



A REGIONAL APPROACH TO INVERTEBRATE EXPORT FISHERIES



Introduction

Bêche-de-mer (sea cucumber) and mother-of-pearl fisheries are not new. These products have been commercially exported from the Pacific Islands for over a century.

The products from these fisheries are simple to process, non-perishable and the trade pumps significant amounts of cash directly into rural coastal communities, which have few alternative sources of income.

Pacific Island countries and territories (PICTs) are significant market suppliers of these high-value products, e.g. Papua New Guinea alone supplies 10 per cent of the world's bêche-de-mer market (annual value US\$ 11.5 million), and Fiji, Solomon Islands and PNG between them have produced more than 50,000 tonnes of trochus shell since WWII (total value over US\$ 200 million).

However, these resources are chronically overfished, and would yield much greater income if they were more actively managed. The costs of conventional management (such as the management applied to tuna fisheries) would be unrealistic, but there are unique aspects to these fisheries that a more regional approach can take advantage of.

One of the most favourable factors is that these are not food-security fisheries, and thus harvesting can occur in "pulses" that can take advantage of optimum markets. And because these are export fisheries there are highly-controllable bottlenecks in the supply chain, yet at the same time the harvesting side is amenable to community rights-based management.

With a little cooperation and active attention it should be possible to, relatively quickly, turn around the least productive fisheries in the region into models of sustainability, and possibly dominate the market for these products by 2015. This briefing suggests how this might be done.

Current challenges

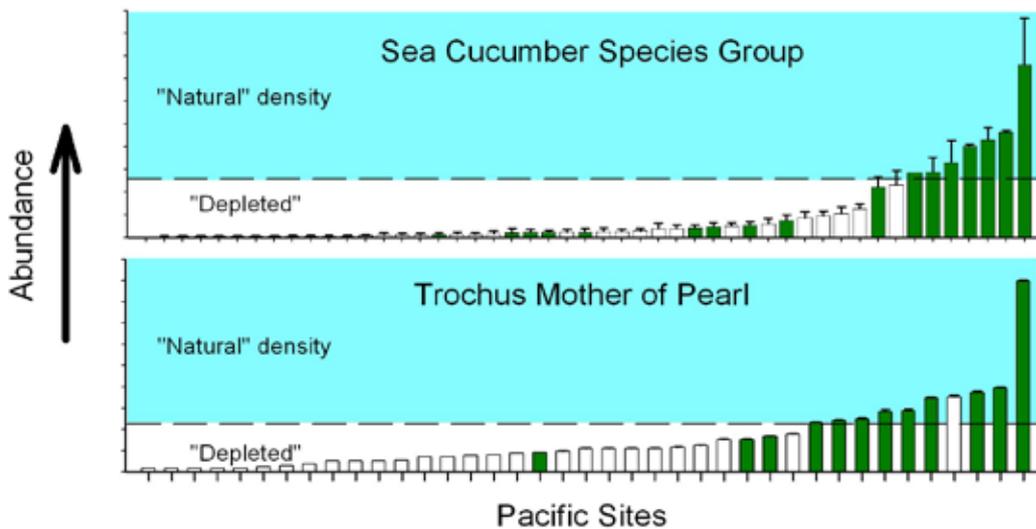
Invertebrate export fisheries are persistently overfished as a result of the local population's greater fishing capacity and growing need for cash, coupled with an expanding market in China and "fly-by-night" investment by the marine products sector with little interest in long-term sustainability.

Once overfished, the resources cannot rapidly replenish themselves, and the stream of foreign income that used to reach coastal communities begins to fall drastically, with impacts on social cohesion.

The catch of species like sea cucumbers represents a large-scale removal of some important 'cleaners' of the reef environment. Currently production within these fisheries takes between 19% - 32% of what National tuna fleets catch (by wet weight) in countries like Fiji, Solomon Islands and New Caledonia.

Fishers have responded to these pressures by harvesting a wider range of species, in the case of bêche-de-mer, or by moving to new areas. However, there are now few new prospects, and no new areas to 'open up' for fishing.

Current concern over status



Surveys conducted across the Pacific reveal that most sites are seriously depleted of commercial invertebrate resources (healthy densities are noted in the blue band).

Despite the large number of sites with depleted resources, there are notable exceptions where commercial harvests are maintained. These fisheries mostly limit the fishing time to specific periods, allowing stocks to recover between harvests (green bars).

