An Overview of Tilapia Sector in Malaysia

Presented by

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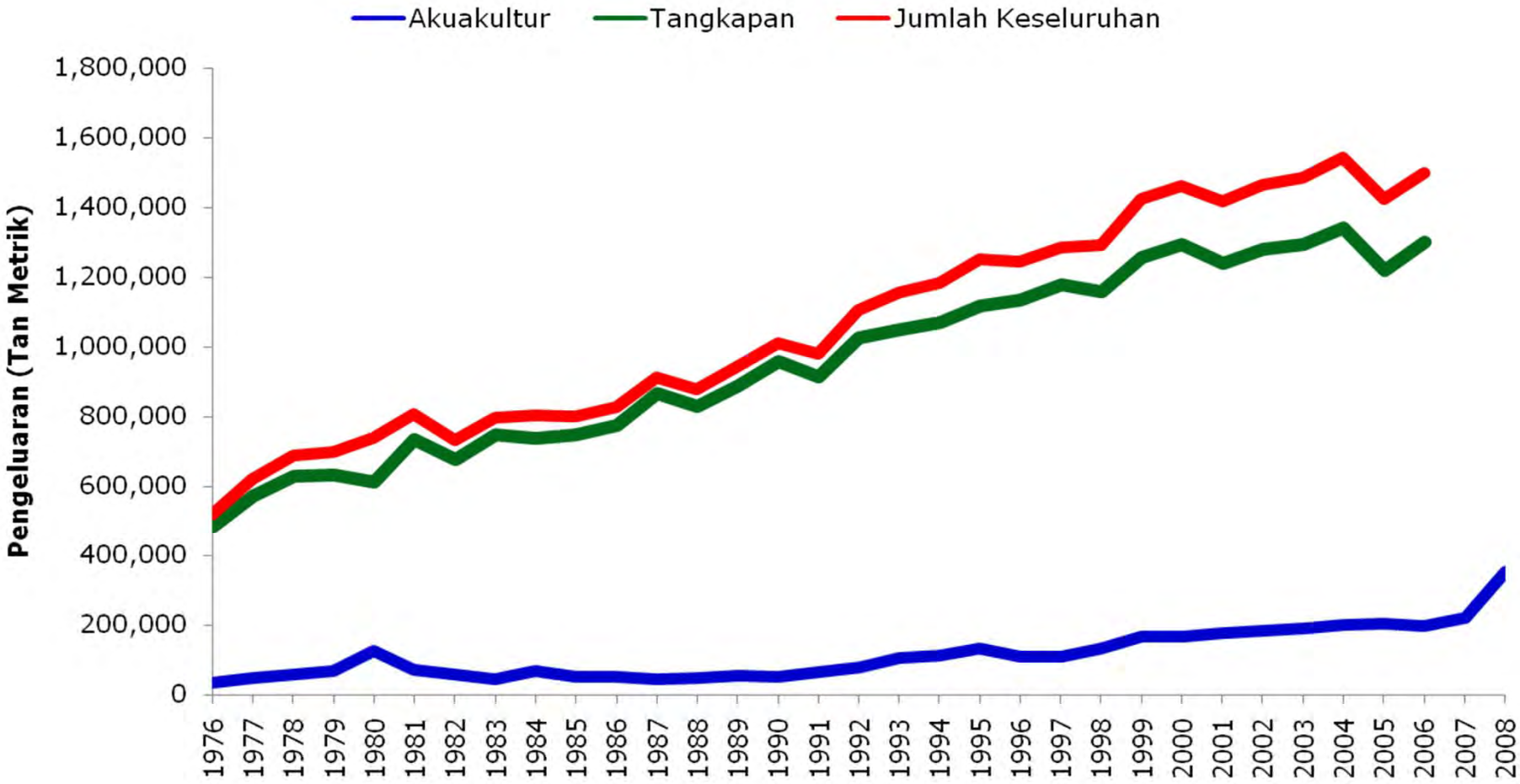
Introduction – Tilapia in Malaysia

- In 70's - as a poor man's fish and was mainly sold in the wet and night market
- In 80's - red Tilapia became popular; more because red was a sign of prosperity and also by some restaurants who managed to concoct a very different and distinct dish
- Recently – Tilapia fillets are introduced; local and import

