

Golden goose or albatross?

Behind the apparent success of Peru's fishmeal export industry lies a sorry tale of low efficiency, and high environmental and social costs

After the boom years of the 1960s that bust in the 1970s, it is boom time once again for Peru's fishmeal industry. Preliminary figures for 2006 indicate that Peru's export earnings from fishery products (both fishmeal and for direct human consumption) reached historic levels of around US\$1,761 mn, an increase of 7.9 per cent over 2005. Despite a 30 per cent drop in production, fishmeal retains its place as the jewel in Peru's fishery export crown. At around US\$1.136 bn, the estimated fishmeal export earnings in 2006 are slightly down on 2005.

But this is rather cosmetic, as behind this success story lies a huge, unaccounted cost, which Peru can ill afford. The annual extraction of 8-10 mn tonnes of anchoveta, a mainstay of the entire marine food web of the Humboldt Current large marine ecosystem (LME), is homogenizing Peru's rich marine biodiversity and destabilizing the marine ecosystem.

In 2006, a World Bank-commissioned evaluation report on Peru's marine fisheries sector, described the Peruvian industrial fishery for anchoveta as "being overcapacity in the fleet and processing sectors; displaying low efficiency; causing significant losses in rent and high environmental and social costs for the Peruvian State; and generating huge foreign-exchange earnings that benefit a minimal fraction of the industry."

This report highlights the fact that the fishmeal export balance sheet does not account for the:

- impact on the wider marine ecosystem, the food web, and the sustainability (and development prospects) of Peru's other fisheries, particularly the artisanal fishery;
- impact of fishmeal production on the wider coastal environment (the impact of waste discharge into the sea, air and land), and on the health of the coastal-dwelling human populations;
- highly skewed distribution of benefits, with Peruvian society at large gaining precious little from the relatively large earnings being made (at high, externalized, environmental and social costs); or
- opportunity costs of transforming all the anchovy catch into fishmeal, even as malnutrition and poverty affects 40-60 per cent of the Peruvian people.

The 'Anchovy Week' campaign took place in Lima from 4 to 10 December 2006. Organized by the newly formed Sustainable Environmental Centre (CSA), based at Peru's Cayetano Heredia University, Anchovy Week targeted the highest socioeconomic sectors of Lima's population. It aimed to change the image of anchoveta as food fit only for animals or the poor, into a luxury, gourmet product, and to stimulate investment in the production of anchovy for direct human consumption. The campaign also drew attention to the need to ensure:

- the sustainability of Peru's marine resources;
- the long-term economic viability of Peru's fishery enterprises;
- that future generations should not bear the costs of today's fishmeal factories; and
- that fishery activity contributes not only to wealth creation, but

also to sustainable development and the reduction of malnutrition in Peru.

According to the organizers, all the above is achievable if “less fishmeal is produced and more anchoveta is consumed”.

Currently, the Peruvian State receives as revenue only around US\$1.15 per tonne of anchoveta landed (a total of some US\$9-12 mn annually, given declared anchoveta landings of 8-10 mn tonnes), which is used to cover the costs of fisheries administration and research. This is a pittance, compared to the earnings of the fishmeal sector as a whole, and can hardly be described as correct practice.

Marcos Kisner, a Peruvian fisheries specialist, points out that as one tonne of fishmeal requires around 4.4 tonnes of anchovy, every tonne of fishmeal exported generates just over US\$5 for the State. Given average 2006 prices of around US\$600 per tonne, and today’s prices of around US\$1,400 per tonne, the Peruvian fishmeal sector is making windfall profits.

Put another way, the Peruvian government is incurring a significant loss of potential revenue. Kisner argues that as it uses natural resources of such national and international importance, the fishery sector, as a whole, should

contribute to the State’s coffers in proportion to its earnings.

The January 2007 flotation of Peru’s fourth-largest fishmeal company, Copeinca, on the Oslo Stock exchange shows just how large private earnings are. With 37 vessels and five processing factories, Copeinca reportedly grossed earnings of US\$90 mn in 2006, boasting an operating margin of 40 per cent. In other words, the earnings of just one company are around 10 times the total annual revenues that the Peruvian State receives from fishing. The opportunity cost of allowing a privileged few to squander Peru’s rich fisheries in this way is enormous.

Given the huge levels of investment required to improve the catching, landing, processing and distribution of fish to meet the demands for direct human consumption, the State can ill afford such huge losses of potential revenue not to mention the costs of managing and regulating the fishery; training; research and development; and combating illegal fishing.

Same prospects

As regards sustainability, the Peruvian fishmeal industry today faces the same problems, and perhaps the same prospects as it did in the boom year of 1971, just prior to its spectacular bust. The fishing fleet has the capacity to catch four

to five times the anchovy stocks available in years of abundance (when there are no ENSO events). In a single day, the fleet can catch over 100,000 tonnes, reaching the annual quota in just three or four months.

