

AQUA CULTURE

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Farming shrimp with
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A zone management approach for sustainable aquaculture

While it carries out zonal AIPs with the pangasius sector in Vietnam, shrimp in Indonesia, SFP is using the AIP with the tilapia industry in Hainan Island, China for sustainability through zone management.

The Sustainable Fisheries Partnership (SFP) approach is to ensure that there is not only sustainability in seafood production but also in the supply of international traded seafood. This young and dynamic, business-focused NGO engages and catalyses global seafood supply chains in rebuilding depleted fish stocks and reducing the environmental impacts of fishing and fish farming. Sustainable seafood is currently certified to the Marine Stewardship Council (MSC) for a fishery product and to one of the aquaculture standards for an aquaculture product. However, if responsible retailers insist on certified seafood as part of their sustainable buying policies, this means that only a small percentage of seafood supply is available to them. SFP believes engagement in Aquaculture Improvement Projects (AIPs) or Fishery Improvement Projects (FIPs) helps enhance sustainability whilst ensuring greater availability of responsibly sourced seafood.

SFP operates through two main principles: information and improvement. FishSource™ provides major seafood buyers and the public with up-to date information on the sustainability of fisheries and the improvements they need to make to be sustainable. In both FIPs and AIPs stakeholders work together to improve a fishery or an aquaculture zone by pressing for better practices, policies and management. These projects are increasingly led by industry, with SFP providing technical support and expertise at a various levels.

Sustainability in aquaculture

Until recently SFP's main activities have been in capture fisheries, but in response to industry requests, it has created a parallel system for aquaculture that complements the wild fisheries program. It is also developing an aquaculture component for FishSource along with aquaculture metrics for seafood buyers and a number of Aquaculture Improvement Projects (AIPs) in China, Vietnam, and Indonesia. The idea behind SFP's three AIPs is to move the industry towards sustainability so that both the producers and the markets in the interim period can sustain supplies and state clearly and publicly that they are moving towards sustainability.

Prior to the current zonal AIPs, SFP carried out benchmarking of the various leading aquaculture certification standards to understand how they could affect farmer practices on the ground. In Vietnam, since 2010, SFP has been building on this work by monitoring water quality in the Mekong Delta, both of incoming water and farm effluents in relation to pangasius production, building a greater understanding of the likely impact of diseases and food safety. It will also highlight the potential impact on aquaculture of the Mekong river dam construction proposals. A summary report is planned for early 2013. SFP also has an AIP working with shrimp producers in East Java, Indonesia, but the Hainan tilapia AIP in China is the most advanced with the collaboration of several stakeholder groups including regulators.

Adding value to aquaculture

"In fisheries, SFP works towards certification on a fishery. However in aquaculture, certification is all at the farm level and individual certifying bodies are already there to help each individual farm. So how can SFP add value to the aquaculture industry?" said **Anton Immink**,



A tilapia farm in Hainan

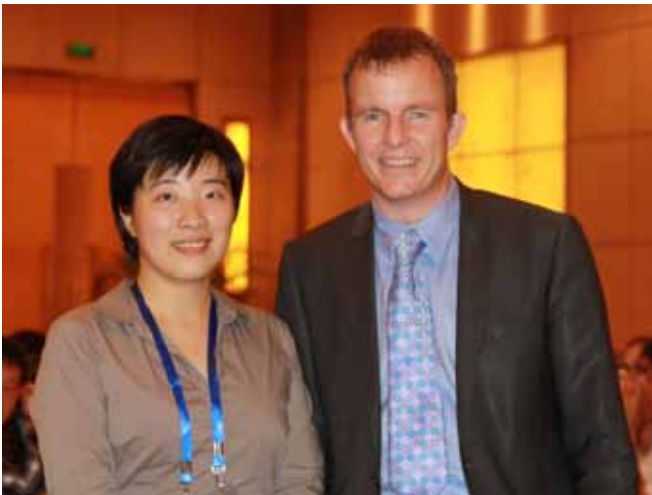
the newly appointed director of Aquaculture who's role is to further expand the approach for aquaculture. In November, Immink announced the establishment of the Hainan Sustainable Tilapia Alliance during the Ninth International Tilapia Industry Development Forum held from 12 to 13 November in Haikou, Hainan.

"In aquaculture, we have benchmarked the three main aquaculture certification programs and what this means for aquaculture farms. We are also looking at issues around the harmonisation of standards. But over the last two years we have been moving towards a key improvement focus for managing the impact of aquaculture at a zonal level."

This means taking best practices at the farm to best practices to a zone level. Here, the farmers become responsible and consider their impact on the wider environment. According to Immink, buyers are interested in the zone or regional approach as improving water quality, maintaining water carrying capacity, disease risk management and putting best practices in place will reduce risks of food safety scares and increase production of quality products.