Surveys also show that at approx 33-44% of depleted sites, still hold small 'pockets' of resources at 'natural densities', even when most of the fishery is depleted. Such aggregations would be the source of any recovery, if management regimes could be improved.

What needs to be done?

DEFINE THE FISHERIES	CONTROL THE FISHERIES	GROW THE BUSINESS
<ul style="list-style-type: none"> Focus understanding on relevant species groups, not the whole fishery Map the fishery grounds – where are the animals, how big are the areas? Decide how many (density) of each species group must be left in the water to retain breeding capacity 	<ul style="list-style-type: none"> Educate fishers in the biology of targeted species – breeding behaviour, timing, etc. Set up an agreed monitoring strategy Simplify harvests – only open fishery for targeted fishing, when monitoring results indicate a surplus Control access and activities of marine product sector Establish comprehensive export inspection and reporting 	<ul style="list-style-type: none"> Monitor and share understanding of stock recovery after fishing Monitor and share market information Coordinate timing of harvests or shipments between member countries to leverage market advantages Focus on market development – product branding, premium markets Reinvigorate strategies for replenishing breeding stocks

Develop a framework for change

There is likely to be great value in development of stronger regional coordination to assist in managing the Pacific's invertebrate fisheries, both to enhance the sustainability of the resource and maximise returns to PICTs.

National and local decision-making and activities would continue, but would be supported by shared activities and the gradual development of a common framework and strategy.

A regional unit would service members invertebrate export management and development interests, as well as supporting individual members in fulfilling their national responsibilities to restore sustainability in these important fisheries.



Regional initiatives

- Support local Fisheries Departments, National Fishers Associations and NGOs by providing carefully targeted educational material and training to assist local invertebrate fisheries management.
- Coordinate a regional pool of expertise that each PICT could draw on to assist with resource assessments, determine readiness for harvests, and help collect information for adaptive management.
- Act as a repository for data collected, and distribute information on harvesting and recovery levels to all PICTs. Provide consolidated status reports to enable National Fisheries Departments to make evidence-based fishery management decisions.
- Promote best-practice post-harvest processing to produce premium market products.
- Develop and harmonise regional marketing and branding strategies to obtain the greatest returns from better managed fisheries – coordinate and maintain a steady and controlled flow of product to market.
- Assist countries to develop skills within Fisheries and Customs Departments to carry out accurate monitoring and recording of exports.

National initiatives

- Provide resource custodians and stakeholders with information on fisheries biology, fishing methods, post-harvest processing, and product value.
- Monitor fisheries stocks – especially recovery after fishing.
- Control licensing of fishing, in conjunction with community leaders and ensure all fishing is documented.
- Monitor all exports of invertebrate fishery products.



Photo: Louise Goggin

Opportunity

Over the last five years, the region has collected a comprehensive regional data-set on bêche-de-mer and mother-of-pearl fisheries. This data-set housed at the SPC Reef Fisheries Observatory provides an unprecedented source of information for answering the 'define' and 'control' questions that are critical to good management of these invertebrate fisheries.

"The future"

This briefing is to provide policy makers food for thought. Although the Pacific Islands region has a good reputation for custodianship of its fisheries, particularly offshore tuna fisheries and coastal food fisheries, many of our invertebrate export fisheries perform extremely poorly, and some of these resources are at the level of imminent extinction.

However, there are some Pacific Island invertebrate export fisheries that are models of good management, suggesting that problems can be overcome and fisheries restored. If an effective regional dimension can be added to the national and local management of these fisheries it should be possible to restore most of them to optimum levels of production by 2015.



*For further information,
contact Kim Friedman (kimf@spc.int)
or Lindsay Chapman (lindsayc@spc.int)
at the SPC Reef fishery observatory*

CONTACT DETAILS

SPC Headquarters	SPC Suva Regional Office	SPC Pohnpei Regional Office
BP D5 98848 Noumea Cedex, New Caledonia Telephone: +687 26 20 00 Fax: +687 26 38 18	Private Mail Bag, Suva, Fiji Islands Telephone: +679 337 0733 Fax: +679 377 0021	P.O. Box Q, Kolonias, Pohnpei, 96941 FM, Federated States of Micronesia Telephone: +691 3207 523 Fax: +691 3202 725

Email: spc@spc.int

Website: www.spc.int