The processing plants have a combined processing capacity of 146 mn tonnes—20 times the allowable catch in years of abundance. Overcapacity is the cause of fierce competition both for fish and raw material for processing. It also encourages under-reporting and illegal fishing (notably within the five-mile zone reserved for artisanal fishing and conservation), and the use of fish species reserved for human consumption, like mackerel and horse mackerel, for fishmeal.

Catching such large quantities of anchoveta deprives other fish species of commercial importance, and guano-producing birds and marine mammals of their main food source. Patricia Majluf, Director of the CSA and 2005 winner of the Whitley Gold award for her conservation work, points out that such a large extraction of biomass affects the resilience of the ecosystem (its ability to withstand stress and to recuperate), in which the anchovy stocks represent an important cushion.

A recent study on fresh-fish landings from the artisanal fishing sector in Peru, commissioned by the International Collective in Support of Fishworkers (ICSF), highlights a related issue: the homogenization of the fishery ecosystem, and the implications of this for the livelihood and food security of the coastal populations.

The report draws attention to two main trends. Firstly, statistics have been manipulated to show that fresh-fish landings have kept pace with population growth. If these manipulations are discounted, fresh-fish landings show a decline of 40 per cent over the seven-year period 1998-2004. But in the last decade, the number of artisanal fishermen landing fresh fish has almost doubled, from between 30,000 and 50,000 in 1996 to between 80,000 and 100,000 today. A 1996 census recorded 6,200 artisanal fishing vessels; another, carried out in 2005,

showed the number to have increased to 9,090.

Official statistics show that in 2004 around 40 per cent of the fresh-fish catch, some 150,000 tonnes, originated from “other” (that is, unknown) ports, while catches from known ports had reduced from around 250,000 tonnes in 1997 to 200,000 tonnes in 2004. The report claims that a large proportion of the fish from unknown ports is, in fact, imported. It also points out that in 2004, around 25 per cent of the catch comprised one species the giant squid, locally known as ‘*pota*’.

From insignificant levels in 1998, today *pota* forms a major part of the artisanal (and industrial) fish catch, but due to its low unit value and technical processing problems, fishermen’s incomes have reduced. *Pota* has almost entirely replaced hake in fish landings, a fish that has been subject to intense fishing pressure and which is highly dependent on anchoveta as a source of food.

Majluf contends that “although while there is no conclusive evidence that we are overexploiting the anchoveta, it is certain that we are overexploiting the ecosystem. But that does not mean that we should stop our industry. Rather, what we need is an industry that is managed from a wider perspective. We have long known that overfishing of anchoveta causes the demise of other species. But when you ask IMARPE (Peru’s Marine Institute) about this, they reply that they have studied each species, but separately. They don’t make the ecosystem connections”.

Meanwhile, unlike other industries, no effective environmental regulations are applied to the fishmeal processing industry. No maximum allowable limits are applied to the discharge of effluents, solid, liquid or gas, from fishmeal plants.

Premier city

Nelly Luna Amancio writing in Peru’s *El Comercio*, describes the seabed around Chimbote, Peru’s premier fishmeal city, as a dead zone covered with sediments over 1-m deep, and the air as a toxic mixture of sulphurous gases and vapours. There are 24 fishmeal plants that discharge liquid waste in Chimbote, but only seven are authorized to do so by the

Directorate-General for Environmental Health (DIGESA).

Processing such large quantities of fish into fishmeal also raises important questions about equity and social justice. Alongside resource richness and private accumulation of wealth, over half the Peruvian population—some 15 mn people—live in conditions of critical poverty, unable to meet their basic needs for food, health, education, clothing or shelter. Meanwhile, according to the United Nations Educational, Scientific and Cultural Organization (UNESCO), one in four under-five Peruvian child suffers from malnutrition.

According to Gastón Acurio, a Peruvian chef of world renown and one of the co-organizers of the Anchovy Week campaign, if 10 per cent of Peru's fishmeal catch was channelled into massive, targeted nutritional campaigns, Peru's malnutrition levels could be reduced by half. Therefore, in a sense, the current model of fishing in Peru robs millions of Peruvians of their right to a healthy diet.

But, as Marcos Kisner explains, "Nobody is proposing that 8 mn tonnes of anchovy should end up as food, and neither will it replace sea bass *cebiche*. Rather, what we need is a national policy that assures the possibility for, and access to, healthy nutrition for children.... Another reason for scepticism is that no one wants to replace white-fish fillets with anchovy. Just as some children may reject milk or other food that they don't like, and mothers must force them to consume these because they are indispensable for their nutrition, the same goes for anchovy."

