

COASTAL FISHERY MANAGEMENT AND DEVELOPMENT PROJECTS IN PAPUA NEW GUINEA

There are two major domestic coastal fisheries management and development projects being implemented in Papua New Guinea (PNG) at present. These two projects are working together to complement each other's work, and build on the work of previous domestic fishery development projects in the country.

Rural Coastal Fisheries Development Programme

The Rural Coastal Fisheries Development Programme (RCFDP) is an EU-funded project that commenced in PNG in mid-2002. The project is operating in seven provincial locations, Alotau,

*Lindsay Chapman,
Sean Baxter and
Garry Preston*

Buka, Daru, Kavieng, Lae, Madang and Port Moresby (Figure 1) over a five-year period. The main aims of the project are to develop the deep-water snapper fishery, thus relieving fishing pressure on reef fish stocks; link fishermen with private sector partners (PSPs) in the development of small-scale fishing operations; strengthen or develop fish processing facilities to improve fish quality, handling and marketing prac-

tices; establish export markets through the PSPs to raise the financial returns to fishermen; and establish a revolving fund with new boat loans approved, as other loans are paid off.

The RCFDP has developed its own small-scale fishing craft based on the 8.2-m Yamaha fibreglass SPD 27 design. This hull design was used in some locations in PNG in the 1990s with a diesel engine mounted in the centre of the boat, a cabin over the engine, a small icebox and four Samoan handreels, two at the front and two at the back of the vessel (Figure 2).

The new "ELA 82" design vessel is 8.2 m long (Figures 3 and 4), constructed from fibreglass, and is built locally at Samarai Plastics in Milne Bay. It has a standard cabin fitted with a VHF radio and compass. The vessel is powered by a three-

