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IFFO, GAA urge Asian trawl fisheries to improve stocks, product quality

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Report calls for more fishery improvement projects and greater stakeholder engagement

Southeast Asian forage fisheries are in need of both sustainability and product-quality improvements, according to a new report jointly commissioned by IFFO and GAA. Shutterstock photo by Watchares Hansawek.

A new report from IFFO, the Marine Ingredients Organisation and the Global Aquaculture Alliance (GAA) examines how large trawl and purse seine fisheries, particularly in Thailand and Vietnam, can improve in order to provide higher quality raw material for aquaculture feeds. The report, "Driving change in South East Asian trawl fisheries, fishmeal supply and aquafeed," finds that excessive demand over the past 50 years has led to chronic and widespread overfishing, with a consequent decline in the number of fish taken and type of species available.

According to the report's author Duncan Leadbitter, director of Australia-based fisheries and natural resource consulting company Fish Matter, the larger fish and slower-growing species in the region have declined in favor of smaller, faster-growing species, with urgent action required.

"Many Southeast Asian fisheries are important sources of food and feed, but due to their tropical location, they operate differently from the other fisheries better known to the feed industry. However, I believe that with goodwill and good science, industry, stakeholders and governments can collaborate on improving the management of these fisheries," he told the *Advocate*.

Thailand and Vietnam are already implementing fishery management plans to cut fishing effort, improve enforcement, rebuild fish stocks, reduce incidences of illegal, unregulated and unreported (IUU) fishing and improve labor conditions in the wider industry, but much work is still needed.

Leadbitter explained that effort is also needed to encourage fishermen to take greater care of the catch, but that tariffs imposed by the Thai government to protect local companies from competition, have held back improvements by providing little incentive to invest in the necessary refrigeration equipment.

"Small tropical fish are generally low in fats and oils, but there is sufficient for rancidity to develop, which can result in a short shelf life. This situation is exacerbated by high ambient temperatures," he said.

Both wild caught and farmed shrimp have played a major part in driving demand for wild fish catches in the region. In the 1960s in Thailand, trawl fisheries developed to target shrimp for export, but with no market for the large volumes of bycatch, or trashfish, generated, it was used directly in animal feed and processed into fishmeal.

As shrimp catches increased, so too did the demand for fishmeal for the growing aquaculture sector. In 2003, farmed shrimp production had reached 350,000 metric tons (MT) in Thailand, and trashfish production was at 700,000 MT.

Between 2010 and 2015, domestic fishmeal consumption in Thailand declined from 505,000 MT to 381,000 MT, according to IFFO, as a result of farmed shrimp disease outbreaks, combined with efforts to control illegal fishing.

In the past few years the situation has changed again, as fishmeal producers incorporate an increasing volume of trimmings from the growing processing industry for tuna, small pelagics and surimi. The Thai Fishmeal Producers' Association estimates that up to two-thirds of fishmeal output may now originate from processing waste.

Vietnam has significant challenges related to the sustainability of raw materials from wild capture fisheries, according to Leadbitter. He found that fishmeal processing capacity is far higher than the wild resource can sustain, and that many small-scale farmers still feed whole fish direct to species such as groupers, spiny lobsters, crabs and snakeheads, although accurate records of the volumes involved are difficult to obtain.

Managing forage fisheries

Leadbitter considers that the development of sophisticated tools to undertake more accurate stock and species assessments heralded a turning point in understanding the true nature of the overfishing problem.

A variety of stock assessments have put the sustainable yield for demersal stocks in Thai waters of the Gulf of Thailand anywhere between 400,000 MT and 715,000 MT, with 250,000 MT estimated for both South West Vietnam (Gulf of Thailand coast) and Cambodia. The potential yield of pelagic stocks is estimated at around 380,000 MT.

We hope our research will help enable healthier fisheries, farms and good work for the future.

For Vietnam, information is less available, but the biomass is estimated to be around 2 million MT of pelagic species and 1.4 million MT of demersal fish.

The majority of existing feed fisheries are single species, well managed and from coldwater ecosystems. Conversely, the fisheries supplying raw material for fishmeal and fish oil in Thailand and Vietnam are species-rich and their complex nature makes them difficult to manage. In many cases, little is documented about their biology and fishing practices, and the environmental, social and economic impacts remain unquantified.

Work undertaken by organisations such as IFFO and the IFFO Responsible Sourcing scheme (IFFO RS) is helping to change this situation by putting in place workable management regimes based on global best practice.

“Multispecies criteria have been developed to provide mixed fisheries with a recognised means of accessing the IFFO-RS Improver Programme and gain recognition for their steps towards improvement as a part of a Fishery Improvement Project (FIP),” said Libby Woodhatch, executive chair of IFFO-RS.

“These are currently being trialled in pilots that will enable us to test the methodology in active fisheries, so we can refine them and ultimately develop a credible and realistic set of criteria to enable multispecies fisheries to meet the requirements for acceptance on to the IFFO-RS Improver Programme, and over time work towards full IFFO-RS approval. We have an established FIP in Thailand already participating in this pilot, with another in Vietnam ready to join,” she added.

FIPs are an important mechanism for improving the fishing and feed industries, particularly their role in directly engaging companies and seafood stakeholders in the fisheries management process, and in helping to maintain market pressure to encourage a faster transition towards responsible production.

Both of the two largest global responsible aquaculture programs, Best Aquaculture Practices (BAP) and the Aquaculture Stewardship Council (ASC) , have requirements for responsible/sustainable sourcing of feed used in certified farm production. They also make provision for products in a FIP to enter the supply chain if improvement objectives are met.

“GAA are committed to enabling the development of responsible aquaculture, which is essential for the future of food production. That means helping to increase the availability of sustainable feed. We believe fishmeal is an essential part of that mix so it makes total sense to partner with IFFO in seeking a deeper understanding of how fish meal inputs can be optimized sustainably,” commented Melanie Siggs, GAA’s director of strategic engagements.

“We can’t demand best practice if we don’t help enable it through research, education and capacity building, and the more we collectively understand and share, the more responsible feed, aquaculture and thus nutrition and livelihoods, we are working toward. It’s not always simple, but it is critical. We hope our research will help enable healthier fisheries, farms and good work for the future.”

Formulated feeds

Looking to the future, joint action by IFFO and GAA was recommended by Leadbitter, including the need to establish a source of funds to provide assistance to fisheries that want to engage in FIPs, gaining a better understanding of developments in the management of tropical multispecies fisheries, undertaking outreach work to promote formulated feeds and reduce the direct feeding of trashfish to farmed fish, and gaining a better understanding of supply chains and traceability.

Neil Auchterlonie, IFFO Technical Director, believes that promoting the use of formulated feeds for aquaculture is an important step forward in the sustainable development of aquaculture.

“Formulated feed reduces any biosecurity risk that may be present in wild-caught fish and maintains the high nutritional quality of raw materials. This in turn translates into improved growth, feed conversion ratios, survival and end-product quality. In addition, fishmeal manufacture occurs at a temperature that is known to inactivate many if not all viral, bacterial, parasitic and fungal pathogens, thereby reducing the risk of disease. Managing a fisheries resource via fishmeal production is a much more efficient way of supporting aquaculture development in the region,” he said.

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