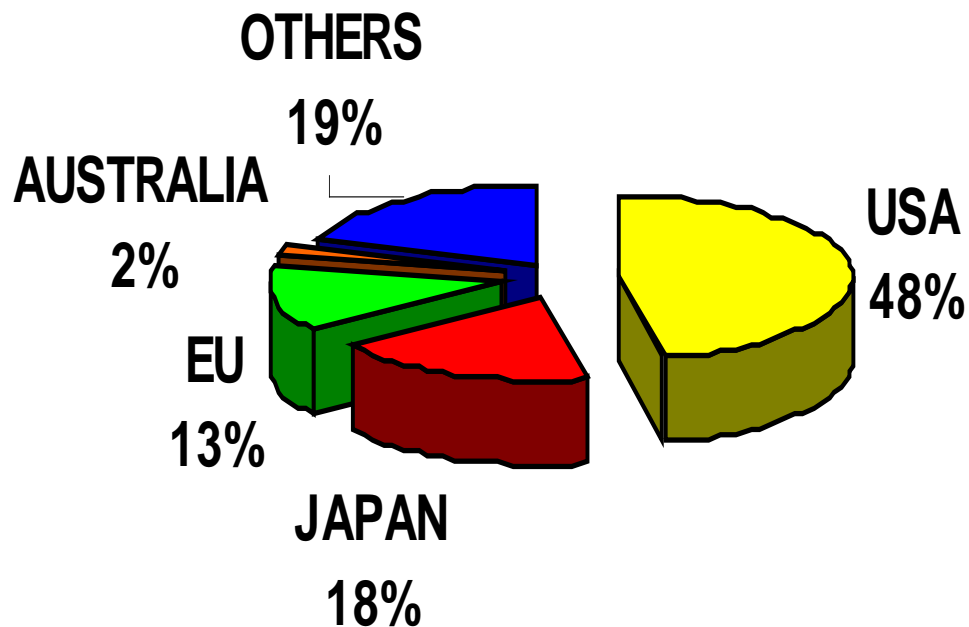
Thai Shrimp industry

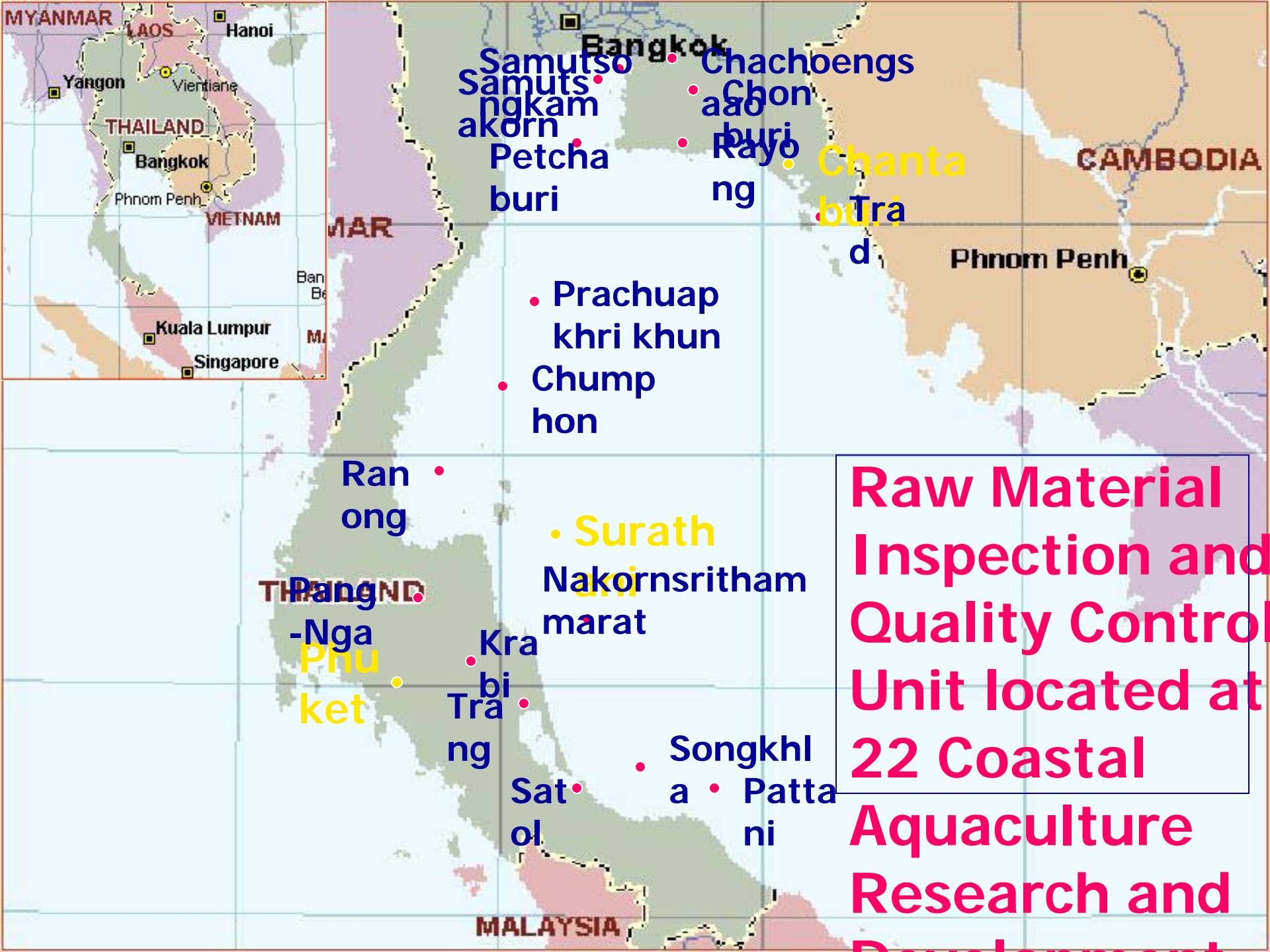
- Production area : 70,000 ha.
- Approx 30,000 shrimp farms of which 75% are small scale operation
- In 2009: Black tiger shrimp 1%, White shrimp 99%
- 300 Processing plants are GMP and HACCP certified
- Productivity 4 - 500,000 ton/yr.
- Approx 1 million people involved in shrimp sector



