

Traditional marine resource management in the north of New Caledonia

by M.H. Teulière,
Agence de Développement de la Culture Kanak
Noumea, New Caledonia

These are some brief notes on Kanak traditional knowledge and customary marine tenure in northern New Caledonia. Mechanisms which limit the access of resource users to marine resources, and which might therefore provide possible avenues for indirect management of fisheries, are described. This article is condensed from a longer paper entitled "Traditional marine resource management in the north of New Caledonia" that was presented at the SPC Workshop on Inshore Fishery Resources held in Nouméa in March 1988.

This study of traditional fishing techniques was carried out in the Nenema zone (Figure 1), which at the time of the study supported a population of about 470 Kanak people, distributed both on islands and on the extreme north of the mainland. The study involved about nine months of field work, carried out in two phases between 1983 and 1987, during which time I lived in the fishing communities in question and collected information on traditional fishing techniques and the social organisation of the fishing community through participant

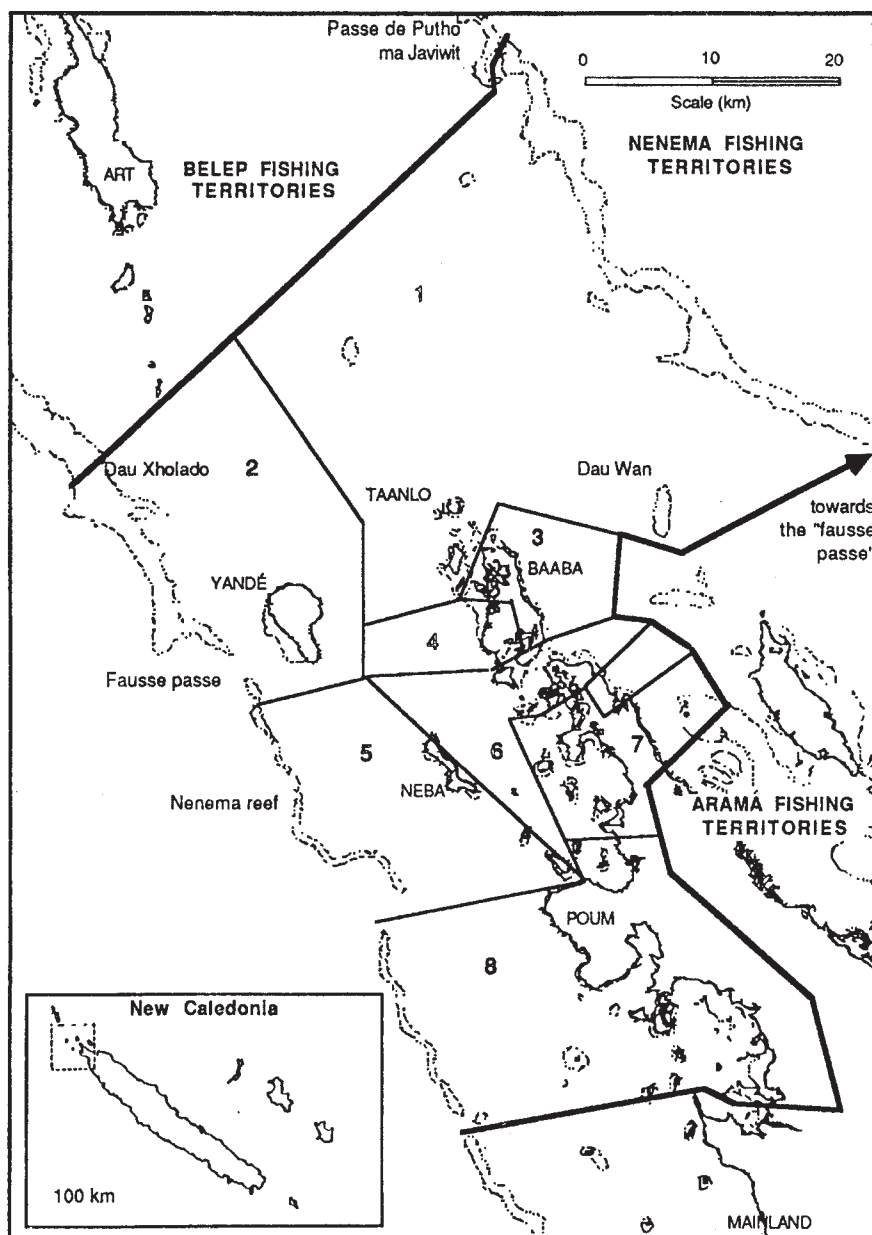


Figure 1. Fishing territories of the north of New Caledonia

observation, structured interviews and informal discussions.

The Nenema zone is one of 28 linguistically distinct areas of New Caledonia, and is composed of numerous islands and islets, of which the main ones are:

- Taanlô (81 ha) and Tia (43 ha - uninhabited today);
- Baaba (2120 ha);
- Yenghebane (138 ha);
- Tie (45 ha);
- Yande (1325 ha);
- Neba (357 ha - uninhabited today).

