

Mongabay Series: [Sea Change](#)

Catching fish to feed fish: Report details 'unsustainable' fishmeal and oil industry

by Monica Evans on 4 December 2019



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- *A report released in October by the Netherlands-based Changing Markets Foundation followed fishmeal and fish oil supply chains "from fishery to fork."*
- *It connected a number of farmed-fish products sold in European supermarkets — often bearing sustainability certifications — to fishing practices the authors deemed "highly unsustainable" in India, Vietnam and the Gambia.*
- *Supermarkets selling the products include big names such as Sainsbury's, ALDI, Tesco, Iceland, Marks & Spencer, Waitrose, REWE and Mercadona.*

Every year, billions of fish — almost one-fifth of the world's annual wild catch — are dried, pressed and ground into oil and meal. The majority of this material is then fed to other fish and crustaceans: in 2016, 69 percent of fishmeal and 75 percent of fish oil were used for seafood farming.

A [report](#) released in October by the Netherlands-based [Changing Markets Foundation](#) (CM) followed fishmeal and fish oil (FMFO) supply chains "from fishery to fork." It connected a number of farmed-fish products sold in European supermarkets — often bearing sustainability certifications — to fishing practices the authors deemed "[highly unsustainable](#)" in India, Vietnam and the Gambia.

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Proponents of aquaculture often frame it as both a solution to unsustainable fishing and a rapidly scalable way to feed the world. And the industry is growing: by 2030, it's estimated that 62 percent of the world's seafood will be farmed rather than wild-caught. But cheery images of locally farmed salmon swimming in fjords belie a grimmer reality: according to mounting research, aquaculture that relies on "reduction fisheries," as fisheries dedicated to FMFO production are known, can actually be far more damaging to the marine environment than conventional fishing.



A salmon farm in the Shetland Islands, U.K. Image by [Mike Pennington via geograph](#) (CC BY-SA 2.0).

It's also much less efficient than eating wild fish themselves: the CM researchers found that it can take as much as 5 kilograms (11 pounds) of wild fish to make 1 kilogram (2.2 pounds) of meal, which would then yield a maximum of around 0.8 kilograms (1.76 pounds) of farmed salmon or shrimp — less than one-sixth the original mass of wild fish.

It also means many subsistence and artisanal fishers miss out on much-needed catches. For example, in the Gambia, where people rely on fish as a staple food,

one FMFO plant took in around 40 percent of the country's total reported fish catch in 2016, according to the CM report.

Sustainable certifications

This is not the first time researchers and activists have drawn attention to unsustainable aquaculture practices, and many producers who use fishmeal now label their products as certified sustainable. But CM's investigators say the major certification schemes don't stand up to scrutiny.

The most common scheme is the [Responsible Supply](#) standard, known as IFFO-RS, which certifies more than half the world's production of FMFO and claims to be independent from the industry. CM campaign manager Natasha Hurley said that's "somewhat disingenuous," given that IFFO-RS was created by the London-based FMFO industry trade body [The Marine Ingredients Organisation](#) (which goes by the acronym IFFO) and that its governing board and technical advisory committee include IFFO staff and members, including IFFO's own technical director. IFFO's communications manager Veronique Jamin told Mongabay in an email that IFFO-RS is now in the process of rebranding to "avoid any confusion" between the two entities.

In the report, the investigators called IFFO-RS a marketing tool and "sustainability smokescreen" that discourages consumers from probing the origins and impacts of FMFO. In their investigation, which focused on FMFO production in India, Vietnam and the Gambia, they found a number of FMFO and aquafeed plants with IFFO-RS certification that they say were clearly linked to highly unsustainable fishing practices. For example, the investigators showed that the Chilean feed producer Trio S.A., which is IFFO-RS certified, [sourced from plants in India](#) and the Gambia that engage in practices such as polluting the air and water and purchasing from fisheries that trawl indiscriminately (including for juvenile fish) and violate fishing bans.

Alfonso Daniels, the report's principal investigator in the Gambia, told Mongabay he saw many of these practices first-hand. He described a lagoon polluted with effluent from a fishmeal plant: "it turns the water red, killing everything that's there." He also observed a great deal of wasted fish, dumped by fishermen when the fishmeal plants were working at capacity — a common occurrence, locals said.

"There were, literally as far as you can see, dead fish on the beach" he said. "The scale of this waste, of these pelagic fish which are so key for the food security...when you have such a large percentage of children who are malnourished [here] — it was just shocking."

Daniels said that IFFO-RS's lack of accessible public information about its certified companies was a major concern. "I asked them: 'these companies that you say are certified, where are they sourcing their fishmeal?' And they said 'that's private information, it's confidential.' What kind of transparency is that?"

