

Diversiónary Tactics

Allocating exclusive fishing grounds for artisanal fleets fails to secure more anchoveta for direct human consumption in the absence of rules and regulations

Peru's multi-species, highly diverse artisanal fisheries make a strategically important contribution to the nation's food security, having traditionally provided fish for local consumption. However, the sector is dwarfed by the industrial fishery, dominated by fleets which mainly target a single species—the Peruvian anchoveta—for fishmeal production. This marked differentiation in the fishery sector provides the basis for classifying Peruvian fisheries into two broad categories: a sector which produces fish for 'indirect human consumption' (IHC), that is, for fishmeal and fish oil, and a sector which produces fish for 'direct human consumption' (DHC).

Peruvian anchoveta is prone to massive fluctuations in abundance thanks to the *El Niño–Southern Oscillation* (ENSO) system that characterizes the Humboldt Large Marine Ecosystem. When a strong el Niño event coincides with heavy fishing pressure, as happened in 1972, anchoveta stocks can collapse, with dramatic knock-on effects on the entire marine ecosystem. Just prior to the collapse, annual catches peaked at 12 mn tonnes, but took years to recover. Over the first decade of the 21st century, published anchoveta landings fluctuated between 8.808 mn tonnes in 2004, down to 3.45 mn tonnes in 2010, up to 7.103 mn tonnes in 2011 and down to 2.653 mn tonnes in 2012 due to the impact of ENSO-related phenomena on anchoveta stocks, and government action to cut quotas.

The fishmeal fishery in Peru is essentially an industrial sector, deploying mechanized fleets, fishing

intensively, catching between five and 10 mn tonnes annually, providing highly refined ingredients for animal feeds, and generating enormous profits and foreign-exchange earnings. Fishmeal production is dominated by vertically integrated transnational companies, owning their own fleets of vessels dedicated to supplying their factories. For example, vessels owned by the fishing giants Copeinica ASA and China Fisheries are allocated around 32 per cent of the total anchoveta catch quota.

The DHC fishery is essentially an artisanal sector, using traditional

The importance of artisanal fisheries for direct food consumption and food security has long been strategically recognized in Peru.

motorized craft and manual operations, catching tens of thousands of tonnes of fish and several hundreds of species (Peru has 736 known marine fish species), mainly for local consumption. In 2012, according to Ministry of Production statistics, 287,200 tonnes of marine fish was landed as fresh catch, 202,600 tonnes as canned, 700,400 as frozen, and 2,250 as cured. These would have come mainly from the artisanal fisheries sector.

Direct food consumption

The importance of artisanal fisheries for direct food consumption and food security has long been strategically recognized in Peru. In 1992, the Fisheries Ministry

*This article, by **Juan Carlos Sueiro C** (jcsueiro@csa-upch.org), Associate Member of ICSF and Researcher at the Centre for Environmental Sustainability at the Cayetano Heredia University, Lima, Peru, has been translated by **Brian O'Riordan** (briano@scarlet.be) of ICSF's Belgium Office*

Diversiónary Tactics

Allocating exclusive fishing grounds for artisanal fleets fails to secure more anchoveta for direct human consumption in the absence of rules and regulations

Peru's multi-species, highly diverse artisanal fisheries make a strategically important contribution to the nation's food security, having traditionally provided fish for local consumption. However, the sector is dwarfed by the industrial fishery, dominated by fleets which mainly target a single species—the Peruvian anchoveta—for fishmeal production. This marked differentiation in the fishery sector provides the basis for classifying Peruvian fisheries into two broad categories: a sector which produces fish for 'indirect human consumption' (IHC), that is, for fishmeal and fish oil, and a sector which produces fish for 'direct human consumption' (DHC).