Two areas of the mainland are also included in the zone: Tiabet (300 ha) and Poum (the reserve of Tic, 106 ha). The Nenema zone thus totals about 5,000 ha, the islands and islets themselves covering a surface of 4,563 ha.

The zone is characterised at the same time by relatively abrupt massive serpentine and olivine rock formations — for example in Poum, and on the island of Yandé — and low-lying areas which are all that remain of a region that has been drowned by the sea — the islands of Taanlô, Yenghebane, Tie and Baaba. There are one or two very short waterways (creeks) of a torrential nature, but no substantial rivers. Taanlô, Yenghebane and Tie possess no creeks of any sort. The climate is dry most of the time, annual rainfall being about 1,000mm.

Within the waters of the Nenema zone are many small scattered islands and reefs within an extensive lagoon seldom exceeding 25 meters in depth. Shallow sandy banks and extensive littoral flats dry at low tide. There are many mangrove pockets and coastal swampy areas. Apart from the areas of living reef, most of the lagoon floor is sandy or silty with occasional beds of sea-grass.

Today, the islands of the North function largely as dormitory-islands, with very low populations for most of the year. Populations may increase by a factor of five in several hours on the occasion of marriages, funerals, etc, or to a lesser extent during school holidays. Mining activity in the region had slowed considerably at the time of the study, so the commercialisation of fishing activities had become an important means of discouraging economic emigration. This helped prompt the formation of a GIE (economic self-sufficiency group) by the fishermen of Nenema.

The Nenema country is an area that is geographically, politically and linguistically self-

contained. It comprises 8 independent units or **kavebu** ("chiefdom"), the largest political and social unit in the Nenema zone. Within the **kavebu** are several **yamevwuk** ("great clan"), which designates the largest unit of kinship, and which is divided into sub-clans or **duabo**. The French Administration has, for its own convenience, superimposed a system of "great-chiefdoms" on the traditional order. These often have no real social or cultural basis, but function rather as administrative groupments for the purposes of local government.

Throughout New Caledonia, the maritime zone inside the lagoon is associated with the land-based domain and is everywhere delimited and subject to ownership. In the Nenema area, the zone is divided into territories that are owned at two levels:

- At the level of the Nenema "great chiefdom", as opposed to the neighbouring "great chiefdom" of Belep in the North, Aonvase (Arama) in the South-east and Koumac in the South-west (see figure1);
- Between the different Nenema **kavebu** within each "great chiefdom".

The territorial limits fixed for each **kavebu** are established by taking landmarks from the crests of hills or the embayments of creeks, the points of capes, and, as limits at sea, submarine reefs, channels, or passes in the barrier reef.

Beyond the barrier reef — outside the lagoon — access to the sea is not limited in the eyes of the Nenema. Access to the maritime zone, however, is subject to certain rules. It is required practice from one **kavebu** to another to ask authorisation to fish in a territory which is not one's own. Authorisation to fish is rarely denied; the different **kavebu** are often united by the links of kinship, from which frequent exchanges of goods and favours arise in connection with ceremonial events (marriages, funerals, etc). However, certain **kavebu** impose more restrictions than others. The people of Yandé, for example, prohibit commercial fishing by members of neighbouring **kavebu**, reserving the resource for themselves.

There are a number of strongly and universally held beliefs about the consequences of transgressing the rules of access to fishing grounds. If a fisherman fishes without authorisation in a **kavebu** which is not his own, he will be unable to catch fish unless he succeeds in not being seen by the people of this **kavebu**. Guilt at his transgression will probably result in his becoming physically ill.

To cure the sickness, he must ask the pardon of the chief of the **kavebu** that owns the fishing area concerned. It may be the chief or another representative of his own **kavebu** who has to go to ask forgiveness of the offended **kavebu**, on behalf of the fisherman. The traditional system, which demands respect of the maritime or terrestrial territory of one's neighbours, is still very strong among Kanaks.

The sexual division of labour which is in force among the Nenema people traditionally confined the access of women to those marine foods that are harvested by hand on the reef flat (octopus, shells, etc) or in the mangroves (mangrove crabs, etc). Net fishing, for example — which usually necessitated transporting several fishermen by canoe — was exclusively reserved for men. Today, although these customs are no longer observed, Nenema women do not usually use nets for fishing — and especially not in the presence of men — except for European-style castnets, which are a recent introduction.

Certain fishing methods that were formerly restricted to women, including the capture of **shalaga**, or mangrove crabs (*Scylla* spp.), are now also practised by men, notably during important fishing expeditions. The technique itself remains practically unchanged, but the growth in the number of the participants, added to their tendency to fish more intensively (mangrove crab sells well and can be caught when fishing trips to sea cannot be made because of bad weather or equipment breakdowns) may have contributed to the depletion of these species in the Nenema zone.

If the Nenema people did not traditionally manage their stocks in the modern sense of the term, they made sure nevertheless to avoid catches they were not able to consume. Wastage of fish was condemned. Efforts to protect certain species were also made in response to interference from outside. For example, some fishermen from Yandé, fearing that the Europeans would take too many fish from their waters, are said to have used a "magic stone" in their possession to chase the fish away, and draw them to the outside of the barrier reef.

