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GLOBAL AQUACULTURE ALLIANCE ON BEST AQUACULTURE PRACTICES:

AN INDUSTRY PREPARES FOR SUSTAINABLE GROWTH

By Daniel Lee and John Connelly*

INTRODUCTION: WHAT IS AQUACULTURE

Aquaculture — or the farming of fish — is both a new technology and one that has long been part of human history. Aquaculture is employed for a variety of reasons: fish may be raised to stock public waters for sport fishing and for commercial fishing; it may be used to save an endangered species; or it may be used to harvest a commercially valuable crop in ponds or coastal waters. In simple terms, aquaculture is an extension of agriculture: the farmer farms the water instead of the land.¹ Aquaculture's importance to the global food supply is hard to overestimate. It has grown faster than any other agriculture segment in the past half century, from less than one million tons to 59.4 million tons in 2004, representing \$70.3 billion in value.²

FISH AND SHELLFISH AS GROWING PART OF A HEALTHY DIET: SEAFOOD SUPPLY ISSUES

As people in developed countries seek a healthy life style, they are increasing their seafood intake. Globally, the United Nations Food and Agriculture Organization ("FAO") predicts that the yearly per capita demand for seafood will grow by nearly twenty percent, from 35.5 to 42.1 pounds, between 2000 and 2015,³ and forecasts that the total demand for seafood will surge by 50 million tons in the coming decade, representing a 3.1 percent annual increase since 1985,⁴ and will reach 133 million tons by 2015. As an illustration of the importance of aquatic products in human diets, FAO further reports that for more than 2.6 billion people, fish provides twenty percent or more of their animal protein.⁵

While increased fish and shellfish consumption presents benefits to public health, supplying this demand is a significant challenge. The total world supply of wild capture⁶ fisheries has been stable at about 88 million tons since 1985.⁷ FAO experts project this to be the global sustainable limit of harvest, stating, "catches in the wild are still high, but they have leveled off, probably for good."⁸

If world demand for seafood reaches 133 million tons in 2015, and wild capture fisheries can only yield 88 million tons, how will society fill this gap? There is clear evidence that aquaculture is rising to the challenge. FAO notes that the global production from aquaculture continues to grow in terms of both quantity and its relative contribution to the world's supply of fish for direct human consumption.⁹ Aquaculture already supplies 43 percent of the fish humans eat (up from 27.5 percent in 2000), and that percentage is expected to grow in the future.¹⁰

Countries in Asia and Latin America are the largest aquaculture producers and developing countries accounted for 90.7 percent of production in 2002.¹¹ The output of China alone is massive and was reckoned to account for 71 percent of global aquaculture production in 2002,¹² although production figures from China are a source of controversy.¹³

So if developing nations are producing most of the globe's aquaculture products, where are these products going? Clearly, of that which is internationally traded, much of it is coming to the United States. The U.S. imports about eighty percent of its fish.¹⁴ A review of the top ten fish and shellfish that Americans eat reveals that four of the top six are, to a great extent, supplied through imports and aquaculture (shrimp, salmon, catfish and tilapia). Of the top six species, only pollock and tuna are solely or primarily produced from the wild.

SUSTAINABILITY AND SEAFOOD

There is a growing call for a rational use of the globe's resources, often couched in terms of "sustainable development" or "sustainability." However, in the context of world trade policy, the UN has noted that the sustainability principle should not be extended for ostensibly environmental purposes so that it acts as a trade barrier. Specifically, Principle 12 of the United Nations' Rio Declaration on Environment and Development states: "States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation. Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade."¹⁵

FISHERIES CERTIFICATION AND ECO-LABELING

Since the mid-1990s, sustainability and certification efforts in the seafood industry have proliferated. Much of the impetus for these programs has come from large institutional buyers in North America and Europe who seek to ensure they buy products that are sustainably harvested.

To ensure consistent guidelines for these eco-labeling systems, the FAO developed guidelines for eco-labeling fish products in 2005. The guidelines outline general principles that

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should govern eco-labeling schemes, including the need for reliable, independent auditing, transparency of standard-setting and accountability, and the need for standards to be based on good science.¹⁶

GLOBAL AQUACULTURE ALLIANCE

The Global Aquaculture Alliance (“GAA”) represents the world aquaculture industry. As an international, non-governmental organization (“NGO”), GAA defines its mission as “promoting responsible aquaculture to meet world food needs.”¹⁷ It takes a long-term view of the industry’s needs and focuses on issues affecting environmental, social, and economic sustainability. The organization serves to unify a large, diverse industry. Principally it seeks to raise environmental and social standards through its Best Aquaculture Practices (“BAP”) program by promoting codes of conduct and aquaculture standards developed through a synthesis of best management practices.

In the late 1990s, international environmental NGOs such as Greenpeace publicized the environmental challenges caused by the rapid growth of aquaculture, particularly tropical shrimp farming. Specific areas of concern included: damage to natural habitats such as mangroves, pollution arising from pond effluents, antibiotic residues in finished products, and the use of fishmeal and genetically modified organisms. In 1996, twenty-one NGOs and community organizations met in Choluteca, Honduras and demanded a global moratorium on the expansion of any shrimp farming that did not meet their criteria for sustainability.¹⁸ Largely in response to this pressure, executives from the shrimp industry formed GAA in 1997. GAA initially concentrated on aspects of shrimp production, but soon broadened its efforts to include the full supply chain, from hatcheries and feed production to farms, and processors to retailer buyers.