Thai Shrimp Export to Major Markets in 2009

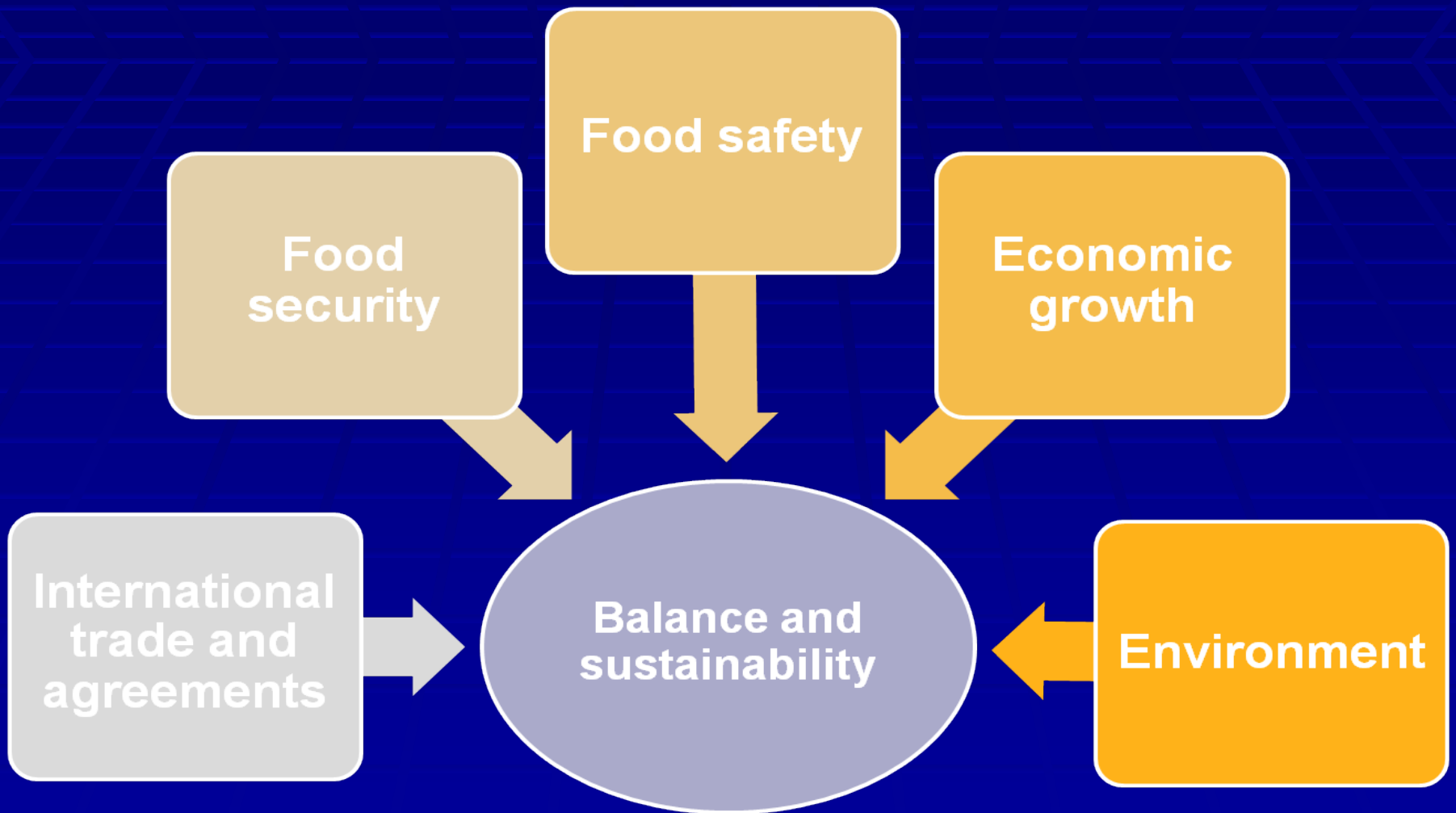
Thai Shrimp Export to major markets in 2009