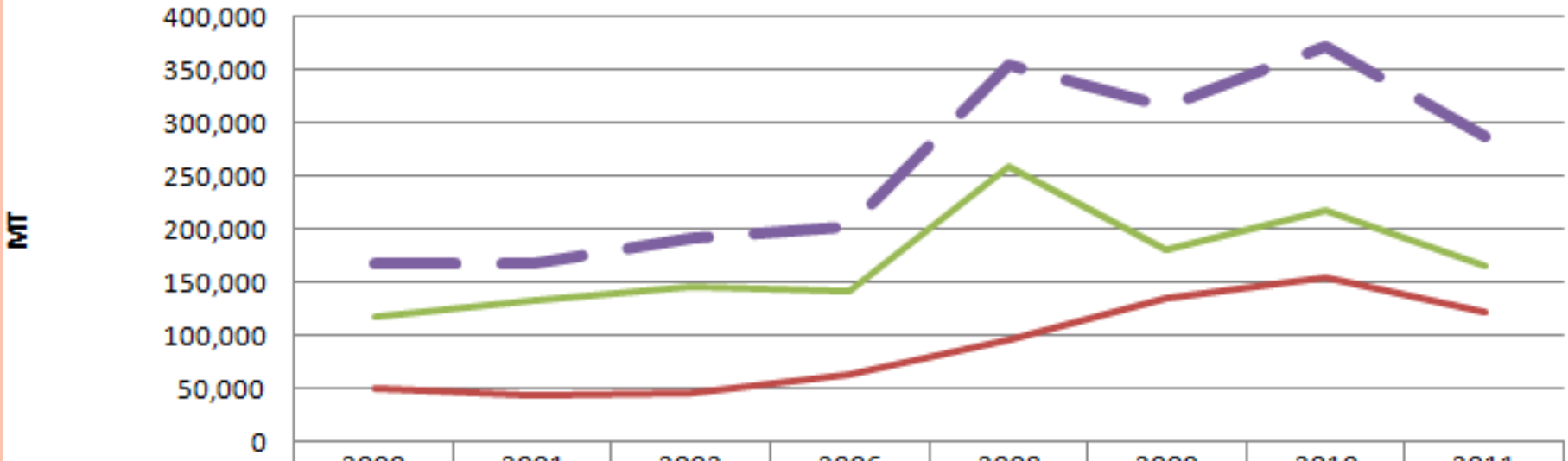
FISHERIES PRODUCTION IN MALAYSIA

MARINE CAPTURE VS AQUACULTURE



AQUACULTURE PRODUCTION, 2000-2011

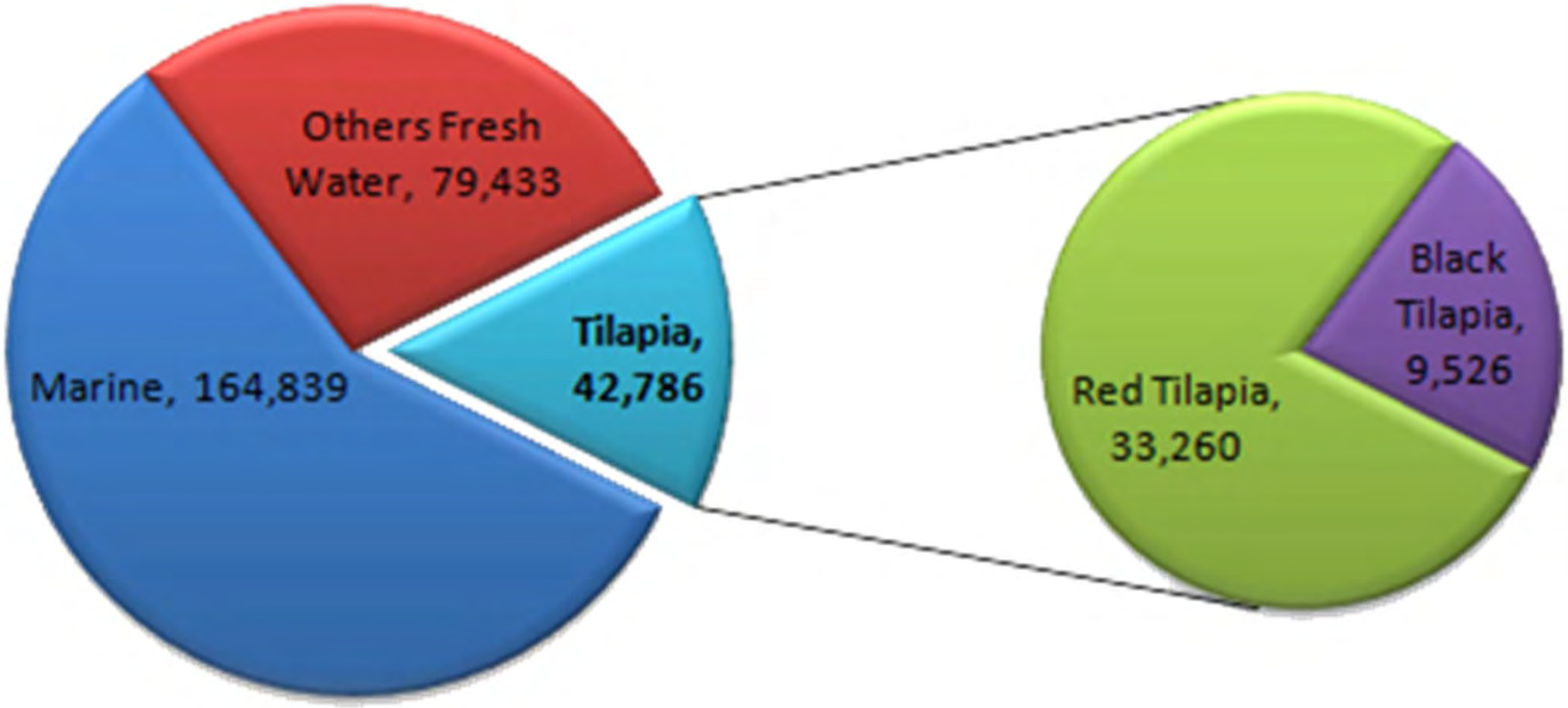
FRESH WATER VS MARINE CULTURE



	2000	2001	2002	2006	2008	2009	2010	2011
FRESH WATER	50,688	43,456	46,403	62,733	95,918	135,238.82	155,398.63	122,218.73
MARINE	117,205	133,562	145,439	141,719	258,447	179,765.42	217,757.37	164,838.68
TOTAL	167,893	166,973	191,842	203,452	354,365	315,004.24	373,156.00	287,057.41