Peruvian anchoveta is prone to massive fluctuations in abundance thanks to the *El Niño–Southern Oscillation* (ENSO) system that characterizes the Humboldt Large Marine Ecosystem. When a strong *el Niño* event coincides with heavy fishing pressure, as happened in 1972, anchoveta stocks can collapse, with dramatic knock-on effects on the entire marine ecosystem. Just prior to the collapse, annual catches peaked at 12 mn tonnes, but took years to recover. Over the first decade of the 21st century, published anchoveta landings fluctuated between 8.808 mn tonnes in 2004, down to 3.45 mn tonnes in 2010, up to 7.103 mn tonnes in 2011 and down to 2.653 mn tonnes in 2012 due to the impact of ENSO-related phenomena on anchoveta stocks, and government action to cut quotas.

The fishmeal fishery in Peru is essentially an industrial sector, deploying mechanized fleets, fishing

intensively, catching between five and 10 mn tonnes annually, providing highly refined ingredients for animal feeds, and generating enormous profits and foreign-exchange earnings. Fishmeal production is dominated by vertically integrated transnational companies, owning their own fleets of vessels dedicated to supplying their factories. For example, vessels owned by the fishing giants Copeinica ASA and China Fisheries are allocated around 32 per cent of the total anchoveta catch quota.

The DHC fishery is essentially an artisanal sector, using traditional

The importance of artisanal fisheries for direct food consumption and food security has long been strategically recognized in Peru.

motorized craft and manual operations, catching tens of thousands of tonnes of fish and several hundreds of species (Peru has 736 known marine fish species), mainly for local consumption. In 2012, according to Ministry of Production statistics, 287,200 tonnes of marine fish was landed as fresh catch, 202,600 tonnes as canned, 700,400 as frozen, and 2,250 as cured. These would have come mainly from the artisanal fisheries sector.

Direct food consumption

The importance of artisanal fisheries for direct food consumption and food security has long been strategically recognized in Peru. In 1992, the Fisheries Ministry

*This article, by **Juan Carlos Sueiro C** (jcsueiro@csa-upch.org), Associate Member of ICSF and Researcher at the Centre for Environmental Sustainability at the Cayetano Heredia University, Lima, Peru, has been translated by **Brian O'Riordan** (briano@scarlet.be) of ICSF's Belgium Office*

passed a landmark law—Supreme Decree DS 017-1992-PE—establishing an exclusive artisanal fishing zone out to five miles from the coast. Defending the five-mile zone has provided a rallying call for artisanal fishermen to protect their fishing grounds from industrial fishmeal vessels. Currently, increasing the contribution of fisheries to national food security is a strategic objective for Peru's President, Ollanta Humala. In recent years the quantities of anchoveta being used for DHC has increased significantly, from 43,464 tonnes in 2006 (0.7 per cent of total anchoveta catches, 71 per cent as

foreign-exchange earnings that benefit a minimal fraction of the industry.”

Yet, in 2008, despite having a fleet four to five times the capacity needed to catch the resources, scientists at the University of British Columbia ranked Peru's fishery as the most sustainable in the world. In September 2012, Copeinica, a multinational company listed on the Oslo stock exchange and one of the largest vertically integrated fishmeal and fish oil companies in Peru, successfully underwent Friends of the Sea (FoS) certification, having been found to comply with all the FoS criteria for sustainable fisheries. Meanwhile, the Marine Stewardship Council (MSC) and others flirt with the idea of certifying Peru's fishmeal fishery as sustainable.

Yet, managing Peru's fishery is fraught with problems. Over the last 12 months, no fewer than five fisheries ministers have been appointed. In May 2012, when Patricia Majluf, a marine conservationist of world renown, resigned as Fisheries Vice-Minister, she expressed her “complete dissatisfaction with the way that fisheries were being managed.”

This article highlights some of the fishery-management challenges facing Peru. It looks at some of the changes occurring in the artisanal fishery, and points out how the evolution of the larger vessel fleet segment in the artisanal sector has resulted in it being reclassified as ‘smaller-scale’ (*menor escala*). The perverse effects of this evolution, the threat that this fleet now poses for the sustainable use of Peru's resources, and the response of the government are discussed below.

Due to a series of factors (common to fisheries throughout the world), the capital invested in most of Peru's fisheries substantially exceeds the sustainable productive capacity of the fishery resources. It is vital that taking account of, and addressing, this fact should become the chief priority of State fishery regulations.

