Shrimping horizons

How shrimp farmers are saving thousands of miles of mangrove in Vietnam

For decades Vietnam's Mekong Delta has been under threat from one of its most lucrative industries. But now shrimp farming is being used to conserve, rather than deplete, the region's precious mangrove forests. Ann Moey and Tony Watts, for the International Union for Conservation of Nature (IUCN), report on the collaboration behind one of Southeast Asia's sustainability success stories.

Since the 1980s, a surge in shrimp farming has endangered mangroves around the world. Global growth has also increased the sector's carbon dioxide emissions and exposed shorelines and coastal communities to erosion and storm surges.

During the past three decades, Vietnam has lost most of its mangroves, primarily due to the expansion of shrimp farming – a major contributor to Vietnam's economy, generating USD 3.1 billion in export earnings in 2013 alone.

Vietnam is also highly vulnerable to rising sea levels and climate change, particularly in the low-lying Mekong Delta. Mangroves protect coastal regions against tidal waves and storm surges; they are vital fish nursery grounds; they provide timber, honey and other products; and they raise land levels by trapping sediment. They also sequester carbon faster than any other type of forest.

The sustainability of the shrimp sector and the conservation of mangroves for coastal protection are therefore both national priorities.

To help the Vietnamese government address these competing priorities, IUCN and the Dutch NGO SNV Netherlands Development Organisation have implemented the Mangroves and Markets (MAM) project, funded by the International Climate Initiative, in Cà Mau to help shrimp farmers achieve organic certification under the Naturland label.

The Naturland standard requires each farm to have at least 50 per cent mangrove cover. Farmers who can demonstrate this then have the option of selling their certified shrimp to the Minh Phu Seafood Corporation.

The project also successfully supported Cà Mau in piloting a Payment for Ecosystem Services (PES) system. This system provides an incentive for mangrove conservation and restoration by paying farmers an additional

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VND 500,000 (£17.77) per hectare of mangrove for providing 'ecosystem services'.

The Ministry of Agriculture and Rural Development (MARD) has been preparing a national regulation on PES in aquaculture since 2011. Initially, MARD struggled to design a financial mechanism that was technically and socially grounded as organic shrimp farmers are both producers and users of the mangrove goods and services.

MARD preferred an indirect PES whereby funds are deposited in a MARD-managed fund and then redistributed to beneficiaries. Unfortunately, this approach only works well with PES schemes upstream of dams, where there is a single buyer of the goods and services provided by well forested watershed, but not with smallholder shrimp farmers. MARD included no provisions for independent monitoring of mangrove cover of the kind provided by IMO. PES payments were essentially seen as welfare payments unrelated to performance.

This is where MAM stepped in and recommended a direct approach whereby the processor pays the farmers for the goods and services they provide, and mangrove cover is monitored by a third-party. This direct approach was subsequently accepted by MARD.

By the end of the first phase of the project, over 2,000 shrimp farmers were trained (or retrained) in certified organic shrimp production. Of these, over 1,000 farmers managing 7,000 hectares of integrated mangrove-shrimp had signed contracts to maintain 50 per cent mangrove cover in their farm and over 500 farmers had been certified using the Naturland organic standard.

The first phase of the project received awards from the Cà Mau government for helping the province meet its socio-economic and environmental goals.

The project also trained farmers on personal hygiene and waste management and co-financed the provision of 1,000 toilet kits and the replanting of 80 hectares of mangroves in shrimp ponds, thereby assisting hundreds more farmers to meet the Naturland standard.

The second phase of the project, which has just started, will replicate and scale up the results of the first phase in Cà Mau, in nearby Ben Tre, and Trà Vinh provinces. Between them, the three provinces contain half the mangroves in the Mekong Delta.

The project will support 5,000 farmers to practise mangrove polyculture, primarily by offering financial incentives (and supporting implementation of environmental regulations) to produce organic shrimp for export. The project will also engage international organisations involved in certification to better integrate deforestation issues into Naturland's standards.

Meanwhile, IUCN's Mangroves and Markets project links sustainable shrimp farmers with markets, in order to create economic incentives for the more mangrove-friendly shrimp cultivation model they adopt. Once again, in order to obtain certification the farms must have at least 50 per cent mangrove cover.

In switching from intensive shrimp monoculture to the integrated mangrove-shrimp model, or 'mangrove poly-culture', farmers are able to diversify – producing a range of products including shrimp, fish, crabs and molluscs. Disease resistance is increased as well, reducing the farmers' reliance on chemicals.

Training was provided for 1,300 shrimp-farming households in 2014 alone, and some have reported an annual income increasing from VND 60-70 million (USD 2,684-3,132) to VND 150-200 million (USD 6,711-8,948) after joining the programme.

Changing attitudes in the region has been complicated by restricted access to education in the Mekong Delta. Only 20 per cent of the farmers in the project have a high-school education and many of the older generation are illiterate. This has led to heavy investment in training.

Here, a farmer tests the water acidity to determine its suitability for the introduction of shrimp larvae.

Businesses have to participate in organic shrimp farming certification if the approach is to be sustainable, and IUCN and SNV Netherlands Development Organisation have worked closely with Minh Phu, Vietnam's largest shrimp exporter. Minh Phu has so far signed contracts with 1,150 farmers managing 6,972 hectares.

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To help scale the mangrove polyculture approach, the project negotiated with the provincial government and shrimp processing companies to set minimum standards for certified organic shrimp.

This decision, which was issued by the people's committee, the executive arm of the provincial government responsible for formulating and implementing policy, recognises organic shrimp farmers as providers and sellers of ecosystem goods and services that flow from well-managed mangroves. The consumers of organic shrimp are mostly in Europe, the US, Japan and South Korea.

One farmer explained that mangroves used to be seen as the enemy but their value as part of a sustainable farming system is now well understood.

An analysis of land-cover change by the Hanoi-based Space Technology Institute using satellite images shows that mangrove cover in Nhung Mien, in Cà Mau province, increased from 39 percent to 44 percent between 2013 and 2015.

Minh Phu's CEO, Le Van Quang, has signalled his commitment to expand into Ben Tre and Trà Vinh, two other provinces in the Mekong Delta, as part of a broader multi-province initiative to build an organic coast that is biologically diverse, profitable and resilient to rising sea levels.

Media plays an important role in helping to raise awareness about how the sustainability of the shrimp sector and the conservation of mangroves for coastal protection go hand in hand.

Here members of the Vietnamese press interviews one of the farmers who received organic certification.

Conclusion

MAM is a spin-off of the Mangroves for the Future (MFF) programme, a regional coastal ecosystem initiative, co-chaired by IUCN and UNDP, spanning 11 countries across across Asia and the Indian Ocean. A number of MFF mangrove-polyculture projects in Ben The and Trà Vinh in Vietnam have been well received with uptake from local authorities, and upscaled through MAM. ■