# A successful conference on sustainable aquaculture in tropical islands: Tahiti Aquaculture 2010


Litopenaeus stylirostris, *the blue prawn is grown in three farms in French Polynesia.*

***Over 200 participants from the Pacific, Asia, Americas, Europe and French Overseas Departments and Territories attended a week-long conference on aquaculture in Papeete, Tahiti from 6–11 December 2010. The conference was officially opened by His Excellency Gaston Tong Sang, President of French Polynesia.***

Delegates came from several Pacific Island countries and territories (PICTs), including the Commonwealth of the Northern Mariana Islands, Cook Islands, Fiji, Palau, Papua New Guinea, Samoa, Solomon Islands and Tonga. The French territories were well represented through participation from Guadeloupe, La Réunion, Mayotte, Martinique, New Caledonia, Saint Pierre and Miquelon, Wallis and Futuna, and the host country French Polynesia.

The main theme of the conference — Tahiti Aquaculture 2010 — was "Sustainable aquaculture on tropical islands". Conference objectives included discussing progress made in aquaculture in tropical island settings, comparing experiences and know-how, and proposing strategies and solutions for aquaculture development taking place in tropical islands. Pearl oyster aquaculture was not covered during this conference as the main focus was on marine finfish and shrimp aquaculture.

## Conference highlights

Some of the highlights included the following.

- The demand for fish and fish products continues to increase at national levels. The need to look at initiatives to produce fish in a viable manner and ensure that aquaculture activities blend in with the lifestyle of the local people is important.
- SPC's review of shrimp aquaculture in PICTs was timely. Tahiti Aquaculture 2010 provided an opportunity to discover alternatives such as super intensive culture, bioflocs (built-in pond biofilter that provides microbial protein as a feed additive) and cage culture, most of which are very relevant to PICTs.
- Hatchery-based marine finfish farming has a huge potential, as was thoroughly illustrated during Tahiti Aquaculture 2010. PICTs have an opportunity to learn from the experiences of French territories, USA (Hawaii) and Australia to further develop this activity. The use of native species (when possible) and thorough exploration of markets are required to ensure the success of such ventures.
- The need for a clear policy direction supported by national management and development plans — especially from small island tropical states — were necessary in directing the focus on developing the aquaculture industry. It is evident that successful aquaculture nations tend to have better arrangements for aquaculture governance.
- Ideas that are relatively new to the Pacific were also brought forward, such as integrated multi-trophic aquaculture (IMTA). [1]

*As part of Tahiti Aquaculture 2010, several working group discussions took place, including one on aquatic animal health, which generated considerable interest and raised important issues, and another discussion on the potential for shrimp farming in Pacific Islands.*

*Jacky Patrois from IFREMER and Tim Pickering from SPC coordinated the working group discussions. These working groups were the final step of a regional shrimp aquaculture review across several PICTs, and aimed at developing an action plan for shrimp aquaculture across the region, using the advice and examples of countries that have experience in this field. The shrimp development plan and the regional review will be finalised and published in 2011 and available at www.spc.int/aquaculture.*

- It was clear from the conference that a number of countries are working on the development of sea cucumber aquaculture, given the favourable market value in the fishery for some species.
- Biosecurity and health issues were also raised at the conference. Immediate action should take place in this area, such as the implementation of an SPC-based aquatic bio security focal point

During the conference, both SPC staff and Dr Jiansan Jia, Chief of the Aquaculture Services at FAO, exposed global and regional developments, emerging issues, and constraints arising from aquaculture development. In addition, resource people from the region and abroad were funded by SPC and other agencies to bring their expertise to the meeting in areas such as sustainable tropical aquaculture, hatchery techniques (broodstock handling live prey production), finfish and shrimp aquaculture, biosecurity and genetics.

The conference was divided in five sessions: 1) hatchery-based aquaculture (three subsessions: shrimp, fish and other species); 2) capture-based aquaculture; 3) aquatic animal health and the environment; 4) socioeconomic impact of aquaculture in tropical islands; and 5) governance. Each session was chaired and facilitated successfully, although there was so much to say and discuss that most sessions finished after the planned time.

Field trips organised by the fisheries service pleased everyone and gave a welcomed break to participants from the intensity of the conference. Field trips included a visit to the shrimp and fish farming projects on Tahiti's presqu'île and a visit of the IFREMER centre and the future national hatchery.

## Challenges

Some of the key challenges that continue to hinder aquaculture development in countries were highlighted.