Social inclusion

From the policy perspective of the current government, for whom social inclusion is a key element in the fight against poverty and inequality in the

Fishing vessels classified as artisanal, driven by strong market incentives and an enabling environment of lax enforcement and legal loopholes, have been catching increasingly large quantities of fish...

canned) to 109,010 tonnes in 2011 (1.5 per cent of total anchoveta catches, 77 per cent as canned). In 2012, due to strong ENSO conditions, anchoveta catches were curtailed at 2.654 mn tonnes, compared to 7.103 mn tonnes in 2011. Even so, 1.3 per cent of the total catch was processed for DHC. Peruvian government statistics show that anchoveta is processed for DHC as canned, fresh, frozen and cured products.

In recent years, the distinction between the two sectors has become blurred. Fishing vessels classified as artisanal, driven by strong market incentives and an enabling environment of lax enforcement and legal loopholes, have been catching increasingly large quantities of fish, mainly Peruvian anchoveta, for IHC.

Peru's fishery is also full of idiosyncrasies. In 2006, a World Bank-commissioned evaluation report on the country's marine fisheries sector described the Peruvian industrial fishery for anchoveta as “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

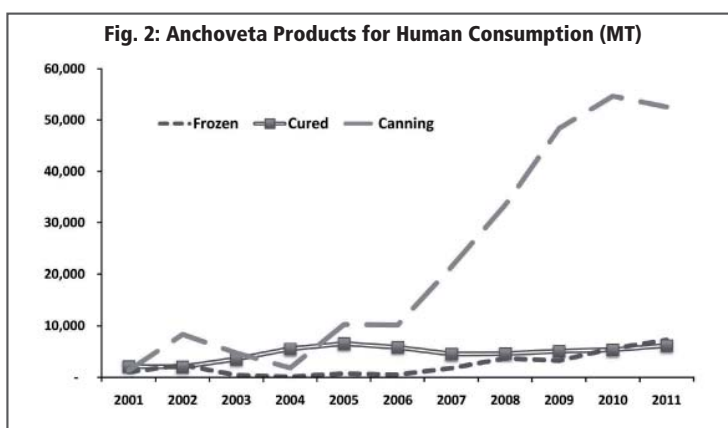
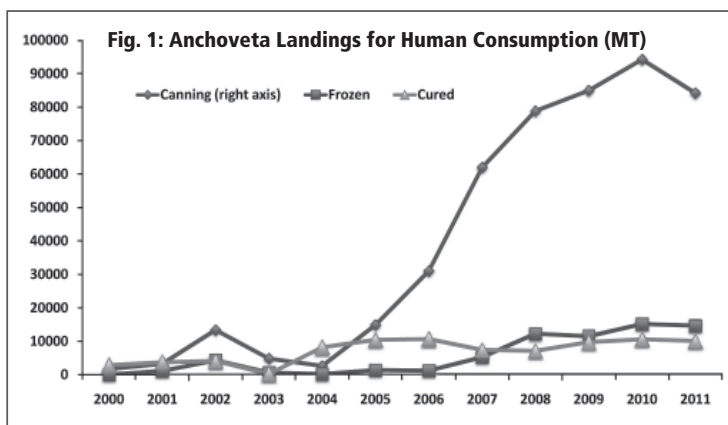
country, a fundamental requirement of fisheries management is to ensure the sustainability of the resources. Social inclusion in fisheries activities will not be possible if resources are overexploited and stocks depleted.

At the same time, social inclusion suffers when a culture of impunity and corruption prevails, preventing the application of the regulations and sanctions established and made law through fisheries-management instruments. This is exemplified by the fact that instead of applying already established fishery-management regulations, successive governments have applied provisional fisheries regimes over several years. These are considerably more lax in terms of regulating and conserving resources. The system of sanctions and fines is chaotic and disorganized, with processes that are still labour-intensive, open to discretion and manipulation and with a very low level of collection of fines—around six per cent of the total imposed in the final year of the previous government.

