NEW CALEDONIA HOSTS PRACTICAL MODULE OF NELSON COURSE AGAIN

For the second consecutive year, the practical fishing module of the SPC/Nelson Polytechnic training course for South Pacific Fishery Officers took place in Touho in the Northern Province of New Caledonia.

After five months of mainly theoretical instruction in New Zealand, the students arrived in New Caledonia keen to put their learning into practice; another motivating factor was the prospect of savouring some (!) raw fish marinated in lemon juice.

They found the New Caledonian winter more to their taste than the freezing temperatures that they had just left behind in Nelson, New Zealand.

Material and human resources

Alistair Robertson had been seconded from Nelson Polytechnic to supervise the practical module, while Michel Blanc, the Fisheries Education and Training Adviser, and Satalaka Petaia, the Fisheries Development Specialist, took turns to represent SPC.

In addition, the five New Caledonian bodies listed below provided manpower and equipment:

- The Merchant Marine and Sea Fisheries Service: an 11 m catamaran, the Dar Mad, a pickup truck and 2 seamen to crew the Dar Mad for the duration of the module;
- The Marine Trades Training School: a 5.5 m, the Pop, a big pickup truck and a person for 2 of the 5 weeks the course lasted;
- The Northern Province Fisheries and Maritime Affairs Department: the Trudiau, a 7.5 m catamaran;
- Touho Municipal Council: a building 250 m² in area, containing 2 cold rooms (1 above and the other below zero) and a room fitted out for fish handling;
- The Touho vocational secondary school: a room to store fuel, a classroom and a mechanical workshop with some welding equipment.

The 10 students and their tutors were accommodated at the Touho Curriculum Development Centre, a former hotel converted into a training facility, located 2 km from the port.

This year, the students were fortunate to have bungalows facing the sea, a privilege that many tourists would no doubt have envied them.

At the end of each day’s fishing, the fire which was quickly lit on the beach enabled the students to improve on the Centre’s regular canteen serve by grilling a few fish.

Work organisation and fishing methods

One objective of the practical module is to familiarise participants with the fishing techniques liable to be used in their country.

To avoid conflicts with local fishermen, it was decided in Touho to only fish outside the lagoon and to concentrate on deep-bottom species and on pelagics such as tuna and associated species.

Each of the three boats was equipped with at least an echo-sounder, a GPS, a VHF radio and of course all the mandatory safety equipment. On the Dar Mad, a radar, a radio direction-finder, a thermometer to measure sea-surface temperature and a hydraulic line-hauler were also available.

In order to put into practice some of the lessons learnt in Nelson, three students from each crew were assigned the following duties on a daily basis:

- A skipper to direct manoeuvres and man the wheel while keeping an eye on the echo-sounder;
- A navigator to calculate the route, decide the bearing to follow and plot the boat’s position on the chart;
Satalaka Petaia on Pop and Alastair Robertson on Tradua seem to have opposite ideas on where to find the fish.

A statistician to take notes on the day’s significant events. The notes were used each evening to write up a fishing log which would be used to calculate each boat’s profitability.

In addition to these specific jobs, everyone took part in the fishing exercise. Five different fishing techniques were used.

Deep sea handreeling

This technique, strongly promoted by SPC in the early days of deep-sea fishery development in the Pacific, has changed little in the past 15 years, which must be proof of its effectiveness.

An echo-sounder, a deep mooring and a handreel are the only equipment required. The students were able to realise the importance of wise selection of the fishing spot and therefore the need for a good echo-sounder and an accurate positioning system.

Bottom longlining

On board the Tradua, which was not fitted with hydraulics, Alastair Robertson assembled a number of 40-hook longlines, with the help of the students.

The longline was hauled with the help of a buoy in the same way as a deep mooring is brought up; fishing had to be restricted to zones without rugged bottom topography to avoid snagging the line.

On board the Dar Mad, which was fitted with hydraulics, the students used 100-hook longlines, applying a technique in common use in New Caledonia. Here again, the participants learnt how important accurate positioning and knowledge of bottom topography are, because excellent catches were achieved with different longlines set at exactly the same spot.

Vertical tuna longlining

Two light FADs with a 3.5 mm monofilament mooring were deployed one month before the beginning of the Touho offshore practical fishing session.

Unfortunately, the only time they were seen again was when one was found lying on a reef several miles away from its original location. The failure was attributed to some nasty fish teeth.

The vertical longlining technique, normally used around FADs or in ‘tuna holes’, was therefore used in the open ocean, with a very limited chance of success. Despite this handicap, Satalaka Petaia and the Pop
NEW CALEDONIA HOSTS PRACTICAL MODULE OF NELSON COURSE AGAIN

crew managed to set two 15-hook longlines along the route taken by a school of tuna and hauled in 3 fine specimens each weighing about 20 kg.

