

Caged in

The aquaculture industry in Malaysia is plagued by a range of problems that need to be addressed immediately

Aquaculture has a long history in Malaysia. Initially, aquaculture started as a traditional practice, integrated with agriculture and done on a small scale. Around 1970, the aquaculture industry began to grow in the country when semi-intensive shrimp farming was introduced in Johor State. Cage culture also began to be developed at that time, followed by cockle and mussel farming.

Between 1970 and 1980, the aquaculture industry collapsed due to land degradation in ponds as a result of increased acidity in the soil, which interferes with the immune system of organisms, and affects the rate of production of livestock and aquaculture resources.

Aquaculture activities began to increase rapidly in early 1990 with the introduction of high-capacity commercial aquaculture and supplements in fish and shrimp hatcheries set up by the government and private companies.

A widespread shrimp disease hit aquaculture farms in many countries in 1999 and led to the closure of farms and hatcheries in Malaysia. Poor management practices also contributed to the collapse of aquaculture farms.

At present, the industry is growing fast and is being promoted by the government, which views it as a good source of foreign exchange, since most of the output of intensive aquaculture is exported.

The Annual Fisheries Statistics of 2010 indicate that the total area of brackishwater aquaculture ponds is 7,722.82 ha, compared to 5,623.69 ha in 2006. An analysis of changes in mangrove areas in Manjung district

in the State of Perak, conducted by the Forest Research Institute of Malaysia (FRIM), showed a notable decline of 64 per cent in the extent and distribution of mangrove forests between 1989 and 2009. One of the causes of this decline is aquaculture development.

The Malaysian government has taken various initiatives to develop the aquaculture industry, such as the introduction of Aquaculture Industrial Zones (ZIAs), zoning of land and waters as areas for

The aquaculture industry has contributed to the destruction of mangrove forests and agriculture...

aquaculture development in the Ninth Malaysia Plan, a specific provision of RM119.12 mn (approx. US\$38 mn) for aquaculture development in the Tenth Malaysia Plan, and a Code of Good Aquaculture Practice (GAQP).

Mangrove destruction

However, Sahabat Alam Malaysia (SAM) believes the development of the aquaculture industry will have more negative effects on ecosystems and the economy. The aquaculture industry has contributed to the destruction of mangrove forests and agriculture; reduction of natural habitats; deterioration of coastal protected areas; catching of juvenile fish to feed livestock; pollution and deterioration of water quality; introduction of alien species; and deterioration of land quality.

*This article has been written by **Azrilizam Omar** (azrilo@gmail.com) of Sahabat Alam Malaysia (SAM)—Friends of the Earth Malaysia*

SAHABAT ALAM MALAYSIA (SAM)



Malaysia's aquaculture industry has destroyed coastal areas and adversely affected the ecosystem

development in the form of the GaqP, which is issued by the Department of Fisheries, Malaysia. Unfortunately, the code of practice is not mandatory.

Furthermore, environmental impact assessment (EIA) reports are only required to be provided if the aquaculture project involves a mangrove area of over 50 ha. Although aquaculture projects often involve reclamation of vast areas of paddy fields, they are exempt from EIA.

To worsen the situation, there is no legally binding requirement for social impact assessment (SIA) for aquaculture projects. The absence of laws to regulate aquaculture projects denies the community a mechanism to voice their concerns and views on aquaculture development.

There is also no law to control wastewater from aquaculture ponds. The provisions in the Environmental Quality Act of 1974 apply only to sewage and industrial waste.

The absence of policies and regulations has allowed aquaculture industries to exploit resources for their own interests and benefit.

B. Lack of co-ordination in implementing government policy

Planning for aquaculture development is not in line with several existing government policy initiatives. Any aquaculture development plan should be consistent with the planning schemes of local, State and national bodies.

Take for example the issue of Integration of Prawn Aquaculture Project (i-SHARP) under the High Impact Projects—Aquaculture Industrial Zones (HIP-ZIA). The Detailed Environmental Impact Assessment (DEIA) report for i-SHARP stated that the project is implemented in environmentally sensitive areas, where only projects for recreational purposes and that do not affect the ecosystem are permitted. The i-SHARP project is also inconsistent with the Setiu District Local Plan. However, the State Executive Council (MMKN) has gazetted the area for agricultural use, with priority for shrimp farming.

The development of aquaculture industries in coastal areas has indirectly affected the quality of life of coastal communities, especially of fishermen. SAM believes the preservation and conservation of natural coastal areas should be a priority. The Indian Ocean tsunami of 26 December 2004 should be a lesson on the importance of mangrove forests in the preservation of coastal areas.

The Malaysian government believes that the development of aquaculture will help meet the country's requirement for protein, which cannot be met by marine fishery resources alone. SAM, however, feels that these initiatives are only temporary and not sustainable. The government should focus on efforts to conserve natural fisheries resources and should not encourage aquaculture as a solution to the depletion of fishery resource.

SAM believes the following are some of the deficiencies and challenges facing Malaysian aquaculture:

A. Absence of comprehensive policy, legislation and enforcement in aquaculture areas

Malaysia does not have an act or special law to regulate aquaculture comprehensively. There are only guidelines for aquaculture

C. Impact of the Aquaculture Industrial Zone (ZIA) on the ecosystem and local communities

The ZIA, one of the High Impact Projects (HIPs) under the Ministry of Agriculture and Agro-based Industry (MOA), has several negative impacts on the ecosystem and local communities since the projects are designed on a large-scale commercial basis.

