



Lessons learned No. 4



## Shrimp production in Ecuador – New ecological and quality standards



Deutsche Gesellschaft für  
Technische Zusammenarbeit (GTZ) GmbH



Globally, shrimp is the most important commodity traded in the international seafood business. Shrimp farming is a multi-million dollar business with virtually all the production taking place in developing countries. However, this rapid development has been accompanied by increasingly controversial debates over the environmental, social and economic impacts of shrimp culture brought on by increasing publicity and public awareness.



Ecuador dominates shrimp production in Latin America, with an export value of shrimp products accounting to more than US\$ 870m in one year alone (1998). Shrimp production is the second largest economic activity in Ecuador with an estimated one million people being directly or indirectly dependent on the shrimp industry.

### Shrimp farming: critical environmental issues

- Reduction of biodiversity
- Destruction of mangrove habitat (i.e. loss of nursery ground for food fish)
- Higher sedimentation rates affecting coral reef habitats
- Increased shrimp disease outbreaks
- Effluents have resulted in the waste assimilation capacity of water ecosystems being exceeded.

Despite this economic value, to date shrimp production has often been intensified, thereby causing severe environmental damage. Sites have to be closed down or heavy investments are needed for medical treatment. High water runoff, nutrient accumulation,

### Public Private Partnerships (PPP)

The rationale behind public private partnerships is, that if private companies and the GTZ pool their resources and know-how, they can achieve their respective objectives better, faster and at lower cost. PPP projects between the GTZ and private companies are jointly planned, financed and implemented. The success of previous development partnerships with the private sector has prompted GTZ to increasingly involve private sector companies in general Technical Cooperation (TC) with developing countries. Private sector companies can benefit directly from inter-governmental arrangements between the Federal Republic of Germany and its partner countries. In addition, strategic alliances with companies are viewed as a suitable vehicle for launching long-term, broad-based measures that take into account both the companies' economic interests as well as the development policy objectives of technical cooperation.

soil contaminated with fertilizers and medicine are some of the impacts of mismanaged intensive shrimp production systems. During the past decades more than 40% of original mangrove forest in the coastal areas of Ecuador has been converted into shrimp ponds with negative effects for the environment.

### First ecological and quality standards for responsible shrimp production:

Between 1999 and 2001 a project was conducted involving stakeholders from the private and public sectors to initiate eco-friendly and profitable shrimp production as a first pilot activity. New certification standards for organic shrimp aquaculture were developed and tested in cooperation with Naturland, selected shrimp farmers, importers from Ecuador and Europe and the Deutsche Gesellschaft für Technische Zusammenarbeit GTZ.

### The project Policy Advice for Sustainable Fisheries....

is operated by the GTZ on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). It helps implement the Code of Conduct for Responsible Fisheries (CCRF) and related international conventions which form the framework of the German commitment towards sustainable fisheries management and the protection of biodiversity and food security. In Ecuador, the project has worked closely with Naturland and the GTZ-supported Integrated Advisory Service project.



As a result, the first certified, eco-labelled shrimps from Ecuador were imported to Europe in 2001. Today five certified shrimp farming companies in Ecuador produce white shrimp from aquaculture that is in compliance with the Naturland certification standards for organic farming. Today, even shrimp farmers in Peru, Vietnam and Indonesia produce white shrimp and black tiger shrimp according to Naturland standards. An accredited independent third-party certification body is responsible for assessing compliance with Naturland's eco-label criteria and standards. These shrimps from organic aquaculture are now being sold successfully on the European market in Germany, Switzerland, Sweden, Austria and France.

