CURRENT STATUS OF AQUACULTURE IN MALAYSIA

Johari Tim & Jamaludin Ibrahim
Department of Fisheries, Malaysia
Putrajaya
1. Brief History

2. Malaysia Aquaculture Production

3. Role of Aquaculture

4. Zoning – AIZ

5. NKEA for Aquaculture
Aquaculture Issues

1. vs development – urbanization, industrialization, agriculture etc...

2. vs environment – ecosystem conservation, pollution, NGO’s, etc.....

3. Marketing – standard, certification, food safety.....

4. Investor - ??
Aquaculture Development: Brief history

• Began in 1920’s with the extensive poly-culture of Chinese carps in ex-mining pools.
• Mid 1930’s, marine shrimp trapping ponds.
• Early 40’s, the culture of blood cockles.
• Mid 50’s, extensive culture of freshwater fishes in earthen ponds.
• Early 1970’s, the semi-intensive culture of shrimp.
• In the 80’s, commercial aquaculture (establishment of fish and shrimp hatcheries and the setting up of private feed mills).
• In the 90’s commercial scale integrated shrimp farms (from hatchery to processing plant & export).
• In the 2000’s emphasis on food safety and fish health management from source to table.
Water area is the sum of the surfaces of all inland water bodies, such as lakes, reservoirs, or rivers, as delimited by international boundaries and/or coastlines.

Ex-mining – 1,466 ha
Cages – 48 ha
Ponds – 5,355 ha
Marine/brackish water – 28,000 ha

Land AREA of Malaysia

Area: total: 329,847 sq km
land: 328,657 sq km
water: 1,190 sq km

(2011)
MALAYSIA AQUACULTURE PRODUCTION

Pengeluaran (T.M)
- China: 66%
- India: 8%
- Vietnam: 5%
- Indonesia: 4%
- Bangladesh: 1%
- Thailand: 1%
- Norway: 1%
- Egypt: 1%
- Myanmar: 1%
- Philippines: 1%
- Japan: 1%
- Chile: 1%
- USA: 2%
- Brazil: 2%
- Korea Rep: 2%
- Malaysia: <1%

Nilai (USD '000)
- China: 57%
- India: 1%
- Vietnam: 1%
- Indonesia: 1%
- Bangladesh: 1%
- Thailand: 3%
- Norway: 4%
- Egypt: 5%
- Myanmar: 5%
- Philippines: 5%
- Japan: 5%
- Chile: 3%
- USA: 3%
- Brazil: 2%
- Korea Rep: 1%
- Malaysia: 1%

Sumber: FAO (2010)
# AQUACULTURE PRODUCTION: 2001-2010

<table>
<thead>
<tr>
<th>COMMODITY / YEAR</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARINE</td>
<td>133,562</td>
<td>145,439</td>
<td>146,927</td>
<td>146,668</td>
<td>145,213</td>
<td>141,719</td>
<td>150,374</td>
<td>258,447</td>
<td>317,769</td>
<td>425,649</td>
</tr>
<tr>
<td>FRESH WATER</td>
<td>43,456</td>
<td>46,403</td>
<td>49,947</td>
<td>55,557</td>
<td>62,006</td>
<td>62,733</td>
<td>70,064</td>
<td>95,918</td>
<td>135,238</td>
<td>155,398</td>
</tr>
<tr>
<td>TOTAL</td>
<td>166,973</td>
<td>191,842</td>
<td>196,874</td>
<td>202,225</td>
<td>207,219</td>
<td>203,452</td>
<td>220,438</td>
<td>354,365</td>
<td>453,859</td>
<td>581,048</td>
</tr>
</tbody>
</table>

---

![Graph showing the production (in M.T) for marine and fresh water from 2001 to 2010.](image-url)
As of 2009, Malaysian fishery performance is still dependent on capture. In view of **growing population and stagnant capture resources**, **aquaculture must be increased further** from current 25% contribution.

Malaysia shares similar scenario on stagnant fish resources performance from capture fisheries. However, aquaculture sources are still low at 25% (seaweed as major contributor - 29.4%)

*Source: Perangkaan Perikanan, Jabatan Perikanan Malaysia*
AQUACULTURE TARGETED PRODUCTION
2010-2020 (‘000 M.T.)