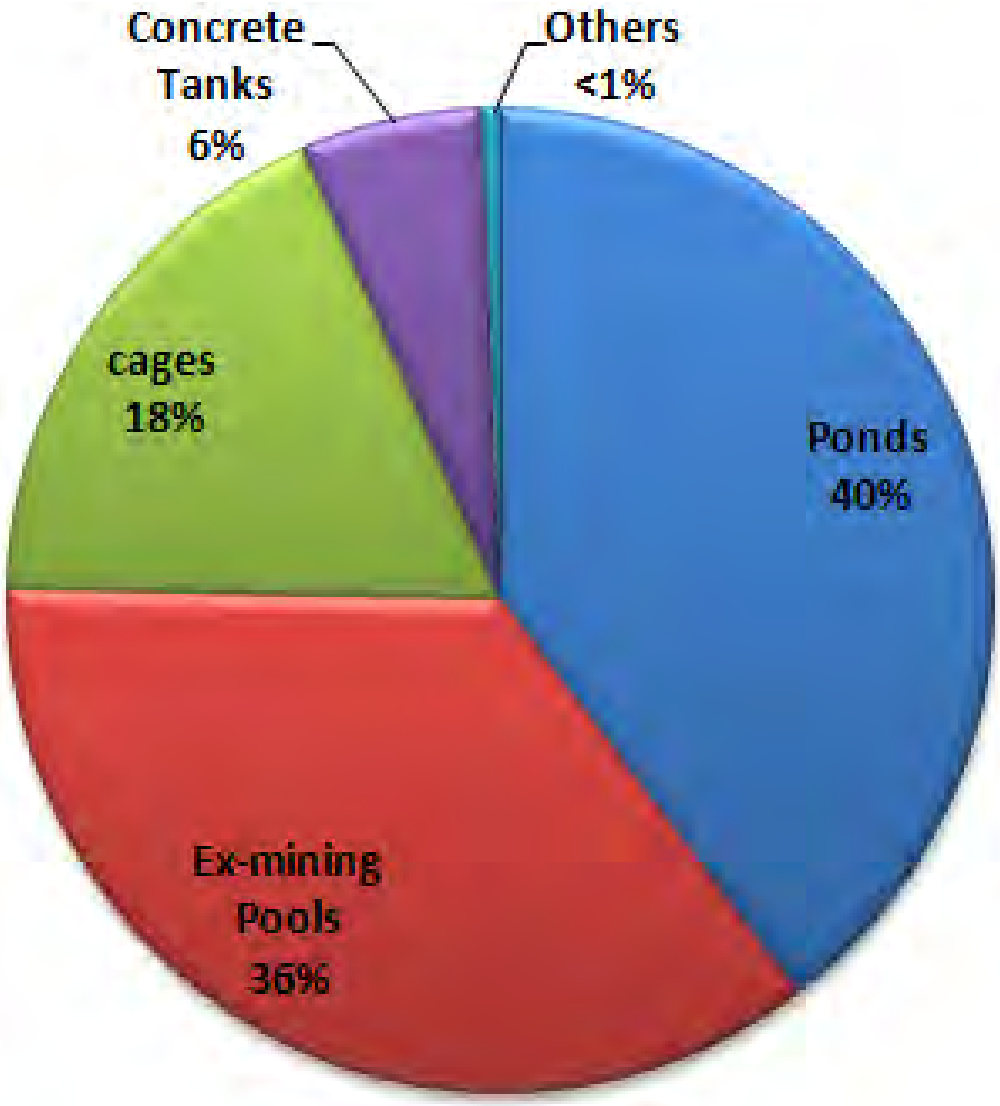
AQUACULTURE PRODUCTION (MT) – 2011

TILAPIA



SYSTEM OF CULTURE – 2011

TILAPIA



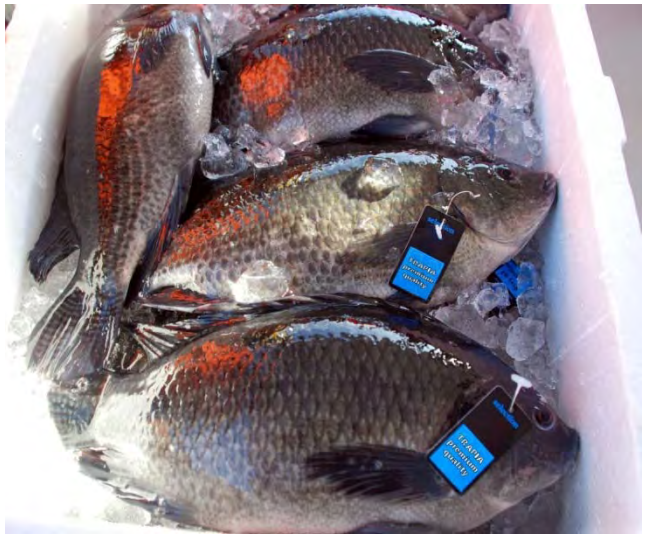
Production and Value – 2011

Tilapia

	Production (MT)	Total Value (RM Mil.)	Avg. Price (RM/kg)
Fresh Water Fish	122,218.73	684.15	5.60
Red tilapia	33,259.93	247.59	7.44
Black Tilapia	9,526.30	54.33	5.70

LOCAL MARKET INFORMATION

- Chilled Whole Fish
  - Retail market and wet market
  - Size : 350-600g
  - Retail Price : RM8-9/kg



Farm
- RM5-6/kg

Distributor
- RM6-7/kg

Consumer
- RM8-9/kg

LOCAL MARKET INFORMATION

- Live Fish
  - Restaurant
  - Size : 500-1,000g
  - Serving Price : RM25-35/kg

Farm
- RM6-7/kg

Distributor
- RM12-14/kg

Consumer
- RM25-35/kg

LOCAL MARKET INFORMATION

- Fillets
  - Supermarkets and food services
  - Size : 3-5oz, 5-7oz
  - Types : Skin-on, Shallow and Deep skinned

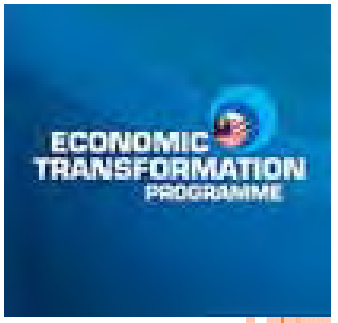
Ex-factory

- RM19-24/kg

Supermarket

- RM25-30/kg

ECONOMIC TRANSFORMATION PROGRAMME (ETP)



- Transforming a traditionally small-scale, production-based sector into a large scale agribusiness industry that contributes to economic growth and sustainability based on an integrated and market-centric model that focuses on economies of scale and value chain integration.