With yields of almost a kilo of fish per hook set, this method proved effective despite the relatively small size of the longline.

**Horizontal tuna longlining**

A 40-hook horizontal longline was taken aboard the Tradiva in order to fish around FADs. Since no FADs could be located on station, this longline was set in the open sea without much success.

On the Dar Mad, which was fitted with a horizontal longline approximately 8 km in length, carrying 200 hooks, the students were able to realise how important work organisation is for this kind of technique.

They had a foretaste of the effort required of longline crews who have to set over 1,500 hooks daily. The same longline was used in the daytime for tuna and at night, after adding light sticks, for swordfish.

**Trolling**

The sport-fishing aspect of this technique makes it the favourite of the vast majority of fishermen, including the Nelson Course students. By using artificial lures, dead-bait lures, diving boards, various line lengths, boat-speed, etc., the students realised that a specific technique had to be used for each separate target species.

Julian Dashwood, Manager of SPC’s Fisheries Programme, who came to Touho for a couple of days to meet the students, demonstrated his fishing skills by catching 14 Spanish mackerel in one day on the Pop.

Local malicious gossip suggests that he stole his technique (trolling slowly using a cannonball and a saury for lure) from his Oceanic Fisheries Coordinator, Antony Lewis ... but that is another story.

**Fish handling on board and on shore**

On each of the three boats, as soon as the fish were brought aboard, they were placed in a brine consisting of two-thirds ice and one-third sea-water.

They were kept in this mixture until the boat berthed. After being taken ashore, they were weighed and stored in ice in an above-zero cold room. Depending on buyers’ requirements, the fish were then sold either whole, gutted or in fillets. The finest tuna specimens were prepared for the Japanese sashimi market.

The fish exporting experiment to the Sydney market in Australia, which was organised for the 1994 module, proved to be barely profitable.

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**Bottom longline used on Dar Mad**

![Diagram of bottom longline on Dar Mad](image-url)
NEW CALEDONIA HOSTS PRACTICAL MODULE OF NELSON COURSE AGAIN

Jean-Marie Kayara (New Caledonia) with a 13 kg red snapper (Etelis carbunculus) caught on bottom longline

It was therefore not maintained for this year. In the end, the trainers were sorry that it had been dispensed with, not only because exporting had made it possible to avoid the complications of an almost saturated local market, but especially because it enabled the students to address a range of problems associated with exporting: catch selection, specific packaging, respect for minimum quantities and delivery deadlines, quarantine requirements, customs arrangements, etc.

Overall it is undeniable that the 1995 practical fishing module achieved most of the objectives set.

The students had an opportunity to familiarise themselves with each of the proposed techniques, to operate on-board electronics, handle catches, calculate the profitability of their fishing operations and all-in-all to get hands-on experience of some of the problems which fishermen encounter on a daily basis in their country.

What future for the SPC Nelson Polytechnic Course?

Since its inception in 1979, this course has undergone many changes in form and content, the most significant of which was the incorporation of a practical fishing module in 1983.

Although it is becoming increasingly difficult to secure funding for this course (there is indeed no guarantee that the 1996 course will actually go ahead), Michel Blanc of the SPC and Hugh Walton and Alastair Robertson of Nelson Polytechnic are nevertheless thinking about the possible improvements which could still be made.

At the recent Inshore Fishery Workshop (see the article on page 2) it emerged that most Fishery Services were facing problems connected with stock management, statistical data collection, product processing and marketing, rather than any requirement to increase landings.

Could the course as it stands at present include training modules addressing these new needs or should a separate course be set up?

Could we propose that the students take part in modules already available within the school? Are fisheries officers
OK John, these are nice fish, but did you catch them?

Alivereti Senikau (Fiji) skins the filets of a good-size deep snapper (*Aphareus rutilans*)
NEW CALEDONIA HOSTS PRACTICAL MODULE OF NELSON COURSE AGAIN

destined to become specialists or should they continue to receive a wide-ranging but general instruction?

These are the many questions your three colleagues will be endeavouring to answer to ensure that the Nelson Course, which everybody agrees is an important one, continues to be tailored to the needs of regional fisheries officers.

The participants in the SPC Nelson fishing course (with the famous "hen" of Hienghene in the background)

First row: Joel Poiou, Henry Yule (SPC staff) and Thomas Saun Kari (PNG)
Second row: Allan Shapley Mamu (Solomon Islands), Alastair Robertson (tutor, New Zealand), Mathew Kamupala (Niue), Patelesio Tualofa (Western Samoa) John Ngu (Cook Islands) Fioani Homasi (Tuvalu) and Alivereti Senikau (Fiji)
Top row: Damasus Mailing (Yap, FSM)

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