Even though there are numerous aquaculture codes of practice, GAA went further and developed the BAP and defines the most important elements of responsible practices through quantitative standards. Each BAP standard was developed by a committee composed of technical experts and stakeholders, including includes members of conservation NGOs, industry leaders, representatives from regulatory agencies, and academics. Care was taken to ensure broad stakeholder participation and a balance among the different sectors of interest.

The resulting BAP standards specify the auditing procedures to objectively assess adherence with these practices. Points are awarded according to the level of compliance on individual criteria, and these points are then added together. The total must exceed a minimum level if a facility is to achieve BAP certification. Certain essential items (for example in shrimp farms, items that deal with mangroves, effluents, antibiotics, and hatchery seed) are mandatory and failure to satisfy any one of them results in automatic failure, irrespective of the total number of points scored.

GAA also registered a BAP certification mark (see Figure 1) for use in advertising and

on finished products at the wholesale and retail levels. Aquaculture facilities that pass the auditing process are deemed to be in compliance with the BAP standards and can make use of this BAP logo to promote their products.¹⁹ BAP standards are currently available for shrimp farms, shrimp hatcheries, and shrimp processing plants. The standards for aquaculture feed mills and for laboratory verification of the safety of finished products are scheduled to be finalized by the end of 2006, along with a general aquaculture standard that will extend coverage to fish.



Figure 1: Best Aquaculture Practices Certification Mark.

AQUACULTURE CERTIFICATION COUNCIL

In addition to comprehensive standards, GAA also recognizes the requirement for independent confirmation of the conditions and actions under which aquaculture products are made and processed. GAA established the Aquaculture Certification Council (“ACC”) in 2003 to embody the following characteristics:

1. Independence from GAA, the standard setting body;
2. Independence from the parties seeking certification;
3. Possession of expertise in this relatively new industry; and
4. The ability to function with a low cost base to broaden the appeal of the BAP program.

The ACC is a not-for-profit corporation with the mission to “certify aquaculture facilities that apply best management practices to ensure social and environmental responsibility, food safety, and traceability throughout the production chain.”²⁰ ACC is governed by a twelve-member board of directors, from a cross-section of aquaculture professionals from the Americas, Asia and Europe. Its members represent seafood producers, processors and buyers, academic institutions and other entities.

GAA assigned ACC the exclusive right to certify compliance with the BAP standards. In addition to certifying aquaculture facilities, the ACC trains and accredits certifiers, maintains a website, commissions software for a traceability database, and interacts with stakeholders. As of September 2006, ACC had certified 39 processing plants, 25 farms and fifteen hatcheries. Figure 2 illustrates the annual growth in certifications, which

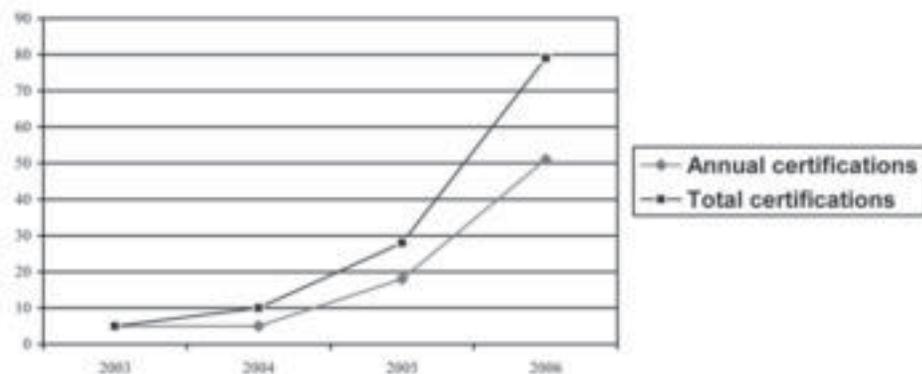


Figure 2: Number of Aquaculture Facilities Certified by ACC.

shows that the program is successfully attracting new participants. Importantly, facilities on three continents have been BAP certified. Countries with certified facilities include: Bangladesh, Belize, Brazil, Dutch Antilles, Ecuador, Honduras, India, Indonesia, Madagascar, Mexico, Nicaragua, Thailand, United States, Venezuela, and Vietnam.

To maintain consistency across the program, operations are subject to repeat inspections and the ACC also performs surprise audits of accredited facilities. ACC is separately constituted and operates independently from GAA. This separation between the GAA standard setting process and a certification body ensures the system is consistent with recently adopted FAO Guidelines for EcoLabeling of Marine Products.