- Biosecurity was highlighted as an important issue and the need for a clearer regional biosecurity framework would be helpful to PICTs.
- Improvement on the collation of data to measure aquaculture development in this region needs to be strengthened through the provision of resources at national levels. Proper data keeping and reporting is important to member countries in order for them to assess the contribution of aquaculture to their national GDPs.
- Although certain PICTs have demonstrated that national aquaculture programmes could greatly benefit industry development, the lack of skills, facilities and high turn-over of trained technicians in the sector continue to be issues in smaller island countries.
- Countries that are undertaking sea cucumber aquaculture still face difficulties regarding technical know-how on seed production techniques and ocean rearing and restocking.

## In conclusion

Overall, the importance of the aquaculture sector in meeting the growing global demand for nutritious food fish, contributing to growth in national economies,

*Experimental floating cages moored in Tautira on Tahiti Island. This set up serves as a demonstration for other interested farmers. Here, batfish are being looked at for growth rates and other data related to cage farming.*

*Tahiti Aquaculture 2010 participants visiting Tautira experimental set up and rushing to land before the rain comes!*

and supporting livelihoods in communities continued to be highlighted. However, challenges such as quality seed supply, feed supply and ingredients, genetic improvements, health and disease management, market access and trade barriers, continue to be faced.

The call for a regional biosecurity framework is not new and has been raised at various fora of SPC and other regional meetings to which SPC participates. SPC will look into working with its collaborating partners and agencies to continue to address the issue of establishing regional biosecurity framework. A concept note on developing a regional biosecurity framework will be put forward to the SPC Heads of Fisheries Meeting for Leaders' endorsement in February 2011.

There is an expression of interest for a regional focus on sea cucumber aquaculture. Both SPC and FAO will work towards developing a regional sea cucumber project.

Creating an enabling environment for aquaculture to maintain its growth while also meeting societal needs and preserving natural resources is important and must continue to be emphasized and promoted at national and regional levels.

SPC wishes to acknowledge funding assistance from AusAID (through aquaculture programme funding), from the French Pacific Fund and the Coral Reef Initiatives for the Pacific (CRISP) project in supporting the Tahiti Aquaculture 2010 conference.

**For more information, please contact:**

*Robert Jimmy*
*Aquaculture Advisor - (RobertJ@spc.int)*
*or Antoine Teitelbaum*
*Aquaculture Officer - (AntoineT@spc.int)*

1 Integrated multi-trophic aquaculture (IMTA) provides byproducts, including waste, from an aquatic species as inputs (fertilizers, food) for another (see Wikipedia: http://en.wikipedia.org/wiki/Integrated_Multi-Trophic_Aquaculture).

# New publications from SPC's FAME Division

## *Small-scale fishing techniques using light - A manual for fishermen*

*by William Sokimi and Steve Beverly*


This manual presents some small-craft night baiting and fishing techniques commonly used in the Pacific Islands region, and provides Pacific Island fishermen with information that may help them develop their small-craft commercial fishing operations. Some of the techniques are improvements in canoe fishing methods and use basic gear, while other techniques include modern fishing equipment used on advanced small-scale fishing craft. Still other methods are adaptations of medium- to large-scale industrial fishing operations to small fishing craft operations.

The night baiting and night fishing methods covered in this manual encourage small-craft commercial fishermen to steer away from bottom fishing operations and move toward fishing for midwater pelagic fish, either inshore or offshore. Fishing methods focus on using light to aggregate phytoplankton and baitfish that in turn attract large pelagic fish.

This manual describes the use of bouke-ami stick-held dip nets, basnig lift nets and gill nets for catching baitfish and small pelagic fish. It is believed that if these net fishing methods are properly managed in coastal fishing communities, the accumulated bait, especially scads and sardinella, can be caught in sufficient volume to subsidise bait used in small-scale commercial tuna longline fishing operations.

The online version is available at: http://www.spc.int/Coastfish/en/component/content/article/375-small-scale-fishing-techniques-using-light.html

## *New guidelines on the proper handling of sport fish species*


Sport fishing is becoming increasingly popular worldwide and the ethic of sport fishing fans, based on the "catch-and-release" principle, is in line with the fisheries management standards that SPC's Coastal Fisheries Programme promotes in the region. A recent integrated pilot project in the Cook Islands has shown that coastal sport fishing development can provide community livelihoods while improving the management of the targeted resource. SPC believes that what is working in Aitutaki could be successfully done in other Pacific Islands, provided the basic prerequisites are in place (e.g. suitable tourist accommodations, international airline connections, transportation to the fishing destination, dedicated local guides…and, obviously, enough fish — preferably an iconic fish — to lure overseas visitors).