Overview of ETP

- Launched on 25 September, 2010
- part of Malaysia's National Transformation Programme
- developed-nation status by 2020
- targeting GNI per capita of US$15,000, US$444 billion in investments , 3.3 million new jobs.

- The Government's role in the ETP is that of facilitator, coordinating, tracking and monitoring the programme.

ECONOMIC TRANSFORMATION PROGRAMME (ETP)

Grouper, sea bass and tilapia have the potential to be the primary fish species for the export market due to its strong global demand

We have the capability... *... to tap into the global demand*

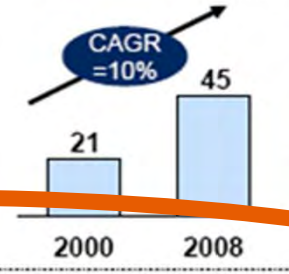
Grouper

- Established grow out technology in the form of floating net cages
- Seeds are readily available
- Availability of air freight to export to targeted countries within 8 hours

- Huge demand for live fish in Far Eastern countries e.g. China, Hong Kong and Taiwan
- Increasing demand from ASEAN countries e.g. Singapore and Thailand

Sea bass

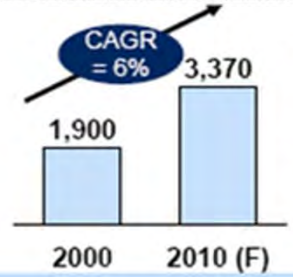
- Production of locally available seed can be easily scaled up to meet growing demand
- Hatchery technology has been established locally
- The [illegible] cages has been established



- Strong and consistent demand within ASEAN countries e.g. Singapore, Thailand and Indonesia
- Can be exported in various forms e.g. live, processed and fresh

Tilapia

- Good stocking material has been developed internationally e.g. GIFT and GST
- Proven grow out technology through HDPE (polar circle)

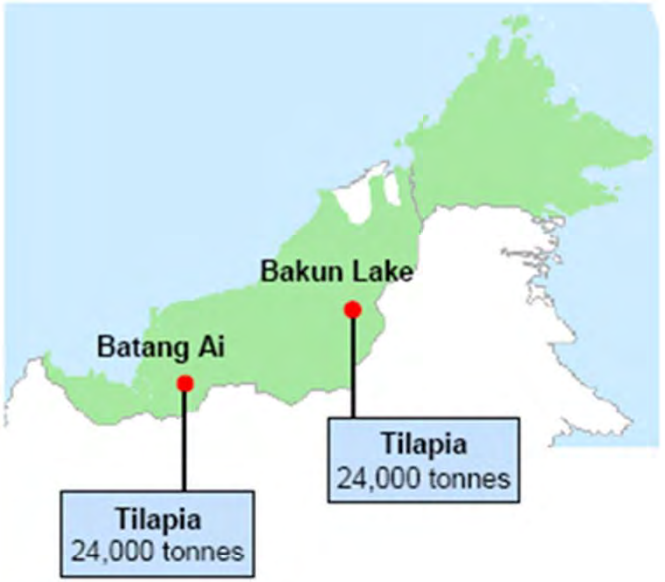


- Strong demand from United States especially premium fillet segment
- Increasing demand from EU and Middle East countries
- High value added pote[illegible]

Source: FAO 2008, Fish [illegible]

ECONOMIC TRANSFORMATION PROGRAMME (ETP)

Several Industrial Aquaculture Zone (ZIA) areas have been identified for large scale and integrated cage farming of the targeted species



ECONOMIC TRANSFORMATION PROGRAMME (ETP)

An anchor company approach in managing the farms require close cooperation between the industry and government to ensure success

