

# FISHERIES SUB-SECTOR IN MALAYSIA – *An Insight*



# MALAYSIA

## KEY ECONOMIC INDICATORS



	2011 <sup>(p)</sup>	2012 <sup>(f)</sup>
Population (million)	28.6	28.9
Labour force (million)	12.6	12.9
Employment (million)	12.2	12.5
Unemployment rate (%)	3.1	3.2
Nominal GDP (RM billion)	881.1	936.8
Nominal GNI (RM billion)	859.0	917.5
Real GDP growth rate (% p.a)	5.1	4.0~5.0
Per capita income RM	29,661	31,215
Per capita income US\$	9,693	9,755
Per capita income PPP(US\$)	17,250	18,023
Inflation (% p.a)	3.2	2.5~3.0
Merchandise exports (RM billion)	696.6	717.8
Merchandise imports (RM billion)	548.5	562.2
Current account of BOP (% of GNI)	11.3	12.0
Exchange rate (RM/US\$)	3.06	3.10*

Notes : <sup>(p)</sup> Preliminary <sup>(f)</sup> Forecast \* Data as at Jan-May 2012.





# INTRODUCTION

## MALAYSIAN FISHERIES WATERS AND THE EXCLUSIVE ECONOMIC ZONE

- Malaysia is a maritime nation with a coastline of 4,675 km.
- Declaration of EEZ on 25 April, 1980
- Expansion of maritime waters to 4 x from 46,000 to 162,000 sq. nautical miles.