"The key message is that in such an approach, all stakeholders acknowledge that they are responsible for the long term sustainability of the shared resource; water or land. We see that zone management will go beyond international standards. Farms will have to be responsible for wider impacts of their production process. Governments will have a key role to regulate such as on carrying capacity to ensure no over-development and resource deterioration. SFP builds its reputation on honesty and integrity and a strong basis in science and will go on to build the same consciousness in our partners," said Immink

"Our framework is in contrast to the farm-level AIPs implemented by the ASC/IDH program. Certainly individual farms can be moved towards certification, but there is a bigger picture impact that needs to be dealt with. In Hainan the overall concept is to inform and educate producers and processors and others in the value chain, along with regulators and policy makers on the need for comprehensive planning and management".



Anton Immink (right) and Han Han

AIP in Chinese tilapia

China is not only the biggest producer and exporter of tilapia, but also has seen significant growth in the past 10 years. Some 90% of tilapia production is from the southern provinces of Hainan, Guangdong, Guangxi and Fujian. Hainan is the second largest producer at 317,000 tonnes and exported 103,000 of processed products in 2011. Image issues such as food safety, environmental concerns and sustainability dominate arising from poor water and soil quality, overstocking and disease outbreaks. In 2012 over production and excessive competition has brought down ex-farm prices to as low as RMB 8/kg (USD 1.3/kg). Furthermore, farmers faced the issues of rejections of harvests by major processing plants, leading to a further lowering of offer prices by medium size plants.

Han Han, SFP's country manager for China is focusing on the AIP for tilapia in Hainan Island. "The industry is always challenged on food safety issues even though the Chinese government started its CIQ (China Inspection and Quarantine) process in 2006 and is closely monitoring farms and processing plants. There is also a considerable number of Best Aquaculture Practices (BAP) certified farms and processing plants. Nevertheless, in the past 3-5 years, we have issues such as overstocking, disease outbreaks and off-flavour. These have to do with the overall environment of the water resource. The current certification programs overlook the regional effects from the rapid growth of the tilapia industry. This is especially so when there are several farms concentrated in one small area."

"Such a task will not be easy at the national level and thus, we think it will be best to demonstrate at a provincial level. For the AIP in China, our focus is on the four provinces in the south where we observe as being most vulnerable to international market economy and weather, such as floods and droughts. In general, farmers are struggling as profit margins go down. In Hainan we have started to do industry mapping and try to understand the supply chain dynamics and relationship between stakeholders including the decision makers. Although at the farm level, the impact of adverse conditions is fully understood but at the regional scale the cumulative impact is unknown. We are collaborating with the Environmental Department and an aquaculture research institute to check water quality at farms to see the future risks of impacts on the surrounding natural waters".

Han explained that the work on disease management such as the impact of *Streptococcus* is being done with a local research institute. In Hainan, production is mainly in ponds and poor water quality trigger diseases. She will use these to develop some best practices at a zone level and present these at the aquaculture policy roundtable.



Participants at the Haikou roundtable included farmer association members, processors, feed producers and distributors as well as seafood buyers and retailers from North America

"In September, we had one in Haikou where we presented our findings to 60 participants from association members, feed producers and distributors. Feed producers play an important role in the industry. SFP also brought in buyers and retailers from North America and encouraged face to face communication with the producers," said Han.

"These aquaculture policy roundtables are core to our key role to strengthen the voice of individual actors into their stakeholder groups. They join up and voice their concerns and issues and also listen to others all along the production chain. Through this they may instill values; enhance their positive impacts and reduce the negative impacts of their production", added Immink.

Hainan Sustainable Tilapia Alliance

"We realise that we could leverage on this zonal management approach to help them build up their industry and enhance production quality with a regional brand. At the same, we will have trust in the SFP program. There is also an acceptance of an NGO, a rarity in China, what more one in the seafood business. The roundtable helped us to deliver our message and build the partnership with local stakeholders. Together we have agreed to establish the Hainan Sustainable Tilapia Alliance," said Han.

Hainan was chosen because it is China's only tropical island and is independent from other production areas. It has good environment given the low industry development. Within the tilapia industry in China, the quality of tilapia from Hainan is recognised as the best because of good quality water and soil. As such the industry here has a strong desire to build their own brand. The key motivation is sustainability as from the farmer's point of view, certification has not brought premium prices. The idea is to create a Hainan tilapia brand but this must come with responsible practices and consideration for the environment. The alliance is also supported by the local government.

"Ideally the alliance should be an industry led grouping but at the moment we will take a leading role. As the industry still lacks the capacity and knowledge. Eventually we will pass this to industry to manage."

In the meantime, Han will continue with the environmental studies and will engage relevant government agencies such as the Department of Commerce as the tilapia is a major export commodity. On the side lines of the tilapia industry forum, a discussion was held with international buyers to encourage their suppliers in Hainan to participate in the alliance.

"SFP would like to see change, where the influence from buyers and retailers down the value chain to producers will help to drive change. However, we do believe that when the sector comes together, there will be a strong voice to be heard in the broader national planning," added Immink.