FUTURE PLANS TO EXPAND BAP STANDARDS

To meet demand for non-shellfish species, the GAA is expanding the BAP program to produce new standards to cover fish farms, feed mills, and laboratory verification of food safety in finished products. The new standards for fish farms address additional issues such as waste from cage sites, fishmeal usage, and animal welfare. Participating feed mills will be required to demonstrate that they have adopted adequate procedures for manufacturing feeds without biological and chemical hazards. Feed mills will also be required to provide information on the fishmeal and fish oil content of their feeds so that farmers can make efficient use of these valuable, yet limited, natural resources.

Large, often vertically-integrated aquaculture operators are the most financially and technically able to modify their prac-

tices to meet the BAP standards. To address the needs of the myriad small-scale farmers with less financial and technical resources, GAA is developing special provisions so that multiple small farms can certify in clusters. Cluster certification encourages small enterprises to form associations with their neighbors in order to meet the BAP criteria collectively, sharing responsibility for raising environmental and ethical performance levels and spreading the financial burden of certification. The success of cluster certification is vital to the BAP program's success.

Both the environmental NGOs and GAA represent different factions in global society that seek the same end result — a socially equitable and environmentally benign aquaculture industry. Continuing dialogue that leads to objectively considered and fairly implemented actions will be essential if these aims are to be met.

CONCLUSION

Many international bodies such as the FAO recognize that Best Management Practices play an important part in the sustainable development of aquaculture, for both large-scale and small-scale producers.²¹ Third party certification of these practices can help improve public confidence in the management of aquaculture facilities, provided that the certification systems function independently of the standard setting organizations. Hopefully the rapidly expanding and evolving aquaculture industry, with the assistance of groups such as the GAA and ACC, will continue to learn lessons from other industries and will continue on the path of sustainability.



Endnotes: Global Aquaculture

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³ UNITED NATIONS FOOD AND AGRICULTURE ORGANIZATION, THE STATE OF WORLD FISHERIES AND AQUACULTURE 2004 146, available at <http://www.fao.org/docrep/007/y5600e/y5600e00.htm> (last visited Oct. 20, 2006).

⁴ STATE OF WORLD FISHERIES AND AQUACULTURE, *id.* at 146.

⁵ STATE OF WORLD FISHERIES AND AQUACULTURE, *id.* at 3.

⁶ Wild capture fisheries refer to fish harvested from marine and inland waters through traditional fishing methods rather than cultivated fish.

⁷ STATE OF WORLD FISHERIES AND AQUACULTURE, *supra* note 3, at 5.

⁸ United Nations Food and Agriculture Organization FAO Newsroom, *Nearly Half of All Fish Eaten Today Farmed, Not Caught*, Sept. 4, 2006, available at <http://www.fao.org/newsroom/en/news/2006/1000383/index.html> (last visited Oct. 6, 2006).

⁹ STATE OF WORLD FISHERIES AND AQUACULTURE, *supra* note 3, at 6.

¹⁰ STATE OF WORLD FISHERIES AND AQUACULTURE, *supra* note 3, at 147.

¹¹ STATE OF WORLD FISHERIES AND AQUACULTURE, *supra* note 3, at 6.

¹² STATE OF WORLD FISHERIES AND AQUACULTURE, *supra* note 3, at 6.

¹³ STATE OF WORLD FISHERIES AND AQUACULTURE, *supra* note 3, at 4-5.

¹⁴ Testimony of Timothy Keeney, Deputy Assistant Secretary of Oceans and Atmosphere, U.S. Department of Commerce before the Senate Commerce Committee National Ocean Policy Study Subcommittee, June 8, 2006, available at http://commerce.senate.gov/public/_files/Keeney060806.pdf (last visited Oct. 6, 2006).

¹⁵ United Nations Conference on Environment And Development, Rio de Janeiro, June 3–14, 1992, *Rio Declaration On Environment and Development*, Principle 12, U.N. Doc. A/CONF.151/26 (Vol. I) (August 12, 1992), available at <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm> (last visited Oct. 6, 2006).

¹⁶ UNITED NATIONS FOOD AND AGRICULTURE ORGANIZATION, GUIDELINES FOR ECOLABELLING OF FISH AND FISHERY PRODUCTS FROM MARINE CAPTURE FISHERIES 2005, available at <http://www.fao.org/docrep/008/a0116t/a0116t00.htm> (last visited Oct. 6, 2006).

¹⁷ About GAA, Global Aquaculture Alliance website, <http://www.gaalliance.org> (last visited Oct. 6, 2006).

¹⁸ Choluteca Declaración (Oct. 16, 1996), available at <http://darwin.bio.uci.edu/~sustain/shrimpecos/declare1.html> (last visited Oct. 6, 2006).

¹⁹ The full standards, accompanied by guidance notes and auditing forms, are freely available from the Aquaculture Certification Council, <http://www.aquaculturecertification.org> (last visited Oct. 6, 2006).

²⁰ About ACC Mission, Aquaculture Certification Council website, <http://www.aquaculturecertification.org> (last visited Oct. 6, 2006).

²¹ Food and Agriculture Organization — Committee on Fisheries (FAO COFI), Subcommittee on Aquaculture, Report of the Third Session of the COFI (FI-702-3) FAO COFI Subcommittee on Aquaculture, adopted New Delhi India, Sept. 8, 2006.