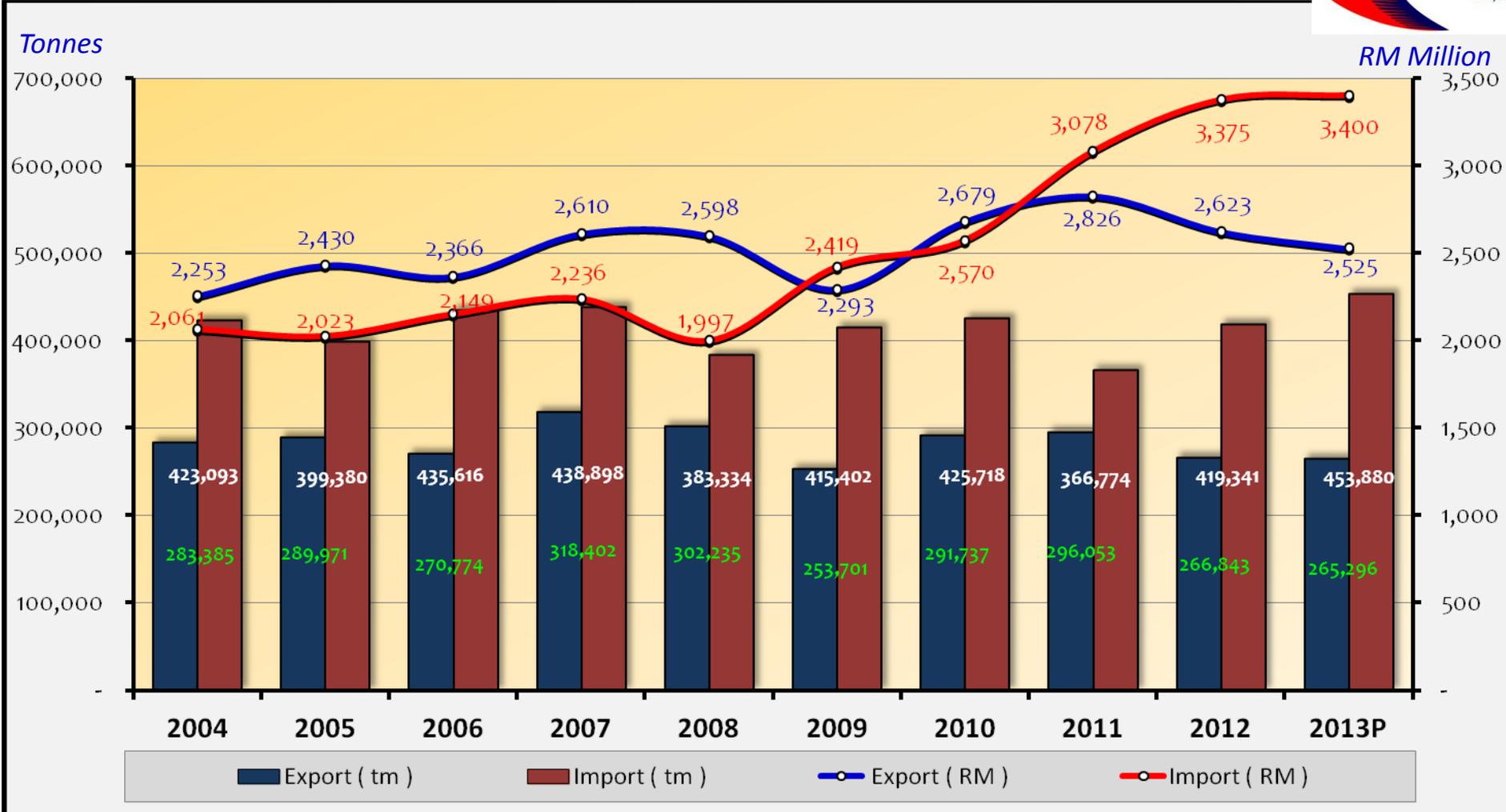


# Fisheries Development Policy

- **National Agrofood Policy (NAP 2011 - 2020)**
  - ❖ Focus on increasing of productivity and competitiveness,
  - ❖ Ensuring food security,
  - ❖ Creating new sources of growth for the economy,
  - ❖ Transformation of agriculture sector,
  - ❖ Private sector driven on priority species,
  - ❖ Fisheries industrial supports services,
  - ❖ Sustainable development.



# The Importance of Fisheries Sub-Sector in Malaysia



- ❑ Food fish production in 2013 was 1.7 million tonnes at RM10.7 billion
- ❑ Contribution to National GDP 1.1%, 14.4% Agriculture GDP (constant prices)
- ❑ 174,000 employment (144,000 fishermen, 30,000 culturist)
- ❑ 347 million pcs (RM353 mill) ornamental fish

# Supply and Demand of Food Fish



YEAR	2011	2015	2020