Jamin told Mongabay in an email that "traceability and product integrity are ones of IFFO RS standard's key pillars. Good traceability practices allow to know the full trace of the product throughout the value chain." However, IFFO has not yet responded to questions about the provenance of particular plants' fish.

IFFO has opposed the report's findings, arguing in a public [statement](#) that "the majority of wild-caught fish is responsibly sourced." The statement also acknowledged that "there may still be challenges in the responsible sourcing of material for fishmeal and fish oil products" in some countries and said that the industry is supporting them to confront these challenges. It said that one-third of world fishmeal production comes from leftovers and byproducts of seafood processing. Much of the rest, it said, is produced by catching small species that aren't in demand for human consumption. "It is a good way to use material that would otherwise not be consumed," the statement reads.

Interestingly, Hurley said, some fishmeal companies have been "more forthcoming and more open to change" than aquaculturists, retailers or certifiers. She cited the example of Norwegian aquafeed producer Skretting, which [announced](#) the week after the report was released that it had allocated \$2 million toward the development of alternative aquaculture feed ingredients in 2020. "I think they see that the writing's on the wall," Hurley said.



Fishmeal plants in Ullal, a municipality in southwestern India, with boats carrying sand in the foreground. Image courtesy of Changing Markets Foundation

State of the world's fish stocks

That points to a bigger and more existential question for the industry, according to Hurley, who asked, “can we even have a sustainability standard for wild-caught fish used as fishmeal, given the state of the world’s fish stocks?” Citing 2015 [data](#) from the U.N. Food and Agriculture Organization (FAO), CM’s report claims that 93 percent of the world’s fish stocks are “fished to their limits or overfished.” However, IFFO insisted in a [response](#) to [earlier research](#) by CM that the majority of their material is sourced “responsibly” and is a “renewable, natural resource.”

Who’s right? According to Tim Cashion, a Ph.D. candidate [studying](#) reduction fisheries at the University of British Columbia, that depends on how you look at it. “They’re both citing the same [FAO data] — the difference is in the interpretation,” he said. “And this is something that people like to characterize in different ways, depending on their position.”

According to the data, approximately 60 percent of fish stocks were “maximally sustainably fished” in 2015 and 33 percent were “overfished,” while 7 percent were “underfished.” So whether or not it’s wise to fish the majority of stocks right up to

their sustainable limits, “it’s pretty clear that the room for growth — for getting more fish out of the sea from capture fisheries — is very limited right now,” Cashion said.

That has implications from a food security and equity perspective, said fisheries expert Daniel Pauly, principal investigator at the [Sea Around Us](#) project at the University of British Columbia, who has researched the FMFO industry extensively. “If we are grinding up fish that people could be eating, to sell as feed for fish to wealthier people, that will never be sustainable,” Pauly said. So while buying certified salmon might feel good, he said, it’s “really just virtue-signaling.”



A fish market in the town of Gunjur, the Gambia. Image courtesy of Changing Markets Foundation.

Alternatives to fishmeal

Making meal out of different feedstocks is one possibility, although it carries its own concerns, Hurley said. For example, soy is a commonly used alternative feed source, but there are sustainability issues with soybean cultivation. “The issue is complex, but that doesn’t mean we shouldn’t speak out about one part of it,” Hurley said.

Another option is for the aquaculture industry to switch to farming non-carnivorous species. Mussels, for instance, don’t require feeding and provide valuable

ecosystem services like water filtration. “The big argument for aquaculture is that it produces high-quality animal proteins in a lot of cases,” Cashion said, “but I think we can do that in lower impact ways than high-food-chain carnivorous fish.”

IFFO has argued that this doesn’t make economic sense. In [response to a previous CM report](#), a statement from the group said that “the industry is only effective when it produces a product for which there is an actual market for the fish that people want to eat.”

Pauly said that the market has been proven to be a poor judge of what the world wants and needs. “People want affordable food and affordable housing, and the market hasn’t provided any of that,” he said. “So the market is failing us.”

In the Gambia, Daniels said he watched people carry crate after crate full of mostly bonga fish (*Ethmalosa fimbriata*) from fishermen’s pirogue boats across the beach to the fishmeal plants. The effect was to push up the prices of bonga, a local staple, in the markets. “It just shows this total lack of accountability, and a complete lack of regard for the lives of local people and their food safety and future,” he said.



Fishers in the town of Gunjur, the Gambia. Image courtesy of Changing Markets Foundation.

Banner image: “Waste” fish at Malpe harbor in southwestern India being loaded for transport to fishmeal plants. Image courtesy of Changing Markets Foundation.

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