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Working towards sustainable feed sourcing in the shrimp industry – retailer briefing

Aquaculture feed comes in a wide range of forms depending on the farmed species and the sophistication of the operation, but for carnivorous species such as shrimp and salmon, it is essential that the feed incorporate fishmeal (a protein-rich powder obtained from cooking and processing raw fish). The origin of fishmeal is a major challenge to the sustainability of aquaculture because the fisheries used for creating feeds may be poorly managed and damaging to the marine environment.

In Southeast Asia, there has been an explosion in aquaculture production with a particular emphasis on species such as shrimp, pangasius, and grouper. All of these species are grown for export (mainly to markets in North America, Europe, China, and Japan) and require fishmeal in their diets. Some of the fishmeal is obtained via internationally traded materials that are typically created from large South American fisheries, such as Peruvian anchovy. These fisheries are not universally well managed but, in general, the vast majority of fishmeal from South America comes from fisheries that are managed within accepted industry norms.

However, a significant portion of aquaculture rations in Southeast Asia is not derived from imported feeds, but created from local fisheries – either by feeding local fish directly to the farmed animals (which happens with grouper) or by creating fishmeal using local production facilities. The fish used for these local aquaculture feeds are not large, high-value fish that could be sold at market, but typically small fish which are either the juveniles of large edible fish or other species that are unpalatable. These fish – so-called “trash fish” – are caught using fine mesh (and therefore unselective) trawls, which are indiscriminate in catching most marine life in the path of the net. Some of the trash fish haul comes from fisheries that seek high value species such as wild shrimp (where the trash fish is a bycatch) while other fisheries directly target trash fish for aquaculture feeds.

The total amount of trash fish caught globally is not documented but best estimates, based on data from the Food and Agriculture Organization (FAO), suggest in excess of 5 million tonnes. This would mean that trash fish may account for approximately 25 percent of all fish caught globally to feed aquaculture and terrestrial farming.

There are many negative impacts arising from the catching of trash fish, both environmental and social. The indiscriminate nature of the trawl directly impacts on the biodiversity of the marine environment and there is clear scientific evidence of severe environmental degradation (e.g., in the Gulf of Thailand). The destruction of

the ecosystem also deprives local fishers of their livelihood because large fish that can be sold at market are less abundant.

The trash fish issue is described in a short industry information film produced by Sustainable Fisheries Partnership (SFP) called: “Working towards sustainable feed sourcing in the shrimp industry.”

SFP has developed a project to help reduce the use of trash fish in aquaculture feeds and improve the sustainability of fisheries used to provide fishmeal. The main aims of the project are:

1. Building awareness among key audiences (retailers, processors, aquaculture producers and fishmeal producers) about the trash fish issue.
2. Mobilizing the buyers of aquaculture products from Southeast Asia to insist on full transparency in the supply chain and to engage with producers to resolve the trash fish problem.
3. Educating aquaculture producers about the problems associated with trash fish derived feeds and likely challenges in the future (e.g., the potential barrier that trash fish use may pose to aquaculture certification).
4. Identifying fisheries in Southeast Asia that could be sustainably exploited for local fishmeal. These are typically pelagic (mid-water) fish that swim in large single-species shoals that can be caught using larger mesh nets that do not touch the bottom. These fisheries are usually highly resilient to fishing pressure – the small, pelagic fish that live in such shoals are usually short-lived and very prolific breeders – and if properly managed can be caught without unacceptable long-term impacts on the wider marine environment. When suitable candidate fisheries have been identified, SFP will help to create the conditions for Fishery Improvement Projects between aquaculture producers, buyers, and fishers to effectively manage such fisheries.

Ultimately, if this project is successful, the Southeast Asian aquaculture sector will use feeds made from a combination of fishmeal derived from local, sustainably managed fisheries and a portion of imports from sustainable fisheries elsewhere in the world. Local non-pelagic fisheries will be well managed without the use of indiscriminate trawls and result in thriving marine biodiversity which provides a wide range of fish for local fishing communities.

Retailers have a critical role in this issue because of both their position of influence in the supply chain and the potential problems they may face because of unsustainable aquaculture feeds. Retailers that have sustainable seafood policies will want to seek assurance from the supply chain that fish species which would be considered unacceptable under such policies are not entering the supply chain via fishmeal to food species such as shrimp.

The use of trash fish in aquaculture feeds may also be a significant barrier to the achievement of aquaculture certification, and this will create difficulties for retailers seeking to ensure that the products that they sell are appropriately certified.

Recommendations

SFP is asking retailers with an interest in sustainable aquaculture products to:

- Send a clear written request to shrimp producers that they identify the species of fish used in aquaculture feeds along with the locations of the fisheries that provided such fish.
- Consider incorporating the requirement for identification of fish species (and locations of fisheries) in aquaculture feeds into procurement specifications.
- Encourage shrimp producers to join in industry initiatives that are dedicated to solving problems associated with aquaculture feed sustainability.

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