

# Opportunities for the development of the Pacific Islands mariculture sector

## Key Messages

- We need to get away from the idea that mariculture (aquaculture in seawater) is always a good development and should be promoted at all costs. It is a demanding and often high-risk activity that needs to be compared with alternatives.
- Before any new mariculture enterprise is launched there needs to be a thorough study of the market for the product, and the expected costs of production.
- Recognising and building on the role of the private sector in mariculture greatly improves the chances of success.

## Overview

Mariculture in the countries and territories of the Pacific has a total product value estimated at around USD 100 million a year, and is dominated by pearl and shrimp production. The value of production has shown little overall increase in the last ten years and, indeed, has fallen significantly since 2009 due to a decline in pearl prices.

The history of mariculture in this region is a story of trial and error. Many projects have been started with high hopes and high expectations, but within a few years they have been abandoned.

Many projects fail because they are not well-planned. There is a lesson here: no mariculture venture should be started without a thorough and realistic market appraisal, and thorough and realistic estimates of production, distribution and marketing costs.

Most mariculture activities in the Pacific began not as business ventures but as development trials promoted by government fisheries departments, research and development organisations and international aid agencies. It is, however, important for the

private sector to take a lead in developing new ventures, and national government policies should recognise and encourage this role for the private sector.

The Pacific does have natural advantages in mariculture and some products in some countries show promise. The first step in an initiative to develop them is to make a rigorous assessment of their potential to become sustainable industries.

The market should be regarded as the first and most fundamental opportunity or constraint. Any mariculture development initiative which does not undertake a thorough analysis of price, of volumes of product traded or consumed, of alternative sources, of preferences and substitutes, of logistics, supply chains and power relations — prior to any encouragement of production — is at best incompetent and at worst irresponsible.

These considerations should be given high priority when it comes to assessing the potential of new ventures, but traditionally they have been given low priority.





## What makes mariculture difficult

Mariculture is a risky business, and potential difficulties include expensive feed, long cropping cycles, competitive markets, expensive transportation and products requiring high labour inputs.

Most marine organisms are highly sensitive to water quality, salinity and temperature, and they are vulnerable to disease, predation, theft and cyclones. Many species require significant investment and working capital.

Many species and systems are demanding in terms of husbandry and may not be suited to part time or unskilled attention.

Many mariculture products are perishable and costly to deliver to market, especially from remote island locations. Products from the Pacific will have to compete in global markets with products from other countries that have already established very efficient production systems.

Some forms of intensive aquaculture can be seriously polluting, and most forms will require environmental regulation and management, given the sensitivity of tropical coastal ecosystems.

## What mistakes have been made?

Governments, aid projects and NGOs have tended to assume that all mariculture is good, and should be promoted. Instead, mariculture should be thought of as an option that can work if the location is right and the venture is carefully planned. The potential benefits need to be weighed against the benefits of other income-generating activities.

Mariculture ventures are often started without any economic analysis. The first step in considering a new mariculture venture should be to measure the costs of production against the likely income.

The right kind of support has been lacking. Mariculture is a long-term activity and requires long-term support and a consistent approach. Business people should be more heavily involved in planning and managing mariculture ventures. People who put in their own money bring a personal commitment and have a financial stake in making the venture a success.

Project planning needs to take into account the habits and work preferences of the people who are expected to take up mariculture. What returns do they expect for their labour? Why do they switch from one activity to another?

Subsidies have been used to prop up unviable ventures. When the subsidy stops, the project is likely to collapse. A project is more likely to succeed if subsidies are matched by investment from business partners.

Projects need good management and careful monitoring to ensure the integrity of the venture.



## How can the process of building a sustainable mariculture industry in the Pacific be improved?

*The Secretariat of the Pacific Community (SPC) can help. It can work with national governments and on a regional level to develop the capacity to plan and assess the viability of proposed mariculture developments.*

### ***Through better planning***

National governments, with the assistance of SPC, need to strengthen mariculture development planning within the context of national economic development planning and integrated coastal management. This should include not only a review of mariculture resources and technical/market opportunities within a wider social and economic context, but also a thorough analysis of the roles and capacity of both the private and public sector, as well as regional/international organisations, in facilitating sustainable development of the sector.

### ***By setting quality standards and protocols***

National governments, with the assistance of SPC, need to explore the desirability/feasibility of setting quality standards, protocols and minimum requirements for research and development projects, and other development interventions.

### ***By improving market research***

National governments, with the assistance of SPC, need to target a greater proportion of their aquaculture resources to doing more market research, better market research, and building the capacity to do market research at a local level. The results of market research should be made available to government departments of economic planning and fisheries, to key players in the private sector, and to training providers.

### ***By taking a wider view of development***

National governments, with the assistance of SPC, need to carefully review development models, drawing on experience in fisheries, agriculture, forestry and small scale artisanal enterprises throughout the world. How can these models apply to mariculture development in different social, economic and environmental contexts? What role should the private sector play in development?

### ***By establishing a regional hatchery strategy***

SPC, member countries and private industry should work together to ensure that farmers have access to seed on demand. Seed prices should be set to ensure that seed production is ultimately self-financing. Hatcheries need to be supported by strategic and long-term research.

### ***By setting a strategy and policy on cost-effective feeds***

SPC and member countries should work to develop a regional approach on the best way to supply cost-effective feeds. The policy should examine the strengths and weaknesses of different types of feeds, and the advantages of supplying them from local and imported sources. Should they be subject to tariffs?





## Products that have the best chance of succeeding

It is extremely difficult to discuss opportunities for mariculture development in the Pacific other than in the most general terms. The most important activity in the Pacific is pearl culture but this industry is facing problems at the moment and production is likely to fall. Promising options include farming seaweed, shrimp, coral,

sponges and some types of fish. These mariculture activities can work under the right conditions, but the potential is hugely varied between countries, and in many cases between different areas within countries.



### CONTACT DETAILS Secretariat of the Pacific Community

SPC Headquarters  
BP D5,  
98848 Noumea Cedex,  
New Caledonia  
Telephone: +687 26 20 00  
Fax: +687 26 38 18

SPC Suva Regional Office  
Private Mail Bag,  
Suva,  
Fiji Islands,  
Telephone: +679 337 0733  
Fax: +679 377 0021

SPC Pohnpei regional Office  
PO Box Q,  
Kolonias, Pohnpei, 96941 FM,  
Federated States of  
Micronesia  
Telephone: +691 3207 523  
Fax: +691 3202 725

SPC Solomon Islands  
Country Office  
PO Box 1468  
Honiara, Solomon Islands  
Telephone: +677 25543  
+677 25574  
Fax: +677 25547

Email: [spc@spc.int](mailto:spc@spc.int)  
Website: [www.spc.int](http://www.spc.int)