<b>SUPPLY</b> (million tons)	1.87	2.07	2.36
<b>DEMAND</b> (million tons)	1.51	1.75	1.92
<b>Per capita consumption</b> (kg)	53.1	56.8	61.1
<b>SSL (%)</b>	101	102	110



# Characteristics of Fish Production in Malaysia

- ❖ Marine capture fisheries constitute 82.7 % of Malaysia's fish production valued at RM7.9 billion
- ❖ Coastal fisheries is major contributor (63.8%) at maximum sustainable level of exploitation
- ❖ Production from deep sea fisheries sector in the EEZ still expanding
- ❖ High emphasis by Govt. of Malaysia to develop fisheries sector
- ❖ Main focus to increase fish production to support increasing demand for fish:
  - i. Aquaculture development
  - ii. Fishing in international waters



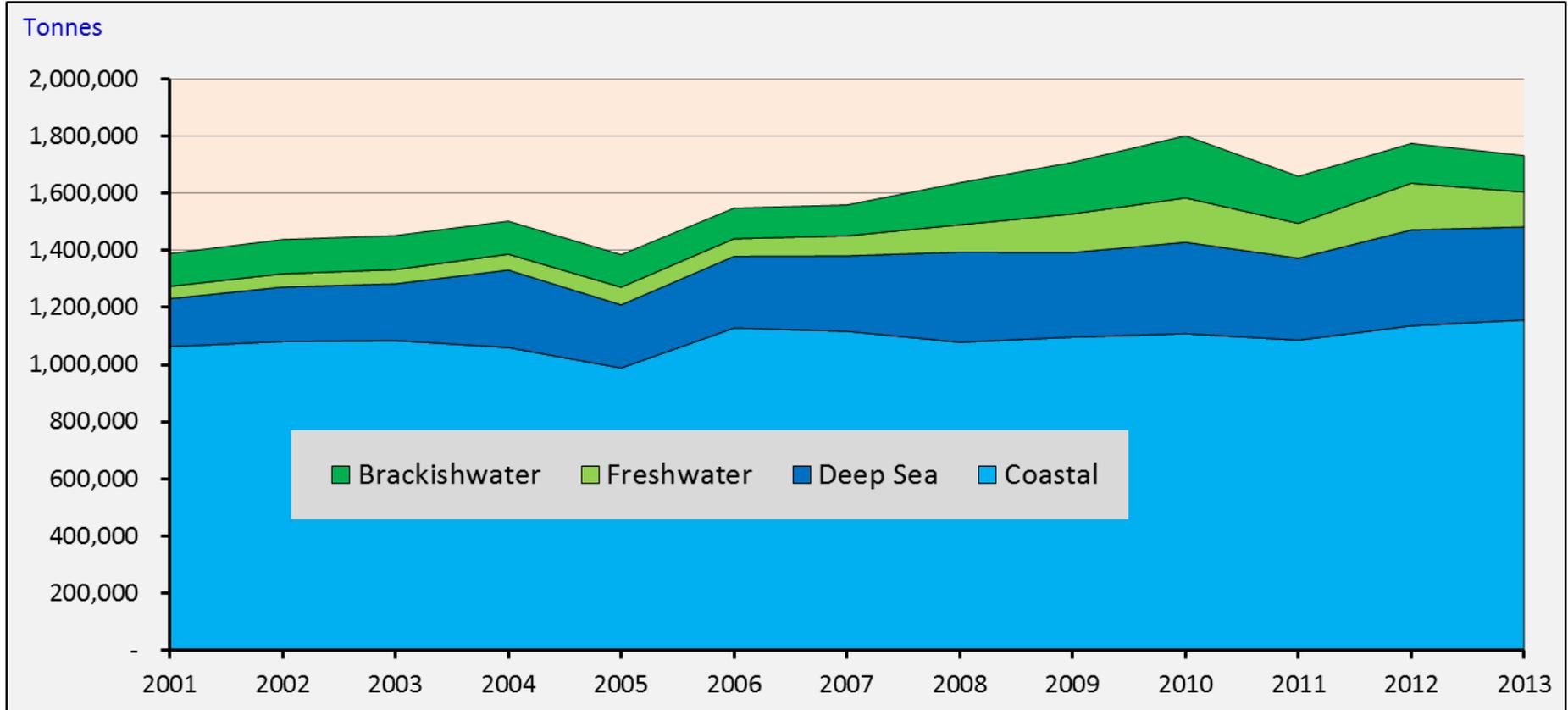
# Licencing of fishing vessels and fishing appliances

