

# Aquaculture Stock Insurance: a short summary of the current status

Raymon van Anrooy<sup>1</sup>

## INTRODUCTION

Over the last decades, due to the rapidly changing production processes in aquaculture worldwide (e.g., submergible cages, sea ranching, intensification, aquaponics and recirculation systems), which sometimes increase vulnerability to disease outbreaks and which generally require large investments from aquaculturists, the demand for insurance to share and cover the risks involved has increased significantly within the aquaculture sector. Besides, disasters (e.g., oil spills, white spot disease in shrimp culture, tsunamis, storms, red tides) that have hit the aquaculture sector and affected the livelihoods of aquaculture producers, their families and their communes, have been many in recent years. Farmers went bankrupt and societies encountered social disruption from one day to another due to loss of employment, food and income. Apart from this, the consequences for the environment (like escapes from cages as a result of storm damage) are difficult to assess.

Aquaculture insurance is one of the tools used in aquaculture risk management (see related articles on page 20), but there is considerable lack of knowledge within the aquaculture industry about its availability, the process of obtaining insurance cover, especially on aquaculture stock mortality, and the constraints to insurers providing its services. Farmers, generally, are not aware that insurance services for aquaculture stock exist. Most aquaculturists still think that insurance is limited to life, health, car and property insurance. On the other hand, insurance companies are not widely promoting aquaculture insurance services as the risks involved in these services are often considered higher than other insurance services; thus premiums are higher and therefore, less attractive to aquaculturists). In addition, personnel with knowledge and experience in aquaculture issues is often lacking within insurance companies and the experiences with aquaculture insurance in the eighties and nineties were less than satisfactory.



MB REANTASO, FAO

*FI Officers, R Van Anrooy (left) and MB Reantaso (right) with P. Secretan (Managing Director of AUMS, Ltd.) during the 10th Aquaculture Insurance and Risk Management Conference in Vigo, Spain on 6-7 April 2006*

It should be recognized that the benefits of aquaculture insurance are many. First of all aquaculture stock insurance provides some level of financial security against the causes of natural and man-made disasters that can hit aquaculture stock. Moreover, aquaculture insurance can provide for more stable incomes, compensation for lost harvests, increase lending and investment opportunities by guaranteeing repayment of loans, increase access to risk management information, and decrease the daily stress about everything that can go wrong on an aquaculture farm.

In 2005, FAO carried out a review aimed to increase awareness of aquaculture producers worldwide, particularly those in developing countries, on the opportunities that aquaculture insurance can offer. This study was also intended to inform decision-makers at national government levels as well as in international agencies about the role of aquaculture insurance in the sustainable development of the aquaculture sector and to provide aquaculture sector stakeholders with insights as to what is all-too-frequently considered a complicated type of activity.

The review covered the main aquaculture producing countries worldwide. Seven

syntheses papers (China, Asia, Europe, North America, South America, sub-Saharan Africa and Oceania) were prepared, discussing the specificities of the situation with regard to aquaculture insurance in China and the above regions. Moreover, a summary of the regional syntheses was made, together with conclusions and clear recommendations at various levels to increase the contribution of aquaculture insurance to the sustainable management and development of the aquaculture sector.

## SOME FINDINGS OF THE REVIEW<sup>2</sup>

The aquaculture insurance market consists of large numbers of farmers on the demand side and only few suppliers of the service. This means that the opportunities to shop around for farmers are limited, particularly as most suppliers are only active in a few countries and limit their services to only a few species and culture systems. Most suppliers have their headquarters in Europe. Lloyd's of London, which is an insurance market in itself, already dealt with aquaculture insurance in the 1970s. At present the demand for aquaculture insurance has never been as high as it is now and it seems that there is a widening gap between the demand for and supply of aquaculture insurance in the world. While some countries in Europe, Oceania and North America are currently served by the insurance industry, many countries in Asia, Latin America and Africa lack the service so far.

The number of aquaculture insurance policies in force is estimated at only around 8 000 worldwide, while the number of people employed in aquaculture almost reaches 10 million. Many of these policies can be found in Japan, one of the few countries with a well-established system of aquaculture insurance. In countries like China and India, with hundreds of thousands of aquaculturists, the number of aquaculture insurance policies in force is insignificant.

Of the aquaculture insurance policies in force in Asia, most are of the "named perils" type, while in other regions, the aquaculture policies are often of the "all risks" type. The following "named perils" are commonly included in standard policies:

### For onshore systems:

- ◇ pollution from external sources;
- ◇ aircraft and other aerial devices or articles dropped from the sky;
- ◇ malicious acts;

- ◇ predation;
- ◇ floods, inundations and tidal waves;
- ◇ storm damage (including hurricanes, cyclones and typhoons);
- ◇ landslides, earthquakes and volcanic eruptions;
- ◇ structural failures (e.g., of dykes), breakage or blockage of any part of the water supply system;
- ◇ drought, fire, lightning, explosion;
- ◇ freezing, frost damage, frazil ice;
- ◇ mechanical breakdown or accidental damage to machinery and other installations;
- ◇ electrical breakdown, failure or interruption of the electricity supply, and electrocution; and
- ◇ de-oxygenation and other changes in the concentration of the normal chemical constituents of the water that cause damage.

