Unsustainable Fish farming - case study

Shrimp aquaculture in Thailand

Read the following information and answer the questions

In Thailand shrimp aquaculture grew dramatically during the 1980s. In 1985 annual production was estimated to be about 10,000 tonnes and by 2009 had increased to around 539,000 tonnes.

What is the percentage increase from 1985 to 2009 in shrimps?

Shrimp farming contributes to food security and the economy, with over a million people employed in the industry. Thailand is a key exporter of shrimps to countries such as the USA and Japan.

During the 1980s many land based farmers switched from production of rice to shrimps. Coastal fields and adjacent mangrove forests were changed to accommodate shrimp ponds. This flourishing business earned many farmers significantly more income than from rice farming

Can you think of any environmental impacts of the above statement?

Environmental impacts included the loss of mangrove ecosystems which served to provide:

Breeding areas for many species including fish.

Habitats for many species.

Protection from coastal erosion, flooding and storm damage.

Approximately two thirds of the mangrove forests in Thailand have been destroyed as a result of shrimp farming activity.

High density farming of shrimps can result in rapid transmission of diseases such as early mortality syndrome (EMS) or Yellowhead disease. The shrimp ponds can accumulate waste products from uneaten food and faeces. The subsequent biodegradation of this organic waste can lead to anoxic waters. Artificial aeration can be used to reduce the risk of anoxic conditions occurring or to restore oxygen levels. The high level of nutrients in the water can result in toxic algal blooms or the growth of other harmful bacteria and viruses. Without adequate management, the life span of a shrimp pond is only two to four years. There are many deserted shrimp farms across Thailand.

During the 1990s there was significant international pressure for Thailand to reduce environmental degradation and produce shrimps more sustainably. This in turn led to new national legislation and more stringent controls over management of wastewater and the use of mangrove areas.

The following video ‘Thailand shrimp industry’ by Soraphat Panakorm shows how shrimps are farmed on a commercial scale in Thailand together with some of the issues and how they are managed:

Watch this video and answer the following questions

[Thailand Shrimp Farming](https://youtu.be/_7gHKRjJ45M)

What chemicals are put into the tanks to ensure the shrimp are free from disease?

Where do the parent shrimps come from?

Where does the water for the shrimp come from?

What sort of food do the shrimp eat?

What are the consequences from diseased shrimp?

How do the farmers treat the wastewater from the shrimp ponds?

Now watch this second video on [Thai Shrimp Industry](https://youtu.be/NBw8xViSdKE) and [Shrimp The Disgusting Truth](https://youtu.be/QDAPi0r4d9s)

Summarize the main points of this case study