- Fisheries zone for commercial and traditional fishing gears
- Licencing of fishing vessels and fishing gears
- Monitoring the operation of the fishing vessels
- Reducing vessels operating non environmentally friendly fishing gears
- Species specific fisheries management plan





# Contribution of Aquaculture to Malaysian Food Fish Production (tonnes)



Aquaculture production (food fish) 2013, 500 thousand tonnes at RM2.6 billion.

# The Roles of Aquaculture in Food-fish Production

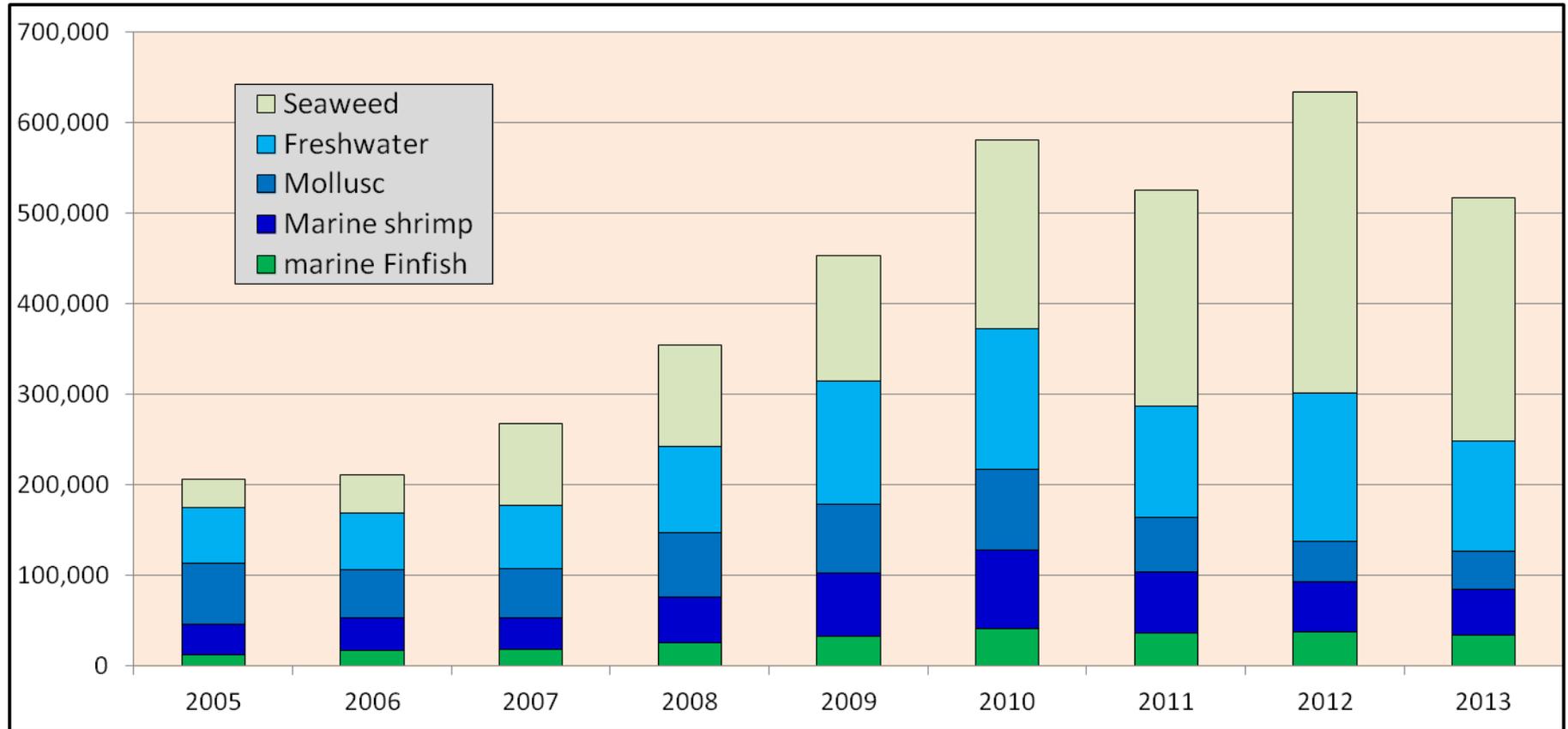


## ECONOMIC TRANSFORMATION PROGRAMME

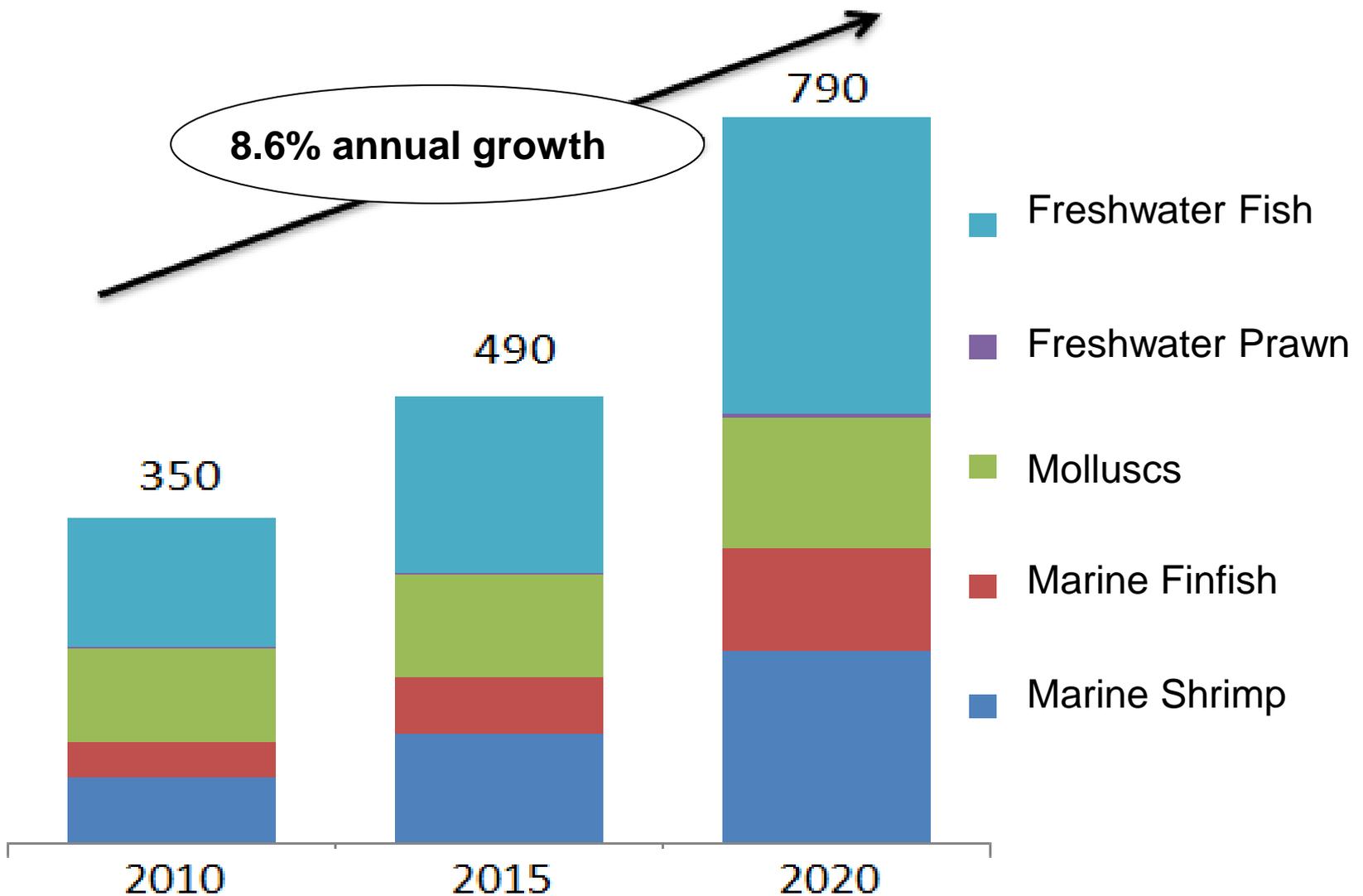


- National food security (protein supply),
- Aquaculture amongst the National Key Economic Area,
- Lessen pressure on capture fisheries,
- Generate foreign exchange earnings,
- Provide employment & career development,
- Diversify /alternative income to fishermen & farmers,
- Provide business & investment opportunity.