"Anchovy should be made available to the public at a low price in various forms." He continues. "Mothers have the responsibility for getting their children used to it. Moreover, by encouraging an anchovy-eating habit, we are creating conditions for the healthy development of our children. It is this segment of the market—children and pregnant mothers—for whom the resource should be prioritized. Those who can, and those already of adult age, can go on eating other fish, and perhaps from there, they

may develop a taste for anchovy. Records show that prior to the Spanish conquest, catching, drying and trading anchoveta for human consumption was well organized, and that the Incas used to organize regular transport of anchovy to the high plains for distribution to the local population.

Peru's recently elected government has declared war on malnutrition, part of which includes the promotion of mass consumption of anchovy. Under Supreme Decree 002-2007, the National Food Assistance programme of the Ministry for Women's Affairs and Social Development is now required to allocate not less than 8 per cent of its budget to the purchase of products based on anchoveta and *pota*. The Ministry of Production and the Institute for Fisheries Technology are to work alongside the Defence, Interior, Health, Employment and Women's Affairs Ministries to develop programmes for the production and supply of anchoveta-based products. These are to be distributed through various Ministries, to provide food for police and military personnel, as well as for poorer sections of Peruvian society.

Peru also recently signed an agreement with Japan, through the Japanese International Co-operation Agency (JICA), for the "Responsible Fisheries Development of Anchoveta for Direct Human Consumption". In addition to government food-aid programmes, the private sector is also to be closely involved in this initiative, catching, processing and commercializing anchoveta for direct human consumption.

The five-year programme envisages the use of improved anchoveta handling and storage on board artisanal fishing vessels, and the use of low-cost and hygienic processing methods, with technical assistance from Japan.


Good business

But commercializing anchovy products for direct human consumption could also make good business sense both nationally and internationally. Canned anchovy from Peru is gaining ground in many foreign markets, notably in Africa, where there is a high demand for low-cost products with a high nutritional value.

foremost is the problem of how to restructure and rationalize the fishmeal sector.

Currently, the overcapacity debate in Peru is focusing on how to reduce fleet capacity. Options under discussion include the application of an individual quota system (as proposed by the industrial fishing organization, SNP), installing refrigerated fish-holds (to reduce vessel capacity by between a half and a third, also improving the quality of the end product), and vessel buyback and conversion schemes (to fish for mackerel and horse mackerel for human consumption).

But perhaps the biggest problem, as highlighted by Kisner, is that Peru's fisheries "are submerged in waters of political indecision. The absence of long-term policies with an ecosystems approach leading to a technically based structural reform of the sector, directed by decisionmakers with the capacity to provide leadership and capable of resisting the temptations that come with power, is what has brought the sector to the sorry state it finds itself in today."

All this makes Peru's anchoveta fishery for fishmeal look more like an albatross than a golden goose. 

According to Alfonso Miranda Eyzaguirre, Peru's Vice Minister for Fisheries, in 2000, practically no anchovy was landed for human consumption. In 2006, more than 50,000 tonnes were landed for direct human consumption. The value of canned anchovy exports from Peru reached US\$847 mn in 2005, with the main destinations being Colombia (US\$202,800), Italy (US\$190,900), Angola (US\$174,400) and Zaire (US\$81,700).

The Anchovy Week campaign demonstrated that, with imaginative preparation, professional marketing and promotional campaigns, anchoveta could also become a luxury food in Peru, as popular with the yuppie set as Pisco Sour. During Anchovy Week, fresh anchovy was selling in Lima's supermarkets for US\$0.5-1 per kg, and stocks were quickly sold out. In all, around 18,000 people tasted anchovies during the Anchovy Week in the 30 participating restaurants. Some earned over US\$500 per day from the anchovy dishes sold during the week. Of 600 people surveyed in these restaurants, 95 per cent liked them and would eat them again.

But redirecting Peru's fishing fleet to catching anchovy and other fish for direct human consumption, and establishing the infrastructure and economic support necessary to enable wider consumption of fish, faces many challenges. First and

This article, by Brian O'Riordan (briano@scarlet.be), Secretary, ICSF Belgium Office, is based on various sources, including Oannes (<http://www.oannes.org.pe/>), Patricia Majluf (http://www.conam.gob.pe/documentos/Analisis_ambiental/CEA%20Per%C3%BA%20-%20Evaluaci%C3%B3n%20Ambiental%20del%20Sector%20Pesquero.pdf), Marcos Kisner Bueno: (<http://pescasostenible.blogspot.com/>) and Pesca y seguridad alimentaria (http://www.cooperacion.org.pe/publicaciones2.php?id_publicacion=0087)