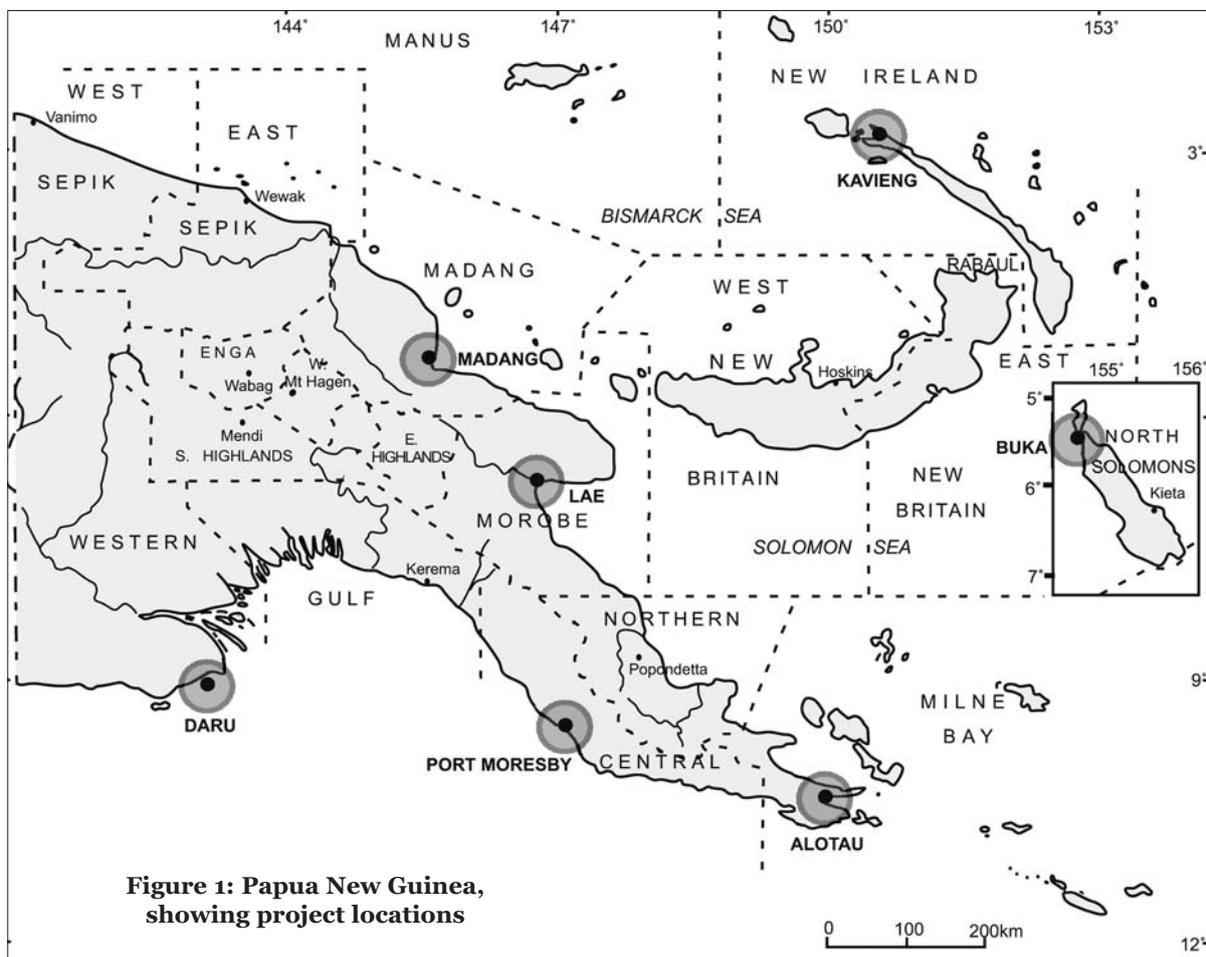


Figure 1: Papua New Guinea, showing project locations

cylinder, 47-HP Yamaha ME200 diesel engine. Between the engine room and the cabin is a fixed fibreglass ice or fish hold with an internal capacity of 1.4 m³. The fish hold has a removable baffle, with the baffle used to reduce movement when fish are packed in an ice slurry. The vessel comes equipped with four Samoan handreels with line and hooks etc, two 500-m droplines, grapnel anchor and 440 m of anchor rope, trolling lines and a full set of sea safety equipment (life jackets, flares etc). The cost of the complete vessel and gear is PGK 133,000 (approx. USD 44,300) and is the "starter package" for fishermen identified and supported under the project.

The project has three loan schemes, one for fishermen who are members of fishing associations (micro credit scheme) for upgrading existing boats and fishing equipment, one for the fish processing sector (major loan scheme), such as private sector partners (PSPs), and the other for fishermen to purchase the project design vessel (starter package loan). The major loan scheme for the PSPs and processing sector is commercial loans provided through a local funding institution at a negotiated interest rate, generally just below the market rate, as the loan is guaranteed by the project. Under this scheme, one processing facility has been built in Madang and two others are to be upgraded in Lae and Kavieng, with others to come as appropriate applicants are identified in other project locations.

The loan scheme for fishermen for the "starter pack" (boat and fishing gear as described above) is free of interest and is given over a three- to five-year period.

A revolving fund has been established under a central fund for this scheme. However, fishermen that qualify for the loan have to put up a PGK 500 bond



Figure 2 (top): Vessel design used in the 1990s for deep-water snapper fishery development

Figure 3 (middle): New ELA 82 design vessels at Kavieng

Figure 4 (bottom): Fishing layout of the new ELA 82 vessel

(this is lost if the boat is repossessed) and need to have at least PGK 1000 operational funding to buy fuel bait and ice for the first trip or two.

The process for fishermen applying and qualifying for a starter package loan in each location is clearly set out by the project. First, suitable PSPs need to be identified in each project location. This is done by the project calling for expressions of interest from the private sector. At the same time, the project establishes a fishing association, or works with and strengthens existing associations in each location. A Provincial Loans Committee is also set up, made up of stakeholders in the area. The National Fisheries College has been contracted by the project to run the Certificate in Small Fishing Operations course and the Start Your Own Business course, at each project location. Fishermen at the courses can then apply for a loan for the starter package, with their applications assessed by their Provincial Loans Committee. The successful applicants are then provided with the starter package (boat and fishing equipment) and work with their PSP. The project then assists with the setting up of the gear and conduction fishing trials or training when needed.