# TREND OF AQUACULTURE PRODUCTION IN MALAYSIA 2005-2013 (tons)



# AQUACULTURE TARGETED PRODUCTION 2010-2020 ('000 M.T.)





# Promoted Area of Investment

- **Aquaculture**
  - ❖ AIZ (49 sites covering 27,000 ha. of land and water bodies)
  - ❖ Shrimp, marine finfish & freshwater fish,
  - ❖ Aquaculture Hatchery (Marine Finfish),
  - ❖ Domestic & export market.
  
- **Ornamental Fish**
  - ❖ Production technology & trade.
  
- **Fish-based Processing Industry**
  - ❖ Regional source of raw materials,
  - ❖ Harmonization of Products Certification.
  
- **Deep sea Fisheries**
  - ❖ Fishing in International Waters
  - ❖ Development of Integrated Fisheries Port
    - ❖ Tg. Manis Integrated Fishing Port, Sarawak
    - ❖ Tok Bali Integrated Fishing Port

# Strategy to Promote Private Sector Investment



- Establish Aquaculture Industrial Zones (ZIA)
- Infrastructure Grant under NKEA Aquaculture (EPP 3, EPP4 & EPP 6)
- Promote Business integration (established JV partner in aquaculture ventures)
- Promote Market Outlet (Domestic & International Expositions)
- Technology Innovation and Transfer (R&D & Incubation Programme)



# Aquaculture Amongst the National Key Economic Area (NKEA)

By 2020 aquaculture will be transformed into agribusiness, moving towards a model that is inclusive but simultaneously anchored on market needs, economies of scale and value chain integration.