8.6% annual growth

- Freshwater Fish
- Freshwater Prawn
- Molluscs
- Marine Finfish
- Marine Shrimp

NAP 2011-2020
Freshwater Cage Aquaculture

2 Cultured Species

- Black Tilapia
- Red Tilapia
- RIVERINE CATFISH (*Pangasius sp.*)
Marine Cage Aquaculture

1. Culture Technology

2. Cultured Species

- Seabass 33%
- Snappers 29%
- Groupers 20%
- Others 18%

Species in marine cage aquaculture.
The Roles of Aquaculture

- Reduce gap between supply vs demand of food fish (National food security),
- Lessen pressure on capture fisheries,
- Generate foreign exchange earnings,
- Provide employment & career development,
- Diversify/alternative income to fishermen & farmers,
- Provide business & investment opportunity.
The Zoning of Aquaculture Area

- 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: 49 sites covering more than 28,000 hectares.
- The Federal Government's contribution in developing these areas is to provide:
  - Macro planning
  - Technical support.
- The projected aquaculture production is 400,000 metric tonnes with a value of RM5.8 billion.
**Commercial Aquaculture Species**

- **Freshwater aquaculture:**
  Tilapia (*Oreochromis sp.*),
  Catfish (*Clarius sp.*, *Pangassius sp.*),
  and Freshwater Prawn (*Macrobrachium rosenbergii*).

- **Marine aquaculture:**
  Finfish: Sea bass, grouper, snapper,
  Crustaceans: Black tiger shrimp (*Penaeus monodon*),
  white shrimp (*P. vannamei*),
  Bivalve – cockle, mussel and oyster,
  Seaweed – *Kappaphycus alvarezi*
AIZ - Potential Cage Farming Area

- **Langkawi**: Seabass, Grouper (5,440 tonnes)
- **Tasik Pedu**: Tilapia (24,000 tonnes)
- **Tasik Temenggor**: Tilapia (24,000 tonnes)
- **Tasik Kenering**: Tilapia (24,000 tonnes)
- **Pulau Tioman**: Tilapia (24,000 tonnes)
- **Pulau Bidong**: Seabass, Grouper (6,400 tonnes)
- **Kenyir Lake**: Tilapia (24,000 tonnes)
- **Batang Ai**: Tilapia (24,000 tonnes)
- **Sg. Johor**: Seabass, Grouper (6,400 tonnes)
- **Bakun Lake**: Tilapia (24,000 tonnes)
AIZ – Land based aquaculture

- Kg. Luar
- Kg. Kerawai, Kedah
- Kayan, Lekir, Perak
- Sg. Nipah
- Sempang
- LKIM Sebatu, Malaca
- Gelang Patah, Johor
- Pahang
- Terengganu
- Batang Ai Sarawak
- LKIM TelSaga Air Telaga Air Sarawak
28,000 ha area identified as a Cluster Model of Mini Estate Seaweed

Projection 2010

Area 28,000 HA
1. Small scale farmers 8,000 ha
2. Commercial 20,000 ha

Production 150,000 tm M (dry)
1. Small scale farmers - 50,000 tm
2. Commercial - 100,000 t.m

Price
1. Seaweed (dry wt) RM5,000/t.m
2. Product (refined) RM18,000/t.m

Sale value
1. dry wt RM150 mil.
2. Product RM1,296 mil.
3. Operation cost RM185 mil.
4. GNI RM1,261 / USD394 mil.
NATIONAL AGRO-FOOD POLICY (2011-2020)

IMPLEMENTATION STRATEGIES

(SSL) : Fisheries
> 100%

Increase Existing Production Unit
Development of new area
Increase Competitiveness (R&D&C, ToT, HRD)
Zoning of aquaculture area (ZIA, TKPM)
Promotion eksport
Increase local market
GAqP (FQC, SPLAM,)

Development strategy
NKEA-AQUACULTURE
Integrated Zone of Aquaculture
Integrated Cage Farming
Seaweed Mini Estate
Thank You
Terima kasih