

# Thai aquaculture: lessons for shrimp farming

Gains and losses, rehabilitation, integrated coastal cooperation and capacity building

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*The river Pak Phanang and the coastal zone, in the Nakhon Si Thammarat provinces. Areas after abandonment of the no longer productive shrimp farms in the coastal zone, the barren coastal plain does not provide any livelihood for the original coastal inhabitants. (source: Processed Landsat ETM Image 2002, GLCF website)*

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## Summary

Thailand is one of the world's leading shrimp farming nations, which adds to economic development, contributing 2 % to the Thai GDP and accounting for 3% of national export value. The number of shrimp farmers exceeded 20,000 during the 1990's boom. Shrimps provide protein-rich food. With the depletion of the ocean fishery resources, shrimp and fish farming become increasingly valuable.

Most of the farms are of the intensive type with an average annual production of more than 4 metric tons of shrimps per hectare. A cycle of intensive shrimp farming on one coastal area can only be carried on for a short time.

After only a few years, it moves from: boom → bust → abandonment of barren ponds → move to exploit new coastal areas. This takes the form of a shrimp farm migratory wave. These migratory cycles have moved towards the south and west of Thailand. The abandonment of non-producing shrimp ponds is a major issue with more than 40,000 ha of the coastal areas in the southern Gulf of Thailand alone left barren.

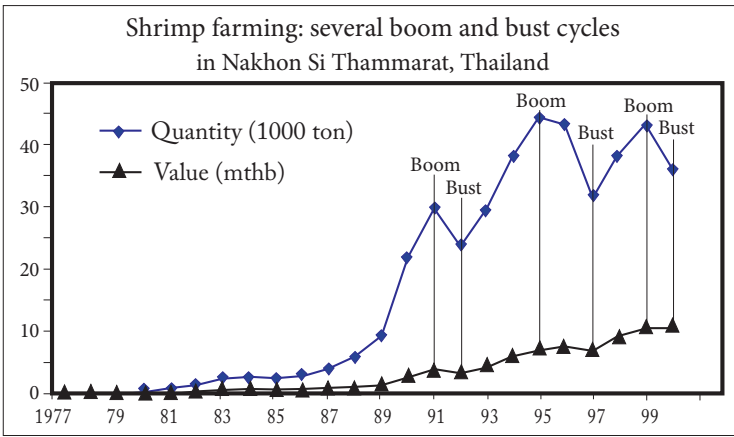
Rehabilitation is not always possible and if undertaken, can be very expensive. The shrimp farming industry has brought wealth to a few people (mainly the investors), but the negative effects are on the coastal ecosystems, the local communities and national government, which spends large sums of money for rehabilitation.

In order to minimise the negative impacts, it is necessary to protect the natural environment.

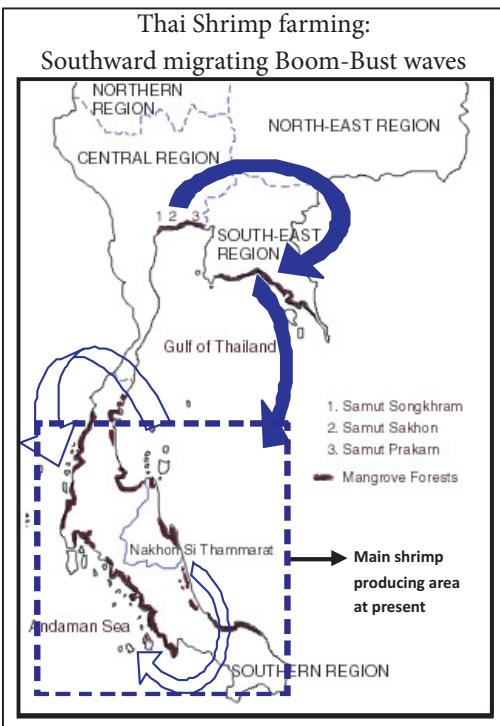
This is not only important for people and the environment, but also for the continuity of shrimp farming itself as discussed in CCC III-3-3-7.