- Entry Point Projects (EPP):-

  - EPP 3 – Seaweed Mini Estates

  - EPP 4 – Integrated Cage Farming

  - EPP 6 – Integrated Shrimp Aquaculture Zones

- Business Opportunities (BO):-

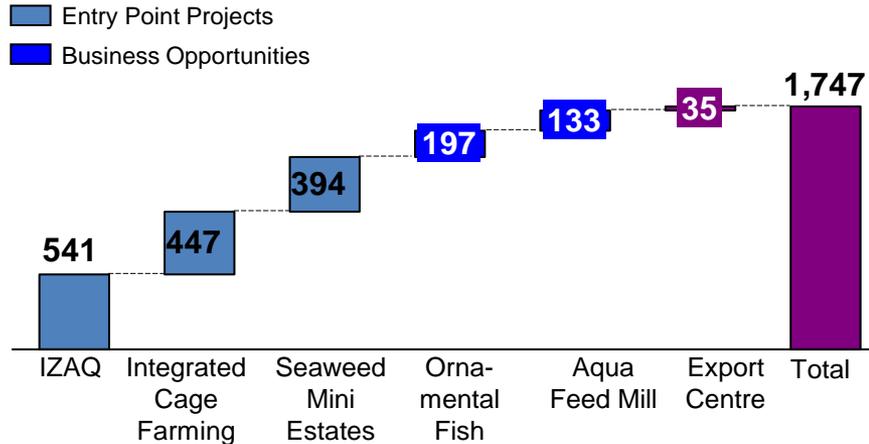
  - BO 8 – Ornamental Fish

  - BO 9 – Aquaculture Feed Mills

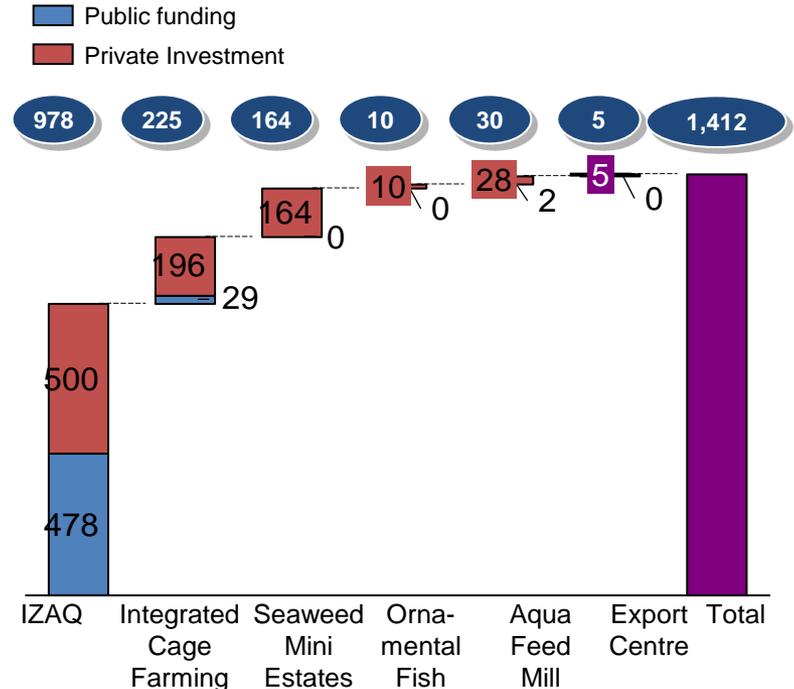
  - BO 10 – Aquaculture Export Centres

# Aquaculture Amongst the National Key Economic Area (NKEA)

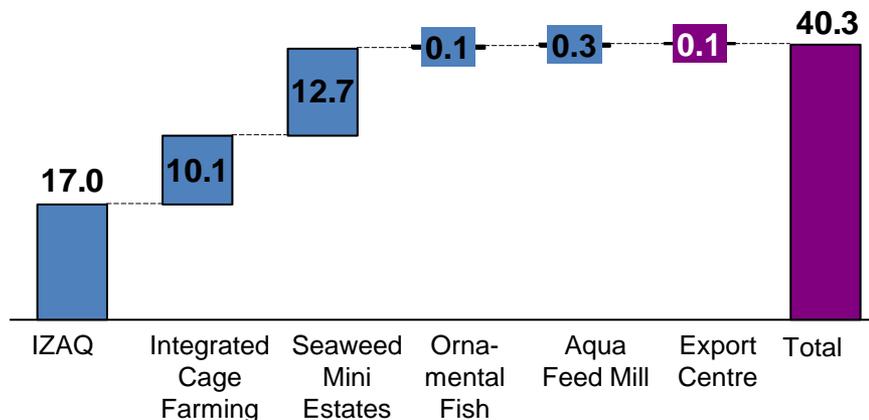
## Estimated Growth National Income (GNI), 2020 (USD millions)



## Capital Investment Requirement, 2011 – 2020 (USD millions)



## Estimated total employment in Malaysia, 2020 ('000 people)



- Total public funding is : USD 509 millions (36%)
- Total private funding is : USD 903 millions (64%)

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## Shrimp Initiative: Integrated Zone for Aquaculture (IZAQ)

Replication of 1,000ha integrated and certified biosecure zones to produce fully traceable and certified shrimps for the premium export markets



**IZAQ Grow-out ponds  
(BAP / GlobalGAP)**



### Processing

Hazard Analysis Critical Control Point (HACCP), Good Measurement Practice (GAP) and Alpha Catalyst Consulting (ACC)

**Certification,  
Accreditation  
and Verification  
system on site**



**Feedmill**



**Hatchery**



**Premium Markets**

Certification Standards: Entire Production Chain

# SHRIMP FARMING



BLACK TIGER (*Penaeus monodon*)



PASIFIC WHITE SHRIMP (*Penaeus vannamei*)