Given the enormous volume of fish landed and the need for rapid transfer from ship to factory, the monitoring of landings has shown a history of abuse by some parts of the sector, which employ various subterfuges to report lower levels of landings than actually made. Control methods have evolved in line with technology—satellite vessel monitoring system (VMS), automated weighing, computer databases, etc. Currently, the control system is privately run, but State supervision is weak, with weighing systems technologically vulnerable to manipulation. All this goes on despite the existence of technical alternatives that could be adopted.

Peru introduced a system of individual vessel quotas in 2009. Although various administrative as well as labour-related faults with the implementation of the law of individual quotas for anchoveta fishing for fishmeal are evident, they still prevail.

We will focus on the issue of anchoveta for human consumption because of its relevance for artisanal



fisheries, and discuss how, in recent years, it has grown in importance, the serious distortions taking place, as well as the recently approved legislation that relates to anchoveta.

Since 2006, thanks largely to the boost provided by Anchoveta Week, which gave an innovative thrust to promoting anchoveta for human consumption, landings of anchoveta have grown enormously. This resulted in the formulation, in 2010, of a fisheries-management regulation specially designed for this activity. This ruled that the artisanal fishing vessels involved in fishing for anchoveta for human consumption (with hold capacities of up to 30 tonnes) should have supply contracts with processing (canning) plants—there are hardly any sales of fresh anchoveta in Peru—and should insulate their holds.

Irregularities

However, there were irregularities, and often only one inspection, with serious technical shortcomings, was undertaken. Also, implementation was mediocre, ignoring the balance

SANTIAGO DE LA PUENTE



Artisanal purse-seiners landing anchovies in Pisco, south of Peru.
Eight of every 10 tonnes of anchoveta catch goes to fishmeal

between processing capacity (high) and the capacity of these vessels to make responsible management decisions (low).

Added to all of this, the system of surveillance and control for this fishery is practically non-existent, highly vulnerable to being corrupted and has no competence to intervene in clandestine establishments that both process anchoveta for fishmeal and finance fishing trips to secure their supplies.

At the same time, a series of public-sector fishery obligations, established under the Regulation of Fishery Oversight (ROP) for anchoveta for human consumption in 2011 and under complementary rules, have, to all intents and purposes, not been implemented.

All this has led to a serious distortion of the system, resulting in around 70 per cent of the catches destined for processing into products for human consumption being illegally diverted into fishmeal production—either in clandestine establishments or in other plants that have deviated from their authorized purpose, which is to use the residues and discards produced in the industry.

This is highlighted in Figures 1 and 2, which contrast the statistics of anchoveta landings destined for

canned, cured (for human consumption) and frozen fishery products with the volumes actually produced of these products.

The ratio between the landings and production output (fresh, frozen, cured, canned, meal and oil) are, in general, proportional, which is to say there is a correspondence between the volume landed for a certain purpose and the production levels attained. That would indicate that only landings that effectively enter the productive process for human consumption are registered.

However, warnings have been made by several sources in various parts of the country about the serious diversion of wastes from solid waste treatment plants to clandestine, but fully operative, low-quality fishmeal plants on the outskirts of cities, with the State (at national and regional levels) unable to stop their operations.

Thus, for example, at the Conference on Marine Science (CONCIMAR) in 2012, some research findings by Peru's Marine Institute (IMARPE) in Pisco were presented, which showed that in 2011 around 77 per cent of the anchoveta landings for DHC were diverted to fishmeal production. Assuming that at the national level, 80 per cent of the anchoveta catch destined for DHC is diverted, one can estimate that around 450,000 tonnes (a volume which is over half the entire Spanish fish catch) are being diverted in this way.

There is also a large difference in the capacity to generate employment. While a plant processing for DHC may employ several hundred people, mainly women, no more than 15 people are involved in fishmeal plants of this kind. There are more buttons on the control panels of these plants than persons working in them.

Fishmeal

The resulting situation is unsustainable. It exerts a heavy burden on the fishery—eight of every 10 tonnes of catch goes to fishmeal, seven of which are illegal. This makes it impossible to develop anchoveta's potential for feeding not only

Peruvians, but also contributing to low-cost, high-quality food needed by a large segment of the human population globally. This is an ambition shared and promoted by the Centre for Sustainability of the Cayetano Heredia Peruvian University (where the author of this article is based).