Thailand has more than 70 years of experience with shrimp farming. Experiments are being explored by the Thai government in new ways of cultivation, focussing on integrated approaches to management of coastal resource exploitation, based on ICZM principles. These 'new ways' demand an improving knowledge base of natural coastal processes and socio-economic conditions, as well as strengthening integration between relevant national and provincial institutions and local stakeholders. Extensive shrimp culture may be combined with other kinds of land use, such as rice production and mangrove plantations. The experiments in Thailand help increase our knowledge of sustainable shrimp farming.

Capacity building at national and local level is important, some tools are provided: SAMPAC and the Training Manual: 'Aquaculture experiences of Thailand' with lessons from Thailand, see CCC III-3-2-2 and CCC V-1. Both tools can be downloaded from the CCC Website.

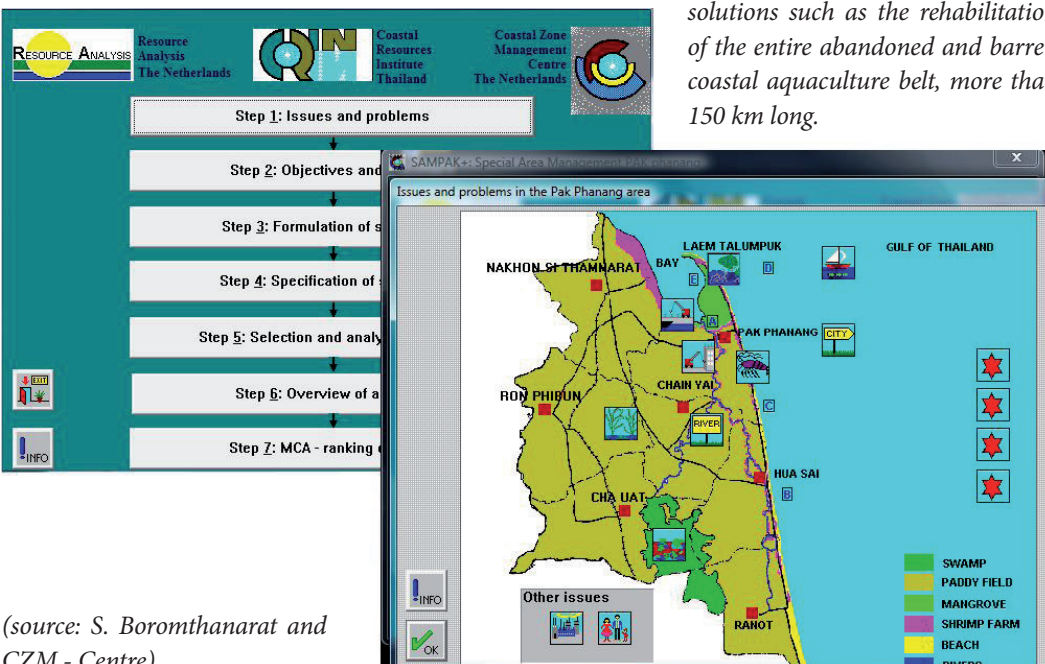


Several boom and bust cycles: shrimp farming development in the province Nakhon Si Thammarat (1977-2000). The smooth increasing value curve (mthb = million Thai Baht) is also influenced by external world market prices. Major causes of the bust are often environmental degradation and subsequent diseases threatening the exploitation of the shrimp ponds. (source: S. Boromthanasart, Somsak & Ayut Nissapa, 2000, adapted)



Shrimp farming development in Thailand with southward migrating Boom-Bust waves, reaching the southern province of Nakhon Si Thammarat along the Gulf of Thailand and the coastal areas of the Andaman Sea. (source: S. Boromthanasart)

SAMPAK is an integrated planning tool supporting the Special Area Management of Pak Phanang, a district in the Nakhon Si Thammarat province. It is a member of the COSMO family and is GIS based. It interactively evaluates alternative solutions such as the rehabilitation of the entire abandoned and barren coastal aquaculture belt, more than 150 km long.



(source: S. Boromthanasart and CZM - Centre)