The PSP has many roles to play in the overall management of each fishing operation it works with. The PSP either carries out maintenance using its own resources or identifies the maintenance providers in the area and then assists with organising maintenance when needed. The books and finances for the fishing operation are also managed by the PSP. When fish are landed to the PSP, they are weighed and a receipt docket issued with the weight of fish by species and the value of the catch. The PSP deducts all operating expenses for the fishing operation, makes

the loan repayment to the revolving fund and either holds the balance of funds on behalf of the boat owner or transfers these funds to the boat owner's account.

To date seven starter package loans have been approved and the vessels and gear provided, three in Lae and four in Kavieng. The three Lae vessels have been in operation since mid-2004. One operator is doing very well and is over PGK 10,000 in credit with the PSP after four months of operation. An interesting part of the fishing operation in Lae is that the project fishermen are buying fish from local canoe and banana boat fishermen on the fishing grounds as well as fishing themselves. This has resulted in landed catches of 3–4 t in less than one week's operations.

In Kavieng, the four vessels have only just commenced fish-

ing operations. In their first week of fishing, three of the vessels unloaded a total catch on 1400 kg of which 75 per cent of the catch was deep-water snapper (Figure 5).

The project has been working in Madang as well, although the vessels being used there are modified 7-m (23-ft) banana boats with 30 HP outboards. These vessels have an icebox fitted into a recessed deck area. Nine of these vessels have been provided to fishermen under the loan scheme, with six operating.

In support of the RCFDP projects, 12 fish aggregating devices (FADs) were deployed in February 2004, four off Lae, four off Madang and four off Port Moresby. The FADs in the northern waters are based on the Filipino "payao" design using 16-mm polypropylene rope and a steel buoy, while the FADs off Port Moresby are the



Figure 5: Catch of deep-water snapper unloaded by one project boat in Kavieng

SPC Indian Ocean design. The FADs were deployed at least 10 miles off the coast, and it appears that in Madang they are used more by local sports fishermen than project fishermen at present, whereas in Lae the FADs are used more by the project fishermen. Several of the FAD have been lost.

Future plans for the RCFDP include an additional three vessels being constructed at present, with these to be delivered to successful applicants in Lae. Another ten vessels are planned for construction in 2005 for the project, and from mid-2005 boats will be provided through the credit fund as direct purchases. Local fish markets will be constructed in Kavieng and Buka, and probably extended to Lae and Daru, while processing facilities will be constructed or upgraded in Lae and Madang under the major loan scheme. The deep-water snapper fishing part of the project will also be expanded to take in the other project locations in 2005.

The project is also developing resource-use plans for Madang and Lae, working closely with the Coastal Fisheries Management and Development Project. The RCFDP is concentrating on the management of the deep-water snapper fishery and is looking into Marine Steward-

ship Council certification for the fishery as part of its long-term plan to expand into export markets for high-quality fish.

Coastal Fisheries Management and Development Project

The Coastal Fisheries Management and Development Project (CFMDP) is an Asian Development Bank (ADB)-funded project that commenced in August 2003 and will run until mid-2007. The project will work in four provincial locations, Alotau, Daru, Kavieng and Lae. There are two components to the project, infrastructure development, and fisheries management support and capacity building. Under the infrastructure component, the project is constructing a tuna fishing wharf and small-boat jetty in Lae, a small-boat jetty in Daru, a small-boat jetty and associated on-shore facilities in Alotau, Milne Bay, and a fisheries research facility on Nago Island in New Ireland Province. Infrastructure to support the development of domestic fisheries in Kavieng (Figure 6) is in place as a result of a previous ADB-funded fisheries development project in this area.

The aim of the fisheries management support and capacity building component is to improve the

management of coastal fisheries in order to ensure the sustainability of economic benefits that PNG derives from its fishery resources. The focus is to work in three of the same areas as the RCFDP (Alotau, Kavieng and Lae), to complement the work of this project and maximise the benefits from both projects in these areas. The CFMDP is based at the National Fisheries College (NFC) in Kavieng, with initial work being conducted in the New Ireland Province.