Commercial shrimp farming

# SHRIMP FARMING - HARVESTING



# FRESHWATER FISH CULTURE IN EARTHEN PONDS



Tilapia



Catfish



Riverine catfish



Giant Freshwater Prawn

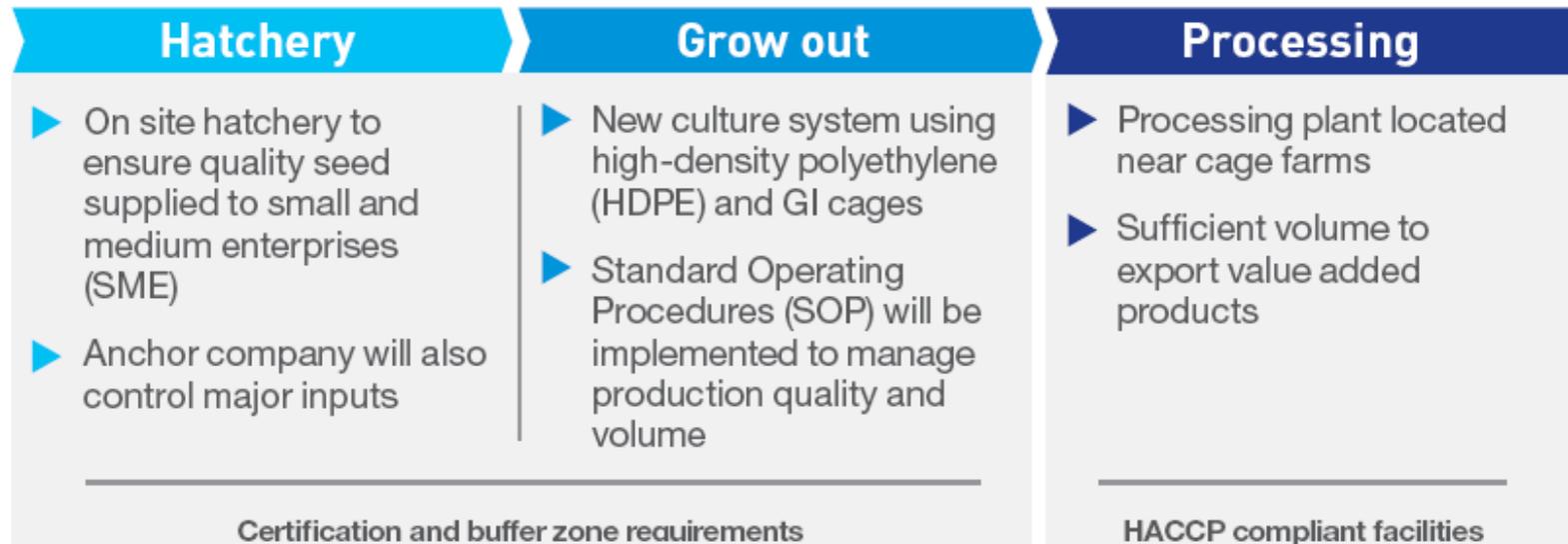


# SHRIMP PROCESING



### 3 Fish Initiative: Integrated Cage Farming

Integrated modern approach for large scale fish cage farming will be implemented in new aquaculture industrial zone (ZIA) areas and championed by strong anchor companies



#### Focus will be on three species that have strong global demand

Broodstock centres will be developed to create high quality fry and reduce import dependency on high value fin fish



#### Target

Specific breeding goals e.g. growth rate, low feed conversion ratio (FCR) and disease resistance

#### Locations

- ▶ Rompin — Sea bass and Grouper
- ▶ Tasik Kenyir — Tilapia
- ▶ Kuching — Seabass and Grouper

# Marine Finfish Seed Production

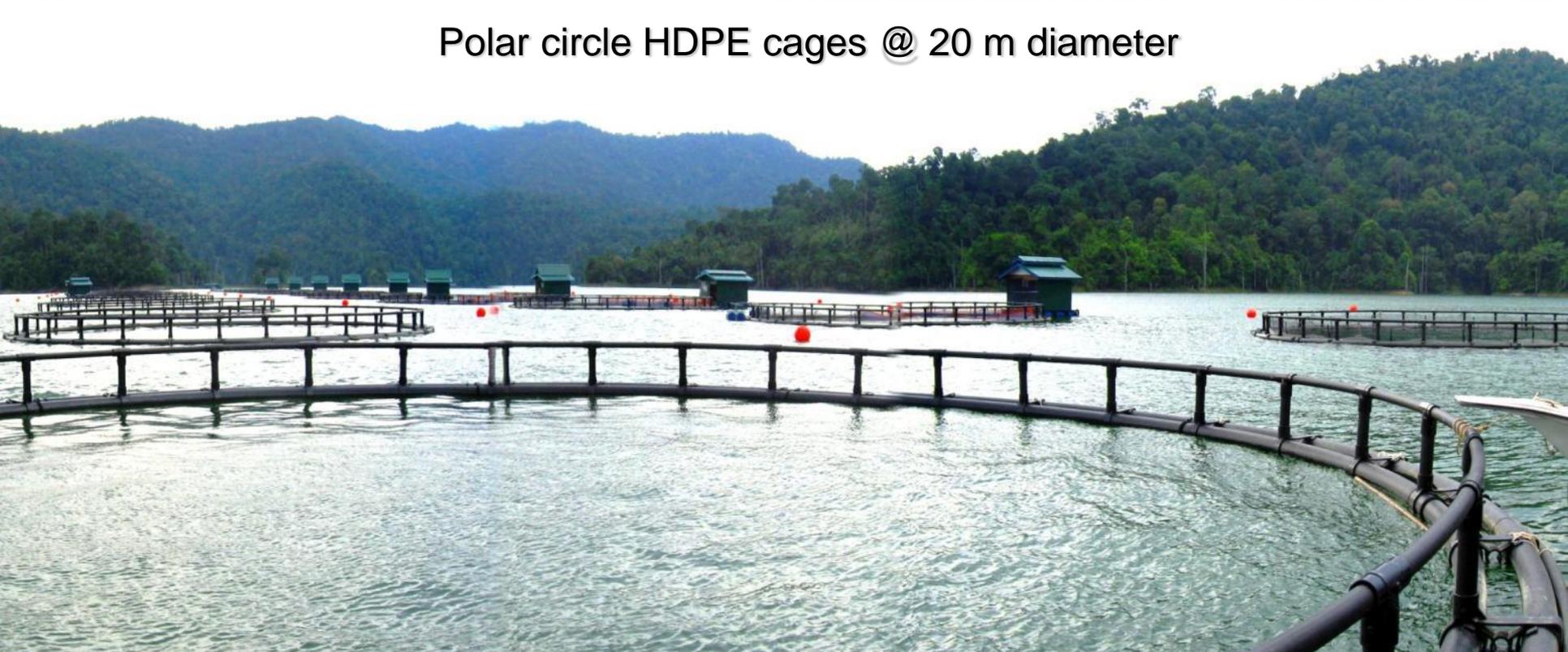
- ✓ More than 16 Species of Marine Finfish are successfully bred in Malaysia (Coral trout, mouse grouper, Hybrid grouper, Pompano and others).
- ✓ Seabass and snappers fingerlings are produced commercially and provides self sufficiency.
- ✓ Dependence on imported grouper and pompano fingerlings mainly from Indonesia and Taiwan is still prevalent.
- ✓ Seed production systems have improved considerably from traditional pond based system to tank system and most recently the Recirculating Aquaculture System



