

Case study:

Mangroves and markets project
(phase I&II) in Vietnam



Reduced climate change resilience: the need for a new model

Vietnam is the world's second largest exporter of shrimps. In 2017, exports were valued at US\$4 billion. Production in the country increased especially in the 1980s, '90s and early 2000s, in response to growing consumer demand and to take advantage of export markets. About 30% of all shrimp produced in Vietnam, is grown in southern Ca Mau province. Many smallholder shrimp farmers expanded their production in the local mangrove forests and cleared them to create efficient, intensive production. Removing mangrove trees however has several negative effects on shrimp growth: shrimps' preferred habitat is reduced, the availability of natural feeds declines, salt water intrusion increases, and day-time water temperatures rise as shading trees disappear. Shrimp yields decline as a result. Clearing mangrove forests also increases greenhouse gas emissions and causes coastal erosion, reducing climate change resilience in a country already very vulnerable to its effects.

Mangroves and markets: a multi-faceted project

The Mangroves and markets (MAM) project started in 2012, funded by the German Ministry for Environment and Nuclear Safety. In 2016, the project was extended with a second phase which will last until February 2020. The project aims to establish a sustainable shrimp aquaculture sector that protects and increases mangrove coverage while improving yields through the use of organic farming practices. Organically farmed shrimps' selling price is higher as they are bigger and healthier. Farmers also spend less as they do not use pesticides and fewer other inputs. The approach also creates additional revenue sources for farmers. By protecting mangrove forests, farmers are eligible to receive Payment for Ecological Services (PES). Farmers are also allowed to fell and sell mangrove trees from their production forests every 13 – 15 years (with an obligation to replant in compliance with the forest management plan).

Farmers who farm shrimp organically (and meet several additional standards such as handling and sanitation) are eligible to receive a certification, which is verified every year at every stage of production from pond use and shrimp cultivation, to sanitation standards, mangrove coverage and trading by independent agencies (such as IMO and Control Union). In cooperation with the provincial Department of Agriculture and Rural Development (DARD) and

the local Forest Management Boards (FMBs), SNV trains farmers on organic rearing practices, sanitary handling practices, the use of inputs, the importance of mangrove coverage, sanitation, and climate change adaptation.

SNV supports processors to work in accordance with the organic standards (e.g. separated collecting, handling, and processing of organic shrimp). The companies in turn are responsible for buying and processing organic shrimp in accordance with Naturland and EU certifications. The project also links processors and farmers to allow them to develop inclusive contracting farming and negotiate on profit sharing mechanisms for premium income from sales.

SNV supports the provincial government to develop policies for the sector, such as on mangrove forest protection and on Payment for

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Ecosystem Services (PES): specifically provincial regulation (111/PPC) and decree 156. These align with the national Forestry Law that outlines Vietnam's priorities to increase climate change resilience by protecting and re-establishing mangrove forests. The FMBs implement decree 156 and regulation (111/PPC) by monitoring deforestation in their task area, as well as the legal felling and replanting of forests on the shrimp ponds.

Through this combined approach, incomes increase and protecting mangrove forests becomes financially attractive.



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Direct results

To date, SNV has trained an accumulated 5,500 farmers, and an 3,200 of them and 2 shrimp hatcheries have received organic certifications. The project also improved farmers' access to information on market, weather and environmental conditions through smart phone apps that help improve their decision-making power.

SNV has partnered with the country's largest shrimp export firm, Minh Phu since the project started. A second processor, Cuu Long Seapro located in Tra Vinh Province joined the project in phase II. The project also supported three additional processors to develop organic shrimp activities. The project established 42 model shrimp farms to showcase improved productivity methods and worked with research institutes (such as Can Tho University and Ho Chi Minh Agriculture and Forestry University) to implement scientific studies on the best rearing practices and the development of organic aquaculture in the Mekong Delta. Results include environmental management plans for communities for standard compliance and environmental monitoring (CTU, 2014-2018); shrimp aquaculture poly-culture studies; and mangrove replanting studies, by HCM



"We used the increased revenue we earn by selling certified shrimp to improve processing and invest in our production areas" - Le Van Diep, CEO Minh Phu, Ca Mau location

The MAM project has been very successful in achieving its project targets.

Achieved results:

- 3,200 shrimp households obtained Naturland, EU certifications during 2014-2018 (in average, more than 600 farmers be certified each year) and received price premiums from the world's leading seafood exporter Minh Phu.
- Payments for Forest Ecosystem Services (PFES) have been made to these certified households, with a total amount of more than VND 5.3 billion (€230,000)
- 5,500 farmer households were trained on mangrove ecosystem, international organic shrimp certification standards, and organic shrimp farming practices.
- 80 hectares of mangrove replanted within the shrimp farms of 402 households to meet Naturland's 50% mangrove coverage requirements.
- 12,600 hectares of mangrove forest effectively protected from clearance.
- 1,000 households supported in building sanitary toilets that meet certification standards.
- Provincial regulation on PES (payment for ecosystem services) for the aquaculture sector has been developed and piloted with project support. PES mechanism mainstreamed into provincial and national policies.
- Developed Ca Mau's mangrove shrimp development plan and vision to 2020 - 2030

Agriculture and Forestry University. These studies were used to adjust training methods and as input for advocacy and awareness raising activities.