Through the recent issue of Supreme Decree DS 005-2012 (a legal norm of executive power, with the signature of the Minister and the President), the Production Ministry (line ministry of the Fisheries Ministry) has sought to remedy the above situation. We shall describe below its proposals and limitations.

For a long time, there has been an ongoing discussion in the Peruvian fisheries sector on redefining the criteria that apply to artisanal fisheries, in a way that distinguishes the mechanized and relatively highly capitalized fleet from smaller-scale activities in which manual operations predominate.

Supreme Decree DS 005-2012 establishes that vessels with a hold capacity of less than 10 cu m are artisanal and have exclusive access to fish in the first five miles; and those with hold capacities of 10 to 32 cu m are 'smaller-scale' (*menor escala*) and have exclusive access for anchoveta fishing in the 5-10-mile zone. The industrial fishery for anchoveta starts outside the 10-mile limit.

There are also administrative implications, as the smaller-scale vessels fall under the competence of the Production Ministry (of the central government), while artisanal vessels continue under the competence of the regional government.


Putting to one side the protests of interested parties in the fishmeal sector or of those contracted to defend their interests, it is important to make an objective assessment of the above regulation. Firstly, it must be said that the situation in the fishery will not be changed by a single regulation; several more are needed. Also, their implementation will require sufficient political will, in a context where the breakdown of the fishery governance system is the main threat.

Thus, while the regulation establishes that the smaller-scale vessels must have a VMS to enable regulation of their trips, the budget will have to be increased to allow for the effective monitoring of these activities, in the same way as is done for industrial vessels.

Equally, the rule that regulates the proportion of discards from processing anchoveta for DHC (mainly by canning) should be modified to differentiate details by process rather than lumping them all together, as is currently the case.

There are also inconsistencies in the law. Article 11 of DS 005 2012 lays down that only smaller-scale vessels can have up to 10 per cent of the fish catch as unfit for human consumption, but it is Article 12 of DS 005 2012 that has the gravest consequences as it establishes that DHC processing plants may discard up to 40 per cent of the volume coming from the smaller-scale fleet (that is, send it for fishmeal). However, this is not allowed with catches coming from the artisanal fishery. That is to say, by definition, there are no discards from fish derived from the artisanal fleet.

The main challenge is to drastically reduce the diversion of anchoveta into fishmeal, which might otherwise contribute to anchoveta products for human consumption, effectively realizing their food potential. The next step is to include anchovy catches for human consumption in the overall catch quota. The resulting better focus on artisanal fishermen and vessel owners will allow for more effective State support for small-scale fisheries, with policies that are sustainable and inclusive.

Are there changes afoot in the Peruvian fishery? For sure, there are, as expressed in the Strategic Fisheries Sectoral Plan ratified this year (but not originating from the present government) and which is expressed in the three basic pillars of sustainable resource use, social inclusion and the effective fight to end corruption. However, policies and regulations need to get off the paper and into practice. 

For more

www.fao.org/fi/oldsite/FCP/en/PER/profile.htm

FAO Fisheries Profile

www.economist.com/node/18651372

Fishing in Peru: The Next Anchovy - Economist May 5 2011

www.huffingtonpost.com/the-center-for-public-integrity/perus-vanishing-fish-ramp_b_1233798.html

Peru's Vanishing Fish: Rampant Cheating and Lax Controls Plague Industry. Huffington Post 01/26/2012.

www.huffingtonpost.com/2013/02/04/peruvian-anchovy-overfishing_n_2618275.html

Peruvian Anchovy Overfishing Raises Concerns About Food Security. Huffington Post 02.04.13

cies.org.pe/files/documents/investigaciones/regulacion/Eficiencia_y_equidad_en_la_reforma_de_la_pesca_en_el_Peru.pdf

Eficiencia'y equidad'en' la' pesca' peruana: 'la' reforma'y' los' derechos' de' pesca'

www.icsf.net/en/samudra/detail/EN/2933.html?detpag=mapart

Peru : Fishmeal Fishery