### Naturland e.V. and the principles of Organic Aquaculture

Eight years ago, the Naturland association, an internationally operating German-based certifier of organic products, started pilot projects in the area of organic aquaculture. Since then, certification criteria for organic production of finfish species (e.g. common carp and Atlantic salmon) and invertebrates (blue mussel) have been developed and successfully introduced to the international seafood market. The term "certified organic" stands for a complete, holistic concept, covering all stages of the production from hatchery (supply of young stock/larvae) to the grow-out farm, to processing and export. Some of the main principles for organic aquaculture are:

- absence of genetically modified organisms in brood and seed stocks and prime feed material
- limitation of stocking density,
- zero use of artificial feed ingredients,
- zero use of inorganic fertilisers,
- zero use of synthetic pesticides and herbicides,
- zero prophylactic use of antibiotics and chemotherapeutics,
- decreased protein and fishmeal content in diets,
- intensive monitoring of environmental impact.

Information can be obtained from [www.Naturland.de](http://www.Naturland.de)

## Lessons Learned

### Round table approach:

Participation of all relevant private and public stakeholders in this specific sector is an essential practice in the early stages of setting new international standards.

Especially for gaining acceptance among the various stakeholders for an intensification of eco-labelled shrimp culture, round-table discussions have been conducted with representatives from the various interested parties. These meetings were attended by shrimp farmers, scientists, Ecuadorian authorities, representatives of local development programs and NGOs active in the field of coastal environment / mangrove protection.

### Involving expertise and the media

It was critical to take into account the existing competencies and experiences, as well as to achieve a far reaching acceptance of the results of the introduction of standards. Highly valuable input was obtained from international experts (FAO aquaculture specialists, scientific institutes). The use of media for getting the attention of the public and among NGOs was especially identified as being of vital importance for backing up the experts involved.

### Generating awareness on biodiversity

Mangrove reforestation, e.g. in abandoned shrimp ponds, is one of the provisions in the guidelines for organic sustainable shrimp farming. This has given the companies involved a better understanding of the value of mangrove habitats and their function as reservoirs, refuge areas, feeding and nursery areas for shrimp, milkfish, oysters, and other commercially important aquatic species. Today the potential benefits of protected mangrove areas are well recognized: different mangrove species have been successfully tested for reforestation, and existing shrimp farmers have relinquished any further expansion into the mangrove forests.

### Related local industries adopt new standards

The shrimp farming business supports a large number of associated industries, such as hatcheries and producers of feed for the different life stages.

With the application of standards and criteria for sustainable shrimp production, positive impacts on the production and management methods of these related businesses and industries can be observed:





■ Shrimp hatcheries have given up collection of wild shrimp larvae in order to meet the Naturland standards for organic farming

■ Feed producers felt obliged to responsibly select and use appropriate raw feed materials and feed additives. In order to fulfil the certification standards they have abandoned the use of artificial feed ingredients and the admixture of prophylactic antibiotics and chemotherapeutics.

#### Secured income and employment

For shrimp farmers and the associated industries, the production of eco-labelled shrimp offers an alternative to the expansion of “traditional” intensive farming systems. The production and export of high-value eco-labelled shrimp products from developing countries serves as an important source of income.

#### Success with small scale producers

Supporting small scale producers in developing countries has been identified as the appropriate strategy for introducing socio-economic and environmental standards in other farming sectors (e.g. for Mexican coffee production); in general, small scale farmers have fewer difficulties in adopting organic principles (due to previous extensive management).

#### Encouraging competitiveness

With the introduction of eco-labelled shrimp, increased competitiveness among shrimp producers can be observed. This is influencing the production techniques of related industries and businesses. Globally, this can contribute significantly to a product range diversification, which will drive the competition among traders and markets for certified and non-certified shrimp products.

#### Growing market for organic aquaculture products

Compared with other eco-labelled organic agricultural products, the market share of organic aquaculture products in Europe is still relatively small (<1%). However, due to the customer’s steadily growing awareness of the environmental aspects/problems related to aquaculture products, a growing demand can be observed. This demand is driving the market share of organic aquaculture products to grow by an estimated 10% annually. The production of eco-labelled shrimps is going to achieve a significant share of the market within the overall worldwide shrimp trade.

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