Anchor company

- Responsible for the overall management of the project
- Invest and develop all facilities including cages, hatchery and processing plant.
- Lease out modules of cages for individual/SME under contract farming scheme
- Provide training program for operators of the scheme
- Provide inputs to the operators such as fish seeds and feed
- Provide buy back scheme for the operators.
- Provide extension services
- Marketing of products

Smallholders/SMEs

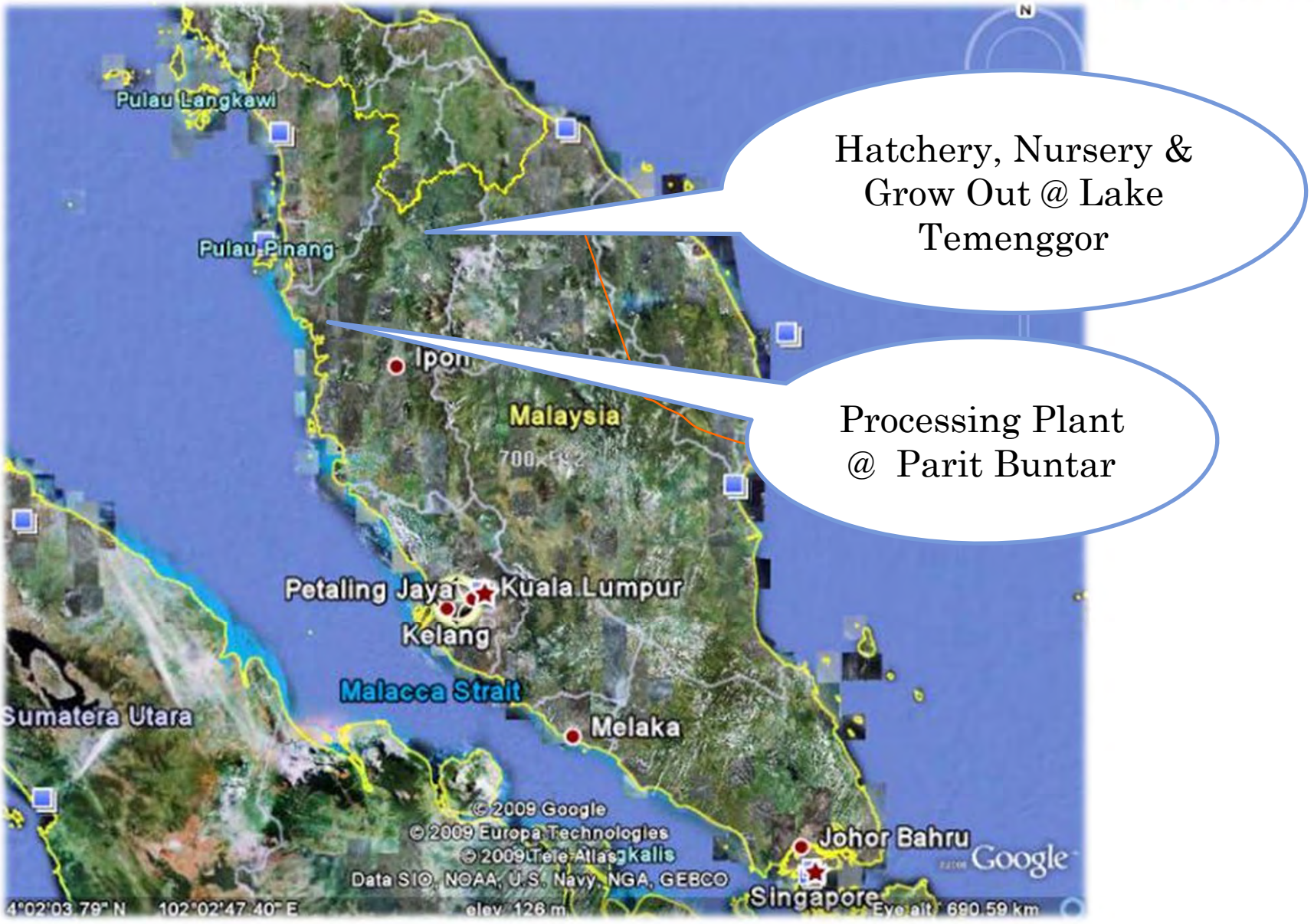
- Operate individual module of cages
- Attend training program provided by anchor company
- Invest in costs of operation including buying inputs from anchor company
- Have to follow the operation manual (SOP) provided by anchor company
- Contract farming/profit sharing arrangement between SMEs and anchor companies