### For offshore systems:

- ◇ pollution from external sources;
- ◇ aircraft and other aerial devices or articles dropped from the sky;
- ◇ malicious acts;
- ◇ predation or physical damage by predators or other aquatic organisms (excluding by sea lice or other ectoparasites);
- ◇ storm, lightning, tidal waves and collision;
- ◇ sudden and unforeseen structural failure of equipment;
- ◇ freezing, super-cooling, ice damage;
- ◇ de-oxygenation due to competing biological activity or to changes in the physical or chemical conditions of the water, including upwelling and high water temperatures; and
- ◇ other changes in the concentration of the normal chemical constituents of the water, including pH or salinity.

Insurance policies with additional cover for diseases, such as shell disease, vibriosis, and parasitic diseases, and for damage caused by red tides can often be arranged for as well. Theft, riots, strike, war and similar disturbances are generally not covered, nor is damage caused by negligence of the policy-holder.

The Review showed that the underwriting experiences of aquaculture insurance companies largely differ among companies and regions and from year to year. Since the start of the new millennium, it seems that aquaculture stock insurance experiences are improving and that the aquaculture insurance activity is becoming profitable.

Mutual insurance schemes, while common in some countries for agriculture and capture fisheries, are still insignificant in aquaculture. So far, the only successful mutual insurance-like scheme for aquaculture that did not remain at the pilot stage is the Japanese aquaculture insurance scheme.

Asymmetric information, moral hazard and adverse selection are among the major constraints to undertaking aquaculture insurance activities for international and national insurance companies. The fact that farmers know much better than insurers what is happening in their cage or pond and what are the risks involved in the production process gives them an advantage over insurers with regards to assessing the risks involved for the establishment of the premium rates. There are some risk factors that negatively influence new entrants to the aquaculture insurance sector. These are: (a) insurance protection which create a condition for some unscrupulous individuals to cause the insured event; (b) behaviour that increases the likelihood that the event will occur (i.e., moral hazard); and (c) tendency of persons who present a worse than average risk to apply for, or continue, insurance (i.e., adverse selection).

#### **FOLLOW-UP ACTIVITIES**

The insurance industry and a number of governments recently began to recognize that aquaculture insurance is an important tool for risk management for sustainable aquaculture. It is somehow understood that the lack of enabling policies and regulatory frameworks for aquaculture and fisheries insurance is negatively affecting the development of insurance services. It also seems difficult in many cases to bring the various stakeholders around the table to discuss what should be

done exactly to decrease the constraints to the development of aquaculture insurance. FAO is supportive of initiatives that aim to bring together the stakeholders to exchange information, increase awareness and build capacity on this subject.

The "Review of the current state of world aquaculture insurance", the presentations at the 10th Aquaculture Insurance and Risk Management Conference, held in Vigo, Spain on 6-7 April 2006, and a number of other publications such as the FAO Report entitled "Livestock and aquaculture insurance in developing countries: a brief overview"<sup>3</sup> all showed that aquaculture insurance services don't reach the small-scale aquaculturists world-wide. In Asia, in particular, the percentage of all aquaculture enterprises (large- and small scale) covered by insurance is extremely low. The participants at the "Regional workshop on guidance for credit and microfinance programmes in support of the sustainable use of inland fisheries resources and poverty alleviation." held in Beijing on 14-17 February 2006, recognized this and recommended, among others, that a " regional workshop should be organized on the promotion of aquaculture insurance in Asia". Currently FAO is planning the organization of such a regional workshop, which is scheduled to take place in February 2007.

If you are interested in attending this workshop, please contact the author of this article about the details.

<sup>1</sup>Raymon van Anrooy  
Fishery Development Planning Service  
FAO Fisheries Department, Rome  
e-mail: [Raymon.vanAnrooy@fao.org](mailto:Raymon.vanAnrooy@fao.org)

<sup>2</sup>Van Anrooy, R.; Secretan, P.A.D.; Lou, Y.; Roberts, R.; & Upare, M. 2006. Review of the current state of world aquaculture insurance. FAO Fisheries Technical Paper. No. 493. Rome, FAO. 2006. 92p.

<sup>3</sup>This publication can be found on-line at: <http://www.ruralfinance.org/id/31730>.

MB REANTASO, FAO



*Aquafarming family in Hue, Viet Nam*