



Live reef food fishery trial generates problems in Vanuatu

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Vanuatu had its first live reef food fishery (LRFF) trials, during which a number of problems arose. In April 2001, the Vanuatu Department of Fisheries agreed to allow a Singapore-owned company to conduct some small-scale trials while it developed a management plan. The areas involved in the trials were the Port Vila area out to Devils Point, Havannah Harbour on north Efate, and Lamen Bay on Epi Island.

The company negotiated access to these areas with local communities. Holding-pen facilities were established for storing the catch. The target species included Napoleon wrasse and groupers. Fishing methods were limited to traps and droplining, and hookah gear was sometimes used to place the traps. The unbaited traps were anchored and camouflaged using rocks. One of the main grouper species caught in the traps using this method was the flowery cod *Epinephelus fuscoguttatus*. Some coral trout (*Plectropomus* spp.) were also caught, along with assorted bycatch.

One problem was that when traps were retrieved, the fish would attempt to escape by ramming the wire mesh walls and would damage their mouths. The resulting tissue damage often led to infection. Antibiotics were employed to counter the problem but mortality in the pens remained quite high.

Another area of concern was ciguatera (the development of toxicity of reef fish to humans as a result of consumption of a toxic dinoflagellate directly or — in the case of carnivores — via the food chain). Some groupers become ciguatoxic at certain times and in certain areas in Vanuatu. Shipments of ciguatoxic fish from some Pacific islands have caused major outbreaks of ciguatera poisoning among human consumers in Hong Kong (Sadovy 1999). Vanuatu fishermen are generally well aware of ciguatera in their waters, but they were some-

times hesitant to volunteer this information when cash was offered for these fish.

The company's long-term plan was to purchase a transport vessel equipped with live tanks to pick up the fish and transport them to the capital of Port Vila where they would be stored in net pens until 10–15 tonnes of fish accumulated. The fish would then be transshipped to the LRFF market in Hong Kong.

However, the Department of Fisheries became concerned that the trials were developing too fast before a management plan had been approved. They had also received complaints concerning the fishery from some of the communities involved. Communities were often divided on the issue of whether to allow access to outsiders to their reefs for this fishery. Customary marine tenure prevails in Vanuatu, so communities and clans own their nearshore fishing grounds and have the last say on reef access.

Some community members welcomed the opportunity to earn money through fishing. Others were concerned about the impact this fishery would have on their subsistence and artisanal fisheries as well as the overall ecology of their reefs. Complaints from the communities included:

- fish were damaged in the traps and their subsequent mortality in the net pens was too high;
- the company sometimes used their own crew rather than employing local fishers;
- bycatch was used to feed the fish held in the net pens rather than being released;
- reefs were damaged when the traps were weighted and camouflaged with rock (some said the divers were breaking up the reef to get this rock);
- the fishery was interfering with local sport fishing/tourist developments; and

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- some of the promises made by the company, including financial compensation to the communities, were not always kept.

In response to reported problems with the company, members of one community removed company fish traps until their concerns were heeded. In another community the net pen was cut open to release the fish.

In a community that was divided over whether to allow LRFF operations, one chief declared a tabu on all fishing from his clan's fishing grounds specifically to block these operations.³ The perceived threat in this case was that trap deployment and retrieval resulted in damage to the reefs by breaking coral. Other clans in the same community allowed LRFF operations to proceed in their reefs.

These problems underscore the need for communities to have more information on the pros and cons of this distinctive fishery. Many of the problems arising were due to community members and their leaders not having prompt access to practical information regarding this fishery. Such knowledge could have been provided by the company, the Vanuatu Fisheries Department and related NGOs.

To determine the viability of this fishery, the Vanuatu Department of Fisheries requested the Secretariat of the Pacific Community (SPC), to assist in performing some baseline LRFF stock assessments in areas being trialed by the company. Stock assessment surveys were performed in mid-August of this year by members of the Vanuatu Fisheries Department including the Director of Fisheries

Moses Amos, Being Yeeting of SPC, and Dr Terry Donaldson and Steve Why of the International Marinelife Alliance. The surveys were concentrated in the Devils Point and Havannah Harbour area of Efate Island in central Vanuatu.


The final report from these surveys has not been released yet, but the preliminary findings suggest that the diversity and abundance of groupers in this area are not sufficient to support the LRFFT in addition to the subsistence and artisanal fishery of this area. The abundance of Napoleon wrasse was also found to be insufficient in these areas for export purposes.

The issuing of any licenses by the Department of Fisheries for the LRFFT in Vanuatu has been put on hold pending the recommendations arising from the stock assessment. All trials have been stopped since early June, at which time all of the fish caught during the trials were released. Stock assessment surveys for other areas potentially suitable for the LRFFT in Vanuatu will also be undertaken.

References

- Johannes, R.E. 1998. Government-supported, village-based management of marine resources in Vanuatu. *Ocean and Coastal Management Journal* 40:165–186.
- Sadovy, Y. 1999. Ciguatera – a continuing problem for Hong Kong's consumers, live reef fish traders and high-value target species. *SPC Live Reef Fish Information Bulletin* 6:3-4.





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3. The use by clans and communities of reef closures or tabus is a common means of community-based marine resource management in Vanuatu (Johannes 1998.).