There are four strategic areas in the fisheries management support and capacity building component of the project: institutional strengthening for coastal fisheries management; coastal fisheries assessment and monitoring; strengthening information flows; and community-based fisheries development and management. The activity areas and work undertaken to date come under four headings, as follows:

1. Institutional strengthening for coastal fisheries management

This includes:

- training courses on fishery management for individuals from government, NGO and stakeholder organisations;
- refinement of fishery legislation to support local level fishery management;
- formation of stakeholder associations;
- formation of provincial Fisheries Advisory Committees; and
- development of provincial fishery action plans.

A refresher course for New Ireland Provincial Fisheries Officers, Fisheries Observers, Port Samplers and NGOs was conducted at the NFC. This course focused on computer use, fish quality and hygiene, sea safety and small business



Figure 6: Wharf complex in Kavieng funded by ADB in 2002

management. The first training courses on fisheries management will commence in late October 2004, and cover fisheries management theory (biological economic and technical) as well as extension and communication skills, and approaches for working with communities (such as organising and facilitating meetings etc.).

Refinement of fisheries legislation to support local level fishery management will commence in October 2004. This will include a review of the current legislation relating to participation in the fisheries management process by lower levels of government, as well as parallel initiatives in local environmental management. The results will be the development of appropriate legal instruments and approaches that may be needed to support fisheries management interventions at this level.

2. Coastal fisheries assessment and monitoring

This includes:

- preparation of resource inventories;
- habitat mapping;
- conduct of resource surveys; and
- household and socio-economic surveys.

A survey of small-scale fisheries landings and their sale through local markets, roadside stalls and buyers started in May 2004 in New Ireland. Survey work is conducted by the Provincial Fisheries Officers, observers and port samplers who had been trained in the above-mentioned refresher course. Data collection includes the identification of fish species, plus each fish is measured and the length recorded. Several databases have been designed and the data is being entered, with a preliminary analysis of the first

six month's data scheduled for November 2004. Resource surveys are also planned to commence in 2005.

The baseline socio-economic survey for the New Ireland Province was conducted from mid-August to early October 2004, following the completion of a training workshop by the enumerators. There were three groups of three enumerators working for six weeks, with around 800 households surveyed from 21 wards in the northern New Ireland Province.

Databases have been developed and the data entered, with the analysis expected to be completed in November 2004. As part of the socio-economic and market surveys as described above, the geographical distribution of fishing areas, catch, effort and markets is also being collected for analysis. Additionally, published and historical data (purchase and sales records) from selected local fish traders is being reviewed and used where possible.

3. Strengthening information flows

This includes:

- improved availability of information resources;
- preparation of provincial resource profiles;
- preparation of information and awareness materials;
- development of fishery monitoring arrangements; and
- development of NFA fisheries website.

The project is working on a range of awareness-raising information, including radio shows, videos, and publications. Twenty-six 15–20 minute shows are in the process of being scripted in both English and Tokpisin. Four videos are being produced on aspects of fisheries management, and two puppet show

videos are almost complete. A comic book on HIV/AIDS in the fisheries sector has been completed. A comic on sea safety has been commissioned, and a book on reef conservation is nearing completion. In addition, the NFA library and website have been enhanced to increase the availability of information for potential users.

4. Community-based fisheries development and management

This includes:

- awareness-raising on fishery management issues;
- small business promotion;
- women's skills training;
- FAD deployment; and
- peer group education on HIV/AIDS.

The first formal training course in this area will commence in late October 2004, with other courses in the future. The programme itself aims to promote greater awareness of fisheries management issues, assist communities find solutions to local fishery management problems, and support the formation of community associations. An additional goal of the programme is to identify three or four communities where community-based fishery management and monitoring arrangements can be put in place, tested, and used as pilot or demonstration sites to promote the community-based management concept in PNG.

The CFMDP project is proving to be very successful in the work being carried out in the Kavieng area, with strong government, provincial government, and private sector support of both this and the RCFDP project.