## (FRESHWATER FISH CULTURE – POLAR CIRCLE CAGES)

50 tones capacity per cycle GIFT Tilapia

Polar circle HDPE cages @ 20 m diameter



# FARM MANAGEMENT (FEEDING)



50 tones capacity per cycle GIFT Tilapia

# HARVESTING FOR LIVE FISH MARKET (Domestic & Export)



# The Role of Department of Fisheries



## Aquaculture Industrial Zones (AIZ)

- Aquaculture Industrial Zones (AIZ) are designated zones for both lands and water bodies which are granted by the state government for commercial scale aquaculture projects.
- At present there are 49 sites covering more than 28,000 hectares.
- The Federal Government's contribution in developing these areas is to provide:-
  - Macro planning
  - Infrastructure Grant
  - Technical support

# The Role of Department of Fisheries



- **Technology Development (R&D)**
  - R&D Program (Fisheries Research Institute – FRI)
  - Aquaculture Development Centers (ADC)
- **Transfer of Technology (ToT)**
  - Training,
  - Incubation Program,
  - Technical Support,
  - Pilot & Demonstration Project,
  - Synergic Farmers,
  - Supply of quality broodstock/ fish fry



# The Role of Department of Fisheries

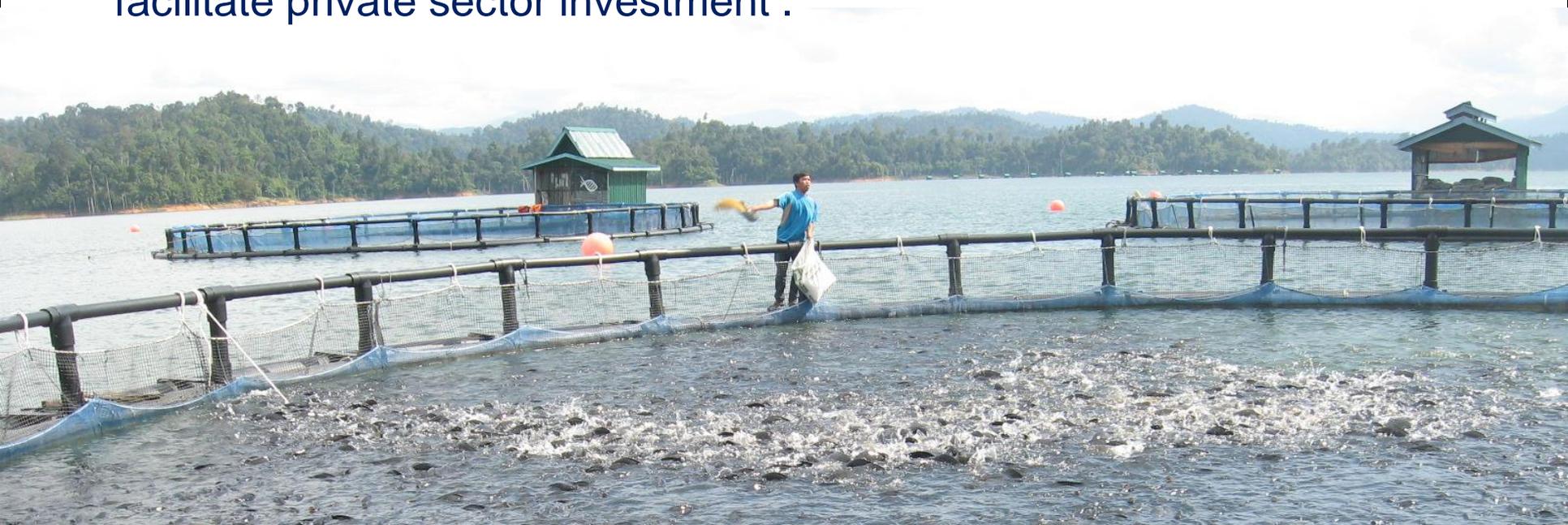


- **Investment & Trade Promotion**
  - ZIA (49 sites - 27,000 ha.)
  - Infrastructure Grant (30% of total private investment)
  - Trade Promotion (Domestic & International Trade)
- **Incentive**
  - Investment Promotion Incentives  
(Tax Exemption – income tax, import duty, investment allowance)
  - Infrastructure Grants
- **Development Control**
  - Inland Fisheries Act(Aquaculture)
  - Marine Culture Regulation
  - Farm Certification



# Conclusion

- It is the objective of the Department to manage the fisheries sector into an economic, profitable and sustainable industry in the long run and at the same time to protect and rehabilitate the habitats in the marine ecosystem.
- Fishery resources that are well managed will benefit in providing food for consumption, employment and income.
- Government will continue to provide business support services and facilitate private sector investment .



# THANK YOU

## Further Information:

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