**Raw Material
Inspection and
Quality Control
Unit located at
22 Coastal
Aquaculture
Research and
Development**

Aquaculture Strategy



How does Thai Culture Shrimp Industry be Sustainable and meet Global change and demand ?

Provide good infrastructure in supporting farming and processing system i.e. sea Water irrigation system, zero-water Exchange system, electricity, road, HACCP processing plants

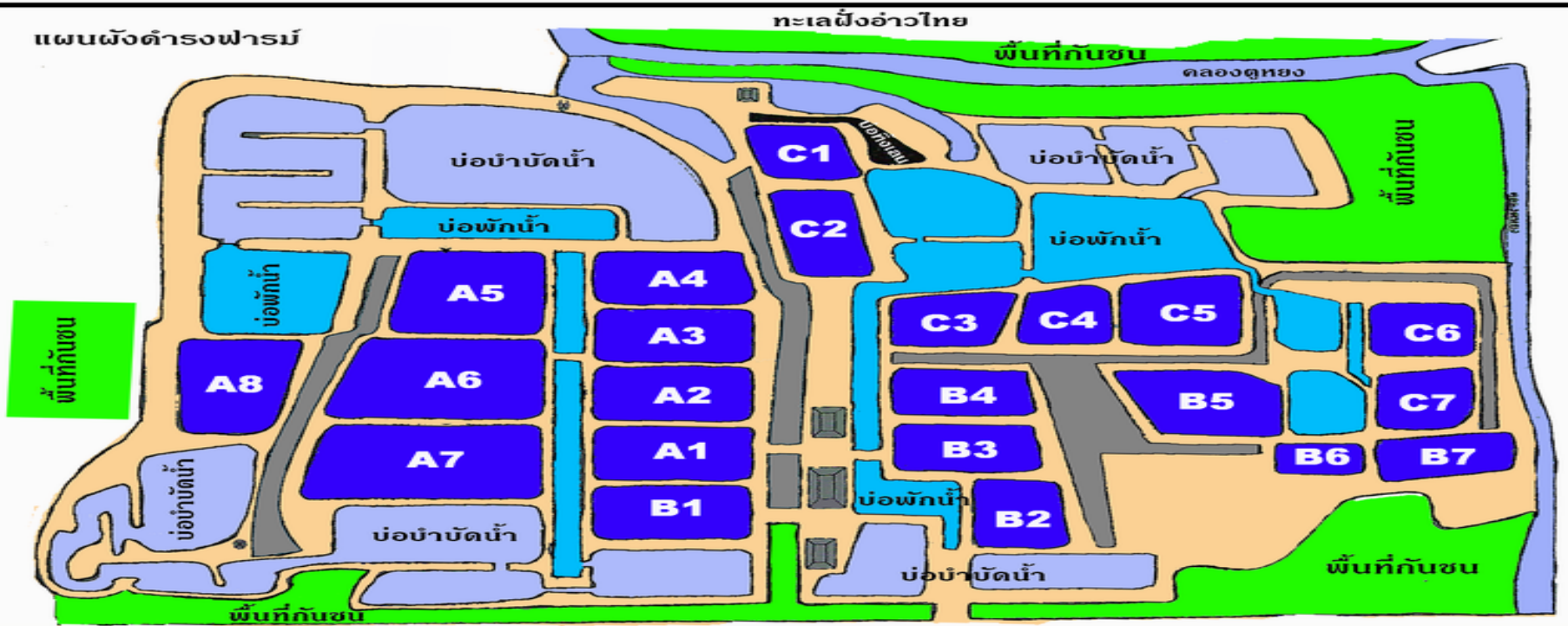


■ Sustainable shrimp farming practice
application of GAP and CoC farm
standards for more than a decade



- Provide strong technical support to farmers i.e. farm and environmental monitoring, shrimp diseases and antibiotics test services
- Well trained farmers on sustainable shrimp farming technology

แผนผังตารางฟาร์ม



❑ Continuing Technology Development e.g. Biosecured shrimp (i.e. Specific Pathogen Free or SPF shrimp), water recirculation system and etc



Shrimp Biosecurity for Sustainable and Healthy Aquaculture

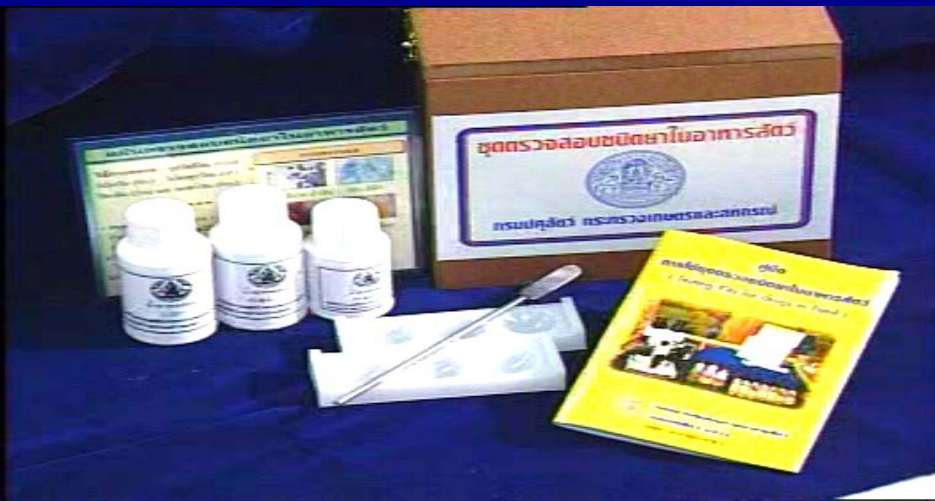
Thailand has successfully produced Specific Pathogen Free (SPF) seeds of 3 shrimp species:

