



Expansion with improved governance is the future for aquaculture

Overview:

- **Fishmeal and fish oil certification approaches 30% of world production capacity just two years on from launch**
- **The impact of ITQs in Peru**
- **Asia is the global supply and demand dynamo**

If aquaculture is to fulfil its great potential to ease world food shortages, good governance and responsible development are essential. For the small pelagic and fishmeal sector this includes rights-based management of fisheries which will improve product quality and open up more market opportunities for human consumption. Expansion of aquaculture offers huge opportunities for developing countries which can improve governance and increase responsible practice.

These were among the key messages from the IFFO 2011 Annual Conference held last week in Lima, Peru. The host country reported substantial progress in improving controls on fisheries including the introduction of Individual Transferable Quotas.

IFFO also announced that more 50% of its Members' production capacity, and nearly 30% of world capacity, had achieved certification to the responsible supply (RS) standard launched two years ago. IFFO and partners, including Sustainable Fisheries Partnership and FAO, are developing an Improvers' Programme to enable producers struggling to meet the RS Standard to work towards it.

Global industry

Arni Mathiesen of FAO painted the big picture on the contribution fisheries and aquaculture can make to feeding and providing livelihoods in a world where more than 900 million people are undernourished.

He said fisheries and fish farming employ 45 million people worldwide and the livelihoods or well-being of 540 million people, or 8% of the world's population, depend on fisheries. A growing proportion of the world's capture fisheries are overexploited, depleted or recovering. Human demand for all fish and other seafood will approach 320 million tonnes by 2028 as population and incomes rise, but potential supply from capture and culture fisheries is currently extrapolated to be less than 180 million tonnes.

“The future for capture fisheries is to maximise value and improve sustainability, and for aquaculture it is to increase volumes and responsible development in line with green, social and environmental agendas,” he said.

James Anderson of the World Bank agreed that an increasing and wealthier global population requires more resources, and the oceans may well be the best source. More people and companies realise the opportunities in the ocean and waterways, and were innovating to use them. Globalisation made it easier to take advantage of opportunities.

Anderson said an estimated \$50 billion is lost annually as a result of poor governance in fisheries. “Good governance of inland and ocean resources will enhance food security, nutrition, create wealth, conserve biodiversity and strengthen community resilience,” he said. “Developing countries have a tremendous opportunity to gain.”

Anderson outlined the World Bank programme to facilitate the contribution fisheries and aquaculture could make to growth and the alleviation of poverty through analysis, policy development, improved governance, technology transfer and investment. He said its project portfolio extended to \$600 million committed in more than 20 countries to dedicated fisheries and aquaculture projects.

For example, in Peru there had been broad consensus on the need for fisheries management reform. Advice from FAO and the World Bank and a \$300 million loan supported the introduction of individual vessel quota laws.

Anderson asked: “Will small pelagic fish be marketed directly for human consumption, processed into high value ingredients in functional foods or reduced to fishmeal to meet the demand from an increasing aquaculture sector?”

He believes governance reform in fisheries will help the sector focus on the needs of the market and a greater proportion of small pelagics finding human consumption markets. He instanced the examples of Norwegian mackerel and Chilean Jack Mackerel and said there was even some evidence of this move in the market for Peruvian anchovy.

“Fishmeal and fish oil markets have responded to change,” said Anderson instancing the switch from zero per cent of fishmeal going into aquaculture in 1960 to 59% by 2008 and the rise in use of by-product raw materials from very little to 25% now.

South American fishmeal industry

Host country Peru contributes eight per cent of the world’s fish catch. Peruvian Prime Minister Salomón Lerner Ghitis, opening the conference, told delegates that he had connections with the fishmeal industry stretching back 40 years when he had been involved in opening the trading relationship with China.

Lerner said Peru was forecasting overall economic growth of 6 to 6.5% for 2011 and had strong reserves and low inflation – making it a stable country attractive for investment. The Government of President Humala planned to maintain this growth and stability but also improve social inclusion through better distribution to the poor and build up the infrastructure over 10 to 15 years. Fishing was the second biggest industry behind mining, and he described the fishmeal and fish oil sector as “modern, sustainable and diversified”, listing policies implemented on fishing controls and effluents.

Lerner's final point was his Government's interest in promoting domestic consumption of fish, as a measure of ensuring food security and encouraging development of more added value products. He said artisanal fishermen were high on the Government's social inclusion agenda.