The Government

- Provide basic infrastructures such as jetties, access roads, electric and clean water supply.
- Create enabling environment for the growth of aquaculture such as incentives, standards, etc
- The state governments provide land/water bodies for the investors
- Incorporate aquaculture projects with local plan

ECONOMIC TRANSFORMATION PROGRAMME (ETP)

AN EXAMPLE : TRAPIA MALAYSIA



Hatchery, Nursery & Grow Out @ Lake Temenggor

Processing Plant @ Parit Buntar

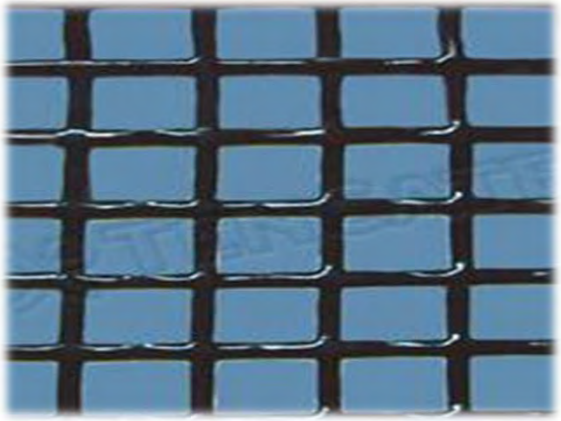
HATCHERY

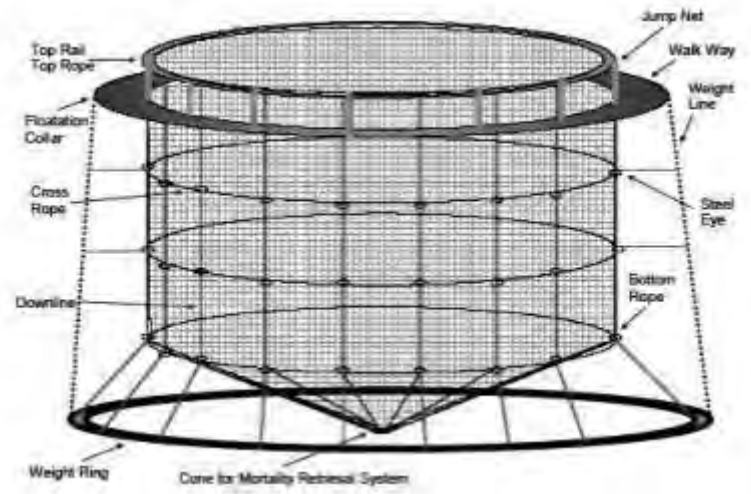
NURSERY & GROW OUT

GROW-OUT

Aquagrid™ semi-rigid containment net system

- Reduced risk of escapees and financial loss
- Non-bio fouling
- Longer lifespan compared with conventional netting
- Lower operational costs due to handling and cleaning reduction
- Enhanced flow due to semi-rigidity and non-biofouling