Some areas of the proposed ZIA are mangrove forests and marine or coastal waters. Large-scale aquaculture projects will contribute to environmental degradation and the destruction of ecosystems and the livelihoods of fishermen. The privatization of this aquaculture project will only benefit corporate interests and private profits.

D. Reclamation of mangrove areas for aquaculture projects

Aquaculture activities destroy mangrove forests, many of which are converted into shrimp farms. According to Forestry Department statistics, almost 9,000 ha of mangrove forests have been destroyed for aquaculture.

In coastal areas, mangrove forests act as a buffer zone against storms, erosion and tsunamis. They are also breeding grounds for marine life. About 75 per cent of commercial fish species are bred in mangrove areas. Each ha of mangrove forest destroyed is estimated to result in an annual loss of 480 kg of marine products.

E. Trash fish as food in aquaculture

Trash fish is mainly used in the aquaculture industry as food. About 90 per cent of the aquaculture industry uses trash fish as a source of food. However, the use of trash fish is not efficient, as shown in the food conversion ratio for major aquaculture species as 8 – 15:1, depending on the quality of trash fish. This implies that a total of 8 to 15 kg of trash fish is required to produce only one kg of aquacultured fish.

The Annual Fisheries Statistics for 2010 indicate that the total landings of trash fish that year were 307,439 tonnes or 21.52 per cent of the total marine fish landings (1,428,881 tonnes). Trash fish also accounted for

the second-largest amount of fish landings by trawlers in 2010, totalling 718,168 tonnes or 35.37 per cent. The high demand for trash fish for the aquaculture industry will encourage the use of trawl nets, which will, in turn, destroy the marine ecosystem and deplete fish stocks. Evidently, the use of trash fish for the aquaculture industry should be banned to ensure the survival of marine species.

F. Promotion of aquaculture in government policies

The government has encouraged the expansion of the aquaculture industry in the Ninth Malaysia Plan and the National Fisheries Policy/ National Agriculture Policy. It has provided various incentives, including financing the cost of basic infrastructure, and supplying planning

About 90 per cent of the aquaculture industry uses trash fish as a source of food.

and technical support to attract more entrepreneurs to invest in aquaculture industries. As a result, more and more areas will be converted into aquaculture farms, leading to the destruction of natural resources.

In view of these considerations, SAM offers the following recommendations:

- i. Policy, Legislation and Enforcement
 - a. Enact special laws for the aquaculture industry;
 - b. Make the GAqP compulsory;
 - c. Enforce EIA and SIA for every aquaculture project, regardless of size;
 - d. Review the viability of aquaculture activities in mangrove swamps and coastal and agricultural areas;
 - e. Strengthen the enforcement and protection of coastal mangroves in the National Physical Plan, the State Structure Plan and the Local Plan;
 - f. Gazette mangrove areas as protected areas, and enforce the mangrove buffer zone boundaries to prevent encroachment;

SAHABAT ALAM MALAYSIA (SAM)



The shrimp aquaculture project in Sanglang, Johor, Malaysia. Since 1970, the aquaculture industry has grown due to the introduction of semi-intensive shrimp farming

g. Create legislation to control wastewater discharge and precipitation from aquaculture ponds;

h. Ban semi-intensive and intensive aquaculture as well as extensive aquaculture projects involving large areas;

i. Ban the export of marine products unless there is a surplus of production;

j. Promote traditional polyculture aquaculture projects;

k. Tighten enforcement against illegal aquaculture projects;

2. Co-ordination of government policies related to aquaculture areas

Aquaculture development plans should be consistent with policies at the national, state and local levels. Any company or individual who wishes to carry out aquaculture projects should approach the Department of Town and Country Planning (DTCP) or local authorities to ensure that there is no conflict in use of land, as stipulated in the existing National Physical Plan, Structure Plan and Local Plan.

3. Review the ZIA project

Review the role of HIP-ZIA in contributing to the enhancement of the country's fishery resources. Opening up new areas for ZIA must be stopped and existing areas restored once the project has ended.

4. Stop clearing mangrove forests area for aquaculture projects

Aquaculture projects should be banned in mangrove forests and other environmentally sensitive natural habitats. Abandoned mines can be used as an alternative.


5. Stop use of trash fish

The use of trash fish as food in the aquaculture industry should be stopped to ensure the survival of marine species. Uncontrolled capture of trash fish, mostly smaller species that have a commercial value, affects fisheries stocks.

6. Encourage fisheries resource conservation

Enhancing and restoring fisheries resources should be a priority focus. The government should consider protecting and conserving marine and coastal ecosystems, including mangrove swamps, which are natural habitats for marine life. Encouraging the development of the aquaculture industry will only lead to the destruction of ecosystems.

The government should create policies that promote coastal fisheries, which contribute substantially to fish production, compared to deep-sea fisheries and aquaculture. There should be a ban on the use of destructive fishing gears.

SAM hopes that a special law will be formulated to regulate the aquaculture industry in Malaysia and protect natural ecosystems to ensure that the country's fishery resources remain available for future generations. 

For more



apps.dof.gov.my/mahazia/display.html
Information for High Impact Projects (HIP) in Aquaculture Industrial Zones in Malaysia

www.dof.gov.my/55
Department of Fisheries, Malaysia

ms.wikipedia.org/wiki/Sahabat_Alam_Malaysia

Sahabat Alam Malaysia (SAM)