Richard Inurritegui, Sociedad de Pesquera, detailed the improved management of the Peruvian fishery resource as a result of cooperation between the Fisheries Institute (IMARPE), governments and the industry since the mid 1980s. He said this had led to more stable and higher extraction levels. The controls included an ecosystem approach, annual and seasonal catch quotas, close seasons, prohibited areas, minimum sizes and gear regulation.

Satellite monitoring of fishing vessels was introduced in 2001, controls on landings in 2003 and Maximum Catch Limits per Vessel (MCLV), sometimes referred to as Individual Transferable Quotas (ITQ), in 2008.

Inurritegui listed extensive production, environmental and safety benefits of MCLV including lower daily catches, less by-catch and longer fishing seasons.

"In 2009 a pre-assessment was carried out for international certification of anchovy fisheries under the standards of the Marine Stewardship Council," said Inurritegui. "The results were positive, concluding that anchovy fisheries were indeed certifiable and a certification process could therefore proceed when it was considered appropriate. The change of MSC guidance to certifiers assessing Low Trophic Level fisheries like anchoveta earlier this year has triggered a review by SNP. This review is still underway."

Both the indirect (fishmeal and fish oil) and direct (human consumption) sectors of the Peruvian fishing industry are consolidating and investing in new technology, according to Inurritegui. He said the fishmeal industry provides 200,000 jobs, has invested heavily in technology to comply with maximum admissible emission limits and had developed higher-added value products such as prime and super-prime meal and refined oil for human consumption. All plants had implemented HACCP and other quality control systems.

"The fishing industry has also diversified towards a higher proportion of direct human consumption with products that generate greater added value, create jobs and improve food security, through campaigns to increase the amount of fish that people consume," said Inurritegui. Alejandro Covarrubias of Sernapesca of Chile detailed the 280 management measures in place in his country to ensure proper enforcement of, and compliance with, fisheries regulations. He explained that the objective was to minimise the risk of non-compliance and that in recent years they had been very successful.

Fishmeal certification

IFFO's response to the need for good governance and to meet consumer expectations of sustainability and safety has been to introduce a certification programme for fishmeal and oil factories, extending to cover responsible sourcing of both wild fish and by-product raw material, production and custody. IFFO Technical Director Andrew Jackson reported that 73 factories in six major producing countries have achieved certification with nine more pending, all since the programme was launched two years ago.

"That amounts to 50% of IFFO member production capacity for both fishmeal and fish oil and 29% of total world capacity," he said. "Croda, which supplies fish oil for human consumption,

recently became the first company to achieve the new RS Chain of Custody certification, and more applicants are in the pipeline. RS certified fishmeal and fish oil is recognised as compliant with Global Aquaculture Alliance BAP Standard and is also accepted in some drafts of the draft Aquaculture Stewardship Standards.”

Duncan Leadbitter of Sustainable Fisheries Partnership explained why his company was working with IFFO to develop an Improvers’ Programme to the RS standard to help those factories and fisheries which were unable to achieve the IFFO RS Standard. It was felt this would be particularly relevant to Asia.

“The fundamental cause is the absence of effective fisheries management,” said Leadbitter. “The relatively recent development of many fisheries has resulted in a focus on the short term abundance and no interest in controls for the future. This damages everyone in the value chain. We are working with IFFO and FAO, with support from EWOS, to develop an improvement plan based on a fisheries assessment and consultations with stakeholders. The strategy is to generate sufficient momentum involving companies, governments and intergovernmental bodies to attract funding and focus this on management improvements,” he said.

Asia

Leadbitter described Asia as the “aquaculture dynamo of the word”, a point echoed by Professor Frank Asche, University of Stavanger: “Asia’s farmed finfish production increase from 2003 to 2011 is equal to the rest of the world’s total production.” Asche predicted that Asia would dominate aquaculture production and that South America was likely to follow.

Asche then focused on the rising *demand* for farmed seafood from the expanding Asian middle class.

“By 2030, sixty six percent (66%) of the world’s middle class will live in Asia Pacific, notably in India and China,” said Asche. “The Asian middle class is set to become the largest food consuming group in the world and the proportion of animal protein in the diet increases with income per capita. For example domestic demand for seafood in China increased from 7kg per person in 1985 to about 25kg in 2005 and BRIC countries’ (Brazil, Russia, India and China) share of global farmed salmonid consumption has risen from 3% to 12% between 2000 and 2010,” he said.

Asche projected global demand for seafood would reach between 138 and 159 Million Tons (MT) by 2025. Aquaculture production would then need to be between 74 and 100 MT by 2025, an increase of 22 or 42 MT from 2008 levels.