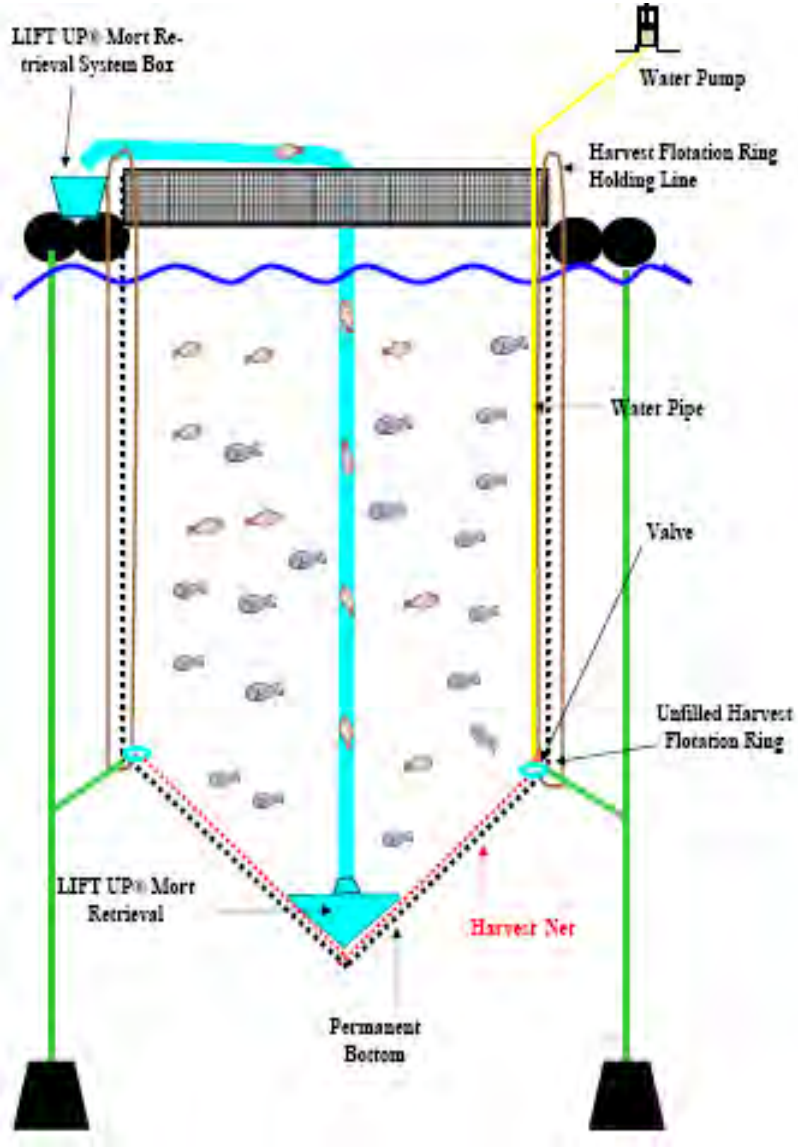




GROW-OUT

Liftup™ mortality and waste removal system

- Rapid, simple and effective mortality removal
- Removal of feed and faeces waste thus reducing environmental impact
- Reduced spread of bacteria and virus's



PROCESSING

PRODUCT –WHOLE FISH

PRODUCT - FILLETS

Complies with the certification standards of international accreditation bodies such as **Global Gap, BRC, ISRTA** (International Standard for Responsible Tilapia Aquaculture**),** **ASC, EU, HACCP, SPALM** and **Halal**

ECONOMIC TRANSFORMATION PROGRAMME (ETP) - TILAPIA PRODUCTION BY 2020

- Additional Production : 144, 000 MT
- Marketed as whole fish : 43,200 MT
- Marketed as fillets : 30, 326 MT
- Value : RM 1,126 millions

ECONOMIC TRANSFORMATION PROGRAMME

Challenges

However, several challenges under ZIA programme need to be addressed to enable faster delivery and better production of the new cage farming

	From	*To*
Management	• Lack of business and management skills in running the farms • Government supervision of farms which is less effective • No proper business model to run the farms successfully	• Project will be managed by anchor company that will outsource certain cages/ facilities to SMEs e.g. Synergy Farming concept by an existing anchor company • Incentives to encourage human capital development especially for production workers
Integration	• Existing players in ZIA areas are mainly SMEs that lack capital to purchase quality inputs and cages • Farmers that focus on grow out ponds only – cannot control quality of input e.g. fry	• Integrated cage projects will be of sufficient scale and size to make commercial farming feasible. Other ZIA areas that are small will continue with existing method of production
Land and Infrastructure	• Slow & difficult land approval by state government. • Existing players in ZIA areas are mainly SMEs that lack capital to build basic & common infrastructure	• Utilise the allocated areas under ZIA preferably to use water bodies to shorten time to undertake a project. • Basic infrastructures are to be provided by the government under HIP/ZIA program
Technology	• Conventional culture system has low productivity (i.e. non mechanised cage cleaning) • Poor quality of seeds affect growth rate and likelihood of disease infection	• Use of big HDPE cages with mechanization to increase productivity • Establish Broodstock Centres to undertake broodstocks development to supply high quality broodstocks to hatcheries

CONCLUSION

- The aquaculture industry especially the farming of Tilapia will play a very important role in achieving the stated objectives in the country's National Agro-Food policy
- However the Government has to ensure that there is a good regulatory framework in place so that the Aquaculture industry can develop in a sustainable manner to cater for future demands in fish.