1. Black tiger shrimp
2. Pacific white shrimp
3. Giant freshwater prawn

Elimination of Antibiotics

Contamination in Shrimp Products

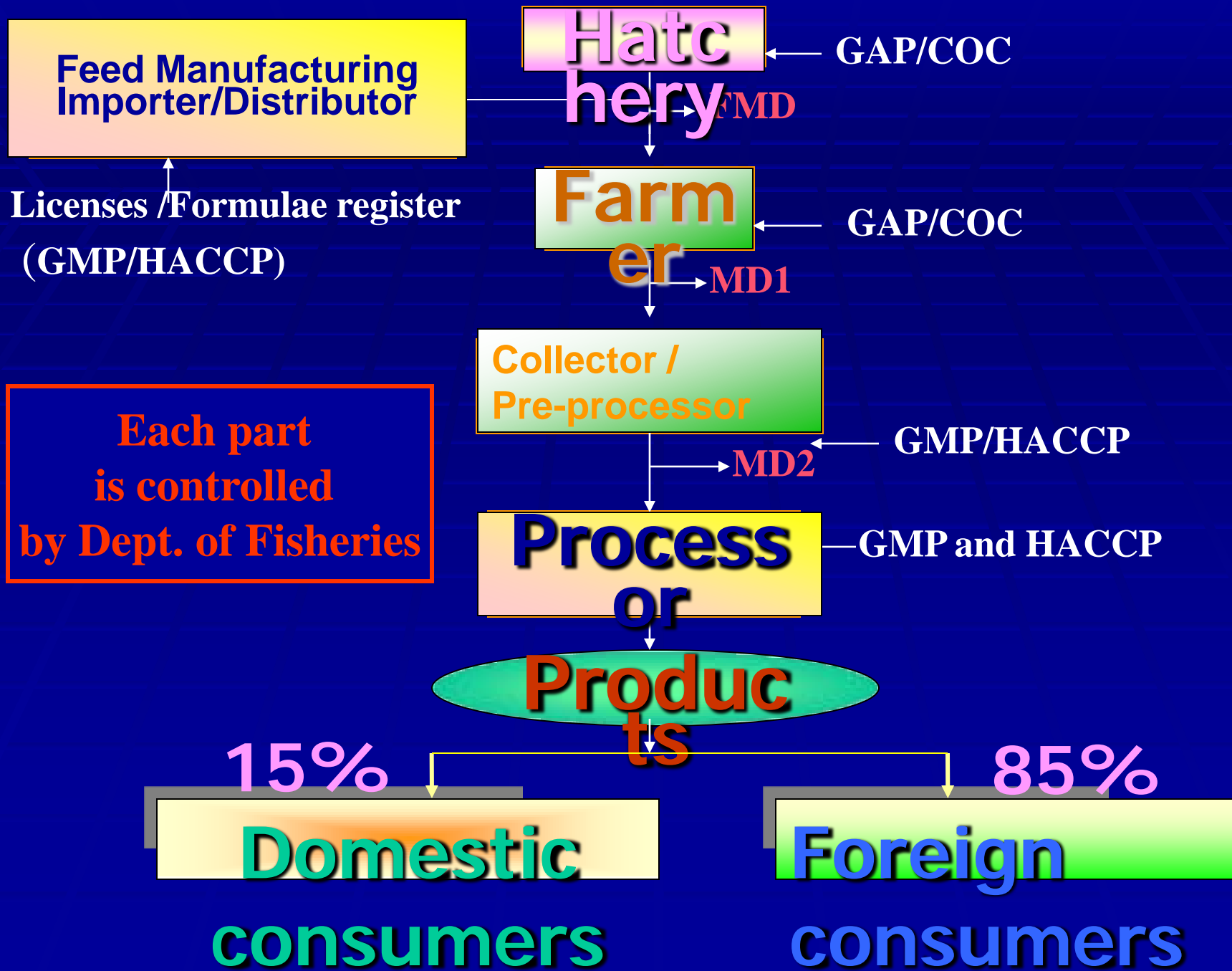
- Control and monitor imported prohibited antibiotics
- Control and Monitor the use of antibiotic from feed, farm shrimp and shrimp products



Monitoring and Inspection Program

- **Farm/Hatchery:** water quality, diseases, antibiotics, contaminance
- **Processing Plant: GMP/HACCP**
- **Products:** microbiological, physical, chemical-antibiotics, additives





Aquatic Feed Quality Control

Feed control Act (1982 and amendment 1999)

Objectives

Protect Fish Farmer - able to get good quality of commercial feed

Protect Consumer - safety food from animal origin

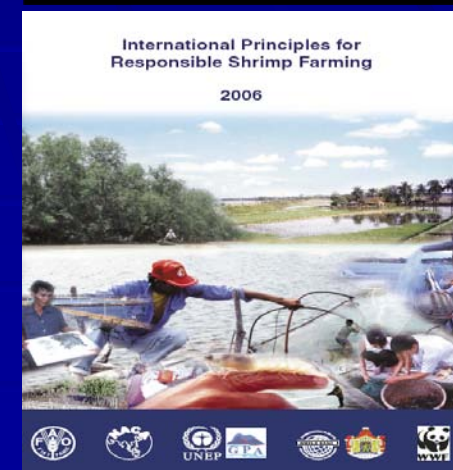
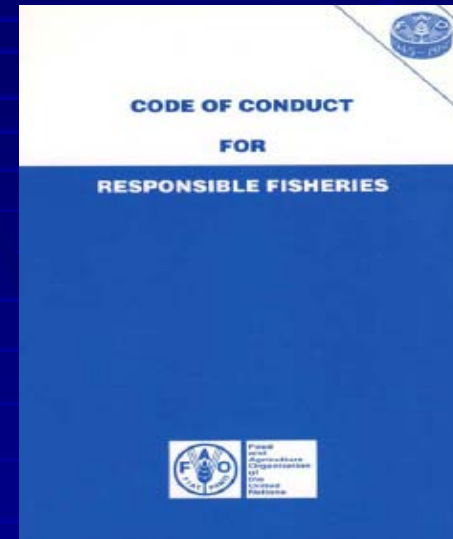
Export Protocol - support necessary documents