Aquaculture feed

Kjell Bjordal of EWOS explained the importance of sustainable ingredients in a CSR-led company like EWOS: “We prioritise the use of feed ingredients that we judge to be sustainable, based upon the best available information, and continuously improve our responsible sourcing policy through engaging with the suppliers of our feed ingredients.”

Bjordal emphasised that salmon were more efficient than farmed land animals in their use of feed nutrients and that salmon farming also had a relatively low carbon footprint. And, he said, salmonids were the most important vector for transferring long-chain omega-3 fatty acids into human diets.

“Is feed a sustainability issue for the aquaculture value chain? No, aquaculture is the most sustainable way to transform “low value” nutrients into healthy food for human beings. Sustainable aquaculture depends upon sustainable aquaculture feed, which depends upon responsible sourcing, which is why we are working with IFFO on their RS programme,” he concluded.

Global food issues

The consequences of global warming are vastly exaggerated and one-sided, leading to bad judgement, according to Bjørn Lomborg, speaking on climate change. He said that Al Gore’s consequent planetary emergencies of heat deaths, sea level rise, hurricanes and malaria were erroneous, could be addressed or were simply not the most serious issues facing mankind. Lomborg contrasted the US\$180bn required to deliver Kyoto climate commitments compared with the US\$75bn required to provide clean drinking water, sanitation, health care and education for all.

Omega-3s

Adam Ismail of the omega-3 trade association, GOED, said most of the developed world has set Recommended Daily Intakes for the healthy fatty acids from fish, EPA and DHA, of up to 1000mg/day but most consumers worldwide are still not consuming enough. In the US low intakes cause 84,000 deaths annually from heart disease alone – more than from alcohol misuse. To prevent heart disease deaths on this scale worldwide would require the EPA and DHA from 5.7 million tonnes of fish oil with 30% EPA+DHA.

The global public health cost, over the next 20 years, of diseases which omega-3s are believed to play a role in preventing is \$47 trillion. Ismail asked how the fish oil industry could educate consumers on how omega 3 can help in avoiding these costs.

He said awareness of omega-3 was now almost universal in developed economies. The heart health from omega-3s message had made its way into mainstream media and so to consumers. But, despite being aware, most consumers still did not actively seek to increase intake. In developing countries, lack of disposable income is the major reason for insufficient omega-3 consumption.

“Major consumer campaigns and continued investment in science will be needed to maximise the public health benefits omega-3 can provide,” said Ismail.

Earlier in the conference Mathiesen from FAO had stressed that fish were not only a unique source of the EPA and DHA but also that they were a unique and complete source of micronutrients with high bioavailability. These include the minerals calcium, iodine, zinc, iron and, selenium and vitamins A, D and B group.

“Fish are animal protein intake of excellent quality,” he said

Responding to critics

“In British Columbia anti salmon farming NGOs are spending \$15 dollars on campaigning for every \$2 dollars the industry is spending promoting and defending itself”, according the Mary Ellen Walling of British Columbia Salmon Farmers, who advised the conference on how to keep calm when dealing with the critics. Her five lessons were: “Always be prepared; scientists must speak up; engage the broader community; understand your critics; and pull together as an industry”.

New President and Director General

The President of IFFO for 2012 and 2013, serving for a second term, will be Nils Christian Jensen of TripleNine, Denmark, following Humberto Speziani, Peru. Director General Jonathan Shepherd will hand over to Andrew Mallison on November 9th and retire at the end of December. Shepherd put the introduction of the RS Standard and rapid uptake by Members in the forefront of achievements during his seven years at the helm of IFFO.

“We have come a long way and have much to be proud of - the RS standard and the transformation of IFFO into a modern, transparent and legally compliant trade association,” he said. “We must now maintain momentum by broadening our scope and reach, communicating the benefits of omega-3 and continuing the drive towards responsible sourcing.”
Next year’s conference will be in Istanbul, Turkey, in late October.

Facts and figures from the IFFO Conference

Proportion of IFFO Member production capacity which has achieved certification since the RS was introduced in 2009	50%
Reduction in landings of undersize fish in Peru since MCLV introduced	47%
Forecast GDP growth rate in China and Vietnam for 2016	30%
% of the world’s middle class living in Asia Pacific by 2030	66%
Increase in global aquaculture production required to meet demand in 2025 (from 2008 levels)	22-42Mt
People who contract preventable disease through too little omega-3s	2 million
Global public health cost over the next 20 years of diseases which omega-3s are believed to play a role in preventing	\$47 trillion
Undernourished people in the world in 2010	925M
Proportion of world population with fish-related livelihoods and well-being	8%
Record attendance at the 2011 IFFO Annual Conference, in Lima.	498

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