The project has led to the protection of 12,600 hectares and replanting of 80 hectares of mangrove forest. To achieve this, the project had to overcome farmers' mind-sets that mangrove trees are detrimental to shrimps' health and growth. Before the project started, mangroves in the target districts continued to be cleared at about 2% per year. SNV and FMBS raised awareness with and trained farmers about the shrimp life cycle and the pivotal role of mangrove trees. Gradually, farmers changed their mind-set and are now willing to take care and replant mangrove on their plots. This has led to reduced greenhouse gas emissions and protects Vietnam's southern province from coastal erosion.

Successes in systems change

Beyond creating direct results, the MAM project has supported long-term developments that will ensure that the project's results will endure beyond its duration and can be scaled.

Kick-starting an organic shrimp market

The project's approach has obvious financial benefits for farmers and processors alike. Farmers' incomes increase, and expenses go down. Selling organically farmed shrimps also has benefits for the processors. In an interview, Minh Phu indicated that the market prices for the organic segment have remained stable, whereas market prices for intensively farmed shrimp dropped due to overproduction.

SNV also supported the development of improved value chain governance, by creating connections between value chain actors, from hatcheries, researchers and producers to

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"The MAM project has created the connection between aquaculture and mangroves. It has raised people's awareness and contributed to the province's sustainable development."
- Chau Cong Bang, Deputy Director Department of Agriculture and Rural Development, Ca Mau province

suppliers, processors and traders. These connections enable actors to negotiate conflicts, identify and address bottlenecks, share knowledge and best practices, and continue to build capacities. Combined the increased profitability for producers and processors and the established connections, the value chain will be self-sustaining and is ready for future scaling.

Improved legislation and guidelines

Decree 156 and regulation 111/PC underpin the long-term sustainability of the market. The MAM project supplied evidence and recommendations from its pilot phase to support development of these policies. Currently, SNV is building on its experience to develop a guideline and planning model for the practical implementation of both regulations, that will be finalised by the end 2019. The project will also support the implementation of this model and guidelines by the local DARD and FMBs in Ca Mau. SNV has also supported the development of the Ca Mau provincial agriculture planning 2020 – 2030 which outlines the sector's development in the coming decade, including sustainable mangrove forest management and organic shrimp aquaculture.

As a true testament to the project's achievement, these policies, model and guidelines will serve as an example for the development of similar markets in

other Vietnamese provinces.

Challenges to systems changes

The MAM project has been able to kick-start a sustainable local value chain, but there are also challenges to the scaling process that provide barriers to the establishment of a new normal across the market.

Limited institutionalisation of training

The development of governmental regulations on the national and provincial level are a pivotal first step in the vertical scaling process.

One barrier in the scaling process is the institutionalisation of the training of the farmers. The provincial DARD and FMBs work closely with SNV in implementing trainings and awareness raising based on Decree 156. SNV has built the ability of governmental employees to provide training, but governmental agencies lack manpower to implement these activities by themselves and SNV remains actively involved.

Market conditions are resistant to change

To date, consumer demand for organic certified shrimp is limited and studies suggest that the certification status is not the main driver for consumers' buying choice. Rather it is their price and taste. Although 5,500 farmers have been trained, only 3,200 have received certification as the number of certifications is directly linked to processors' forecasts of consumer demand for organically certified shrimp. The limited consumer demand is also highlighted by the struggle to grow the number of processors the project is working with. SNV started cooperating with three additional processors, but they have dropped out of the project as

they couldn't find sufficient consumer markets. Minh Phu indicated that it would like to increase demand, but the company has limited ways to influence the consumer market.

Towards a new normal

Increasing governmental capacities to carry out awareness and training activities independently would help SNV to scale training activities to provincial and national levels and create behaviour change with farmers on a much larger scale.

The continuing low growth in demand for certified shrimp is one of the main culprits of a lack of scaling. If consumer demand is low, processors will not require shrimp to be grown organically, and as a result, shrimp production will remain intensive. As it stands, Minh Phu and Cuu Long Seapro are early leaders who are hoping for an increase in consumer demand for organic shrimp in the future.

To establish a new normal across the market, SNV will continue to aim for partnerships with other processors to support a crowding-in process, as well as build capacity with governmental agencies to move the scaling pathway forward.

"The project has brought valuable knowledge and farming techniques to us farmers. Thanks to the project, our income has been significantly improved and we also gained insights into the importance of the mangrove forest for both the environment and our livelihood. We are very excited to participate in the upcoming activities." - Mr. Hoang Van Ta, shrimp farmer in Tac Bien Commune