Activities - Feed Manufacturing Licensing,

- Approval of feed formulae and feed Registration
 - QUALITY CONTROL
 - Undesirable Substances Monitoring
 - Inspection & Audit GMP/HACCP
 - Certification

References for the Development of Thailand GAP/CoC standard

- **FAO**: Code of Conduct for Responsible Fisheries
- **FAO/NACA/UNEP/WB/WWF**: International Principles for Responsible Shrimp Farming
- **CODEX**: on Aquaculture and Principles for Food Import and Export Certification and Inspection; on Aquaculture
- **OIE**: Aquatic Animal Health Code
- **ISEAL**: Code of Good Practice for Setting Social and Environmental Standards
- **ISO/IEC Guide 59**: Code of Good Practice for Standardization
- **ISO 14001**: Environmental Management System
- **FAO Aquaculture Certification Guidelines (new !!)**



GAP / CoC Requirements

Concerned Issues

List of Relevant Requirements

Food Safety

- A3 Use drugs and chemicals in an appropriate manner (**non use of prohibited antibiotics**)
- A7 Manage farm sanitary in a responsible manner
- A8 Harvest with well plan, avoid drug and chemical residue and practice in a good manner

Environmental Friendly

- A1 Locate in an area that is legal and suitable for farming
 - A4 Effluent and sediment are treated properly without causing environmental deterioration
 - A5 Provided adequate safety instruction and store/dispose fuel and lubricant in a responsible manner
 - A6 Prevent environmental deterioration and support to mangrove/forest re-plantation program
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GAP / CoC Requirements

Concerned Issues

List of Relevant Requirements

Social Responsibility

- A1 Locate in an area that is legal and suitable for farming
- A9 Comply to national labor law and regulations for employee/worker safety and welfare
- A10 Aware of the impact of the culture to the community and society

Animal Health and Welfare

- A2 Manage in a sustainable manner and address production health and welfare

Traceability

- A11 Practice routinely data recording/collection
 - A12 Traceability of raw material and products
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Farm Certification Program in Transition to ISO/IEC Guide 65

- Establishment of **Farm Certification Center incl. Certification Committee**
- Establishment of **Board of Director for Certification (on-going)**: comprised of government and private representatives
- **Pilot certification**: 6 provinces starting April 2010
- **Nationwide implementation** for shrimp and fish farm certification starting August 2010

Major Program Elements concerning Fish Inspection and Control System of the exporting fisheries products

**1. Fishery Establishment
Monitoring Program**

**2. Product Surveillance
Program**

3. Import Control Program

**4. Aquaculture drug and
chemical monitoring program**

**5. Bivalve mollusc production
and sanitation program**

DOF Authorized and Qualified Personnel on Farm Certification Program

Authorized/ Qualified Personnel	Number
Trainer	347
Auditor & Lead Auditor	177
Plant Inspector	58
Total	582



Thai Shrimp Traceability towards Computerized Traceability: “TraceShrimp”

**Implement the traceability system for whole
supply chain--**feed, hatchery, farm,
distributor, processor:****

- **Manual Traceability (i.e. MD, FMD)**
- **Computerized Traceability System:
Thai-EU Partnership Program**

www.ThaiTraceShrimp.com

Labeling: Q-Mark

Official Label of Ministry of Agriculture and Cooperatives, Thailand



Thai regulator has responded to expand exports and grow markets

- **Develop research and technology on fisheries, aquaculture and product development**
- **Enhance fish stock for increase natural resources**
- **Promote fishery management and co-management with local people**
- **Increase culture potential by development of culture area, infrastructure and improve genetic breeding**
- **Set up the national and regional and promote GAP and COC standards in aquaculture production**
- **Strictly control of diseases at entry ports and compartment control system are applied**

- **Strengthen environmental friendly and traceability system for shrimp production**
- **Provide Program concerning Fish Inspection and Control System of the exporting fisheries products**
- **Promote organic shrimp and other value added products to increase market potential for both local and international market**
- **Promote primary Production and Production insurance for either natural disaster, price declined or serious currency exchange**
- **Promote consumption of fishery product by national and international exhibition**