Fishing is never conceived as a "sport" — i.e. for other purposes than providing food — among the Nenema. Overfishing has always been associated with commercialisation, and with the resources that present economic opportunities, for instance crabs and lobsters.

Certain fishing methods such as poison fishing were known to be very effective, resulting in extremely large catches, but because they were also considered destructive, were not systematically used, although the fishermen still know the poisons

used. One of the reasons put forward to explain this is the fear that currents spread the area affected by the poison too widely. In other areas — the Isle of Pines and Maré, for instance — poison fishing seems to have been the object of local regulations: it needed, for example, the authorisation of the chief, who gave it only rarely, such as at times of famine.

Traditionally, efforts were made to preserve favoured fishing habitat in order to ensure the continued presence of fish, crustaceans, etc. In fishing for mangrove crab, for example, care is taken not to damage the animal's burrow (for instance, avoiding digging another hole too near the probable end of the burrow, even if this would allow more rapid access) as this increases the risk that the burrow will not then be reoccupied by other crabs.

Many Kanak commercial fishermen avoid working the same spot that they fished on their previous trip, only returning there as a last resort, if fishing is poor elsewhere. In addition, fishermen reserve certain areas near where they live in which they only fish to satisfy their own requirements, thus ensuring a continuous subsistence supply.

Traditional restrictions on the capture of certain species, which exist for reasons unrelated to resource conservation, may nevertheless function to this end, especially if the species concerned are the targets of commercial fishing. Certain marine animals have, for example, a special relationship with a given clan (**yamevwuk**). They are often species which, during a migration they undertake each year at a precise time and according to a known route, leave the zone that they occupy for the major part of the year in order to spawn in another area. During the course of the migration they may be briefly found close to a part of the shore that they do not normally occupy, subsequently returning to their original habitat.

In Taanlô, we find in this way, associated with a particular clan, two species of fish — a rabbitfish, **aalaat** (*Siganus* sp) and a trevally, **nok daalaak** (f. Carangidae) — the first of which migrates at the full moon around November, the second around March (see figure 2) into a basin in the lagoon. According to the fishermen of Poum, the arrival of the schools of rabbitfish draws other fish with them in their migration.

At present, the fish of Taanlô that are captured on these migrations are not destined for commercial use because of their sacred nature. Their capture is apparently reserved for members of this clan only. In other times, these fish were caught in encircling nets (as they are today) but were protected from being speared — another consequence of the 'special relationship' with the clan.

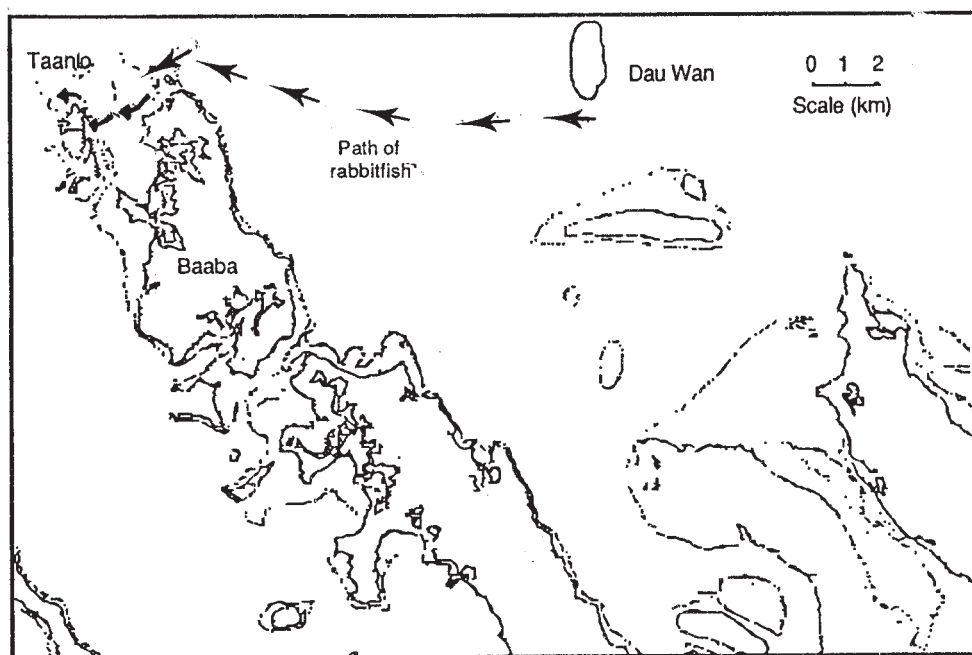


Figure 2: Path followed by the rabbitfish towards Taanlô

Milkfish, *Chanos chanos*, are said to migrate from the South-east of the mainland to Lifou. The route they take is seen as being related to the path taken (over many generations) of the women (no doubt of a certain clan) as they changed their place of residence on marrying. In a very schematic way, the presence of these fish is a manifestation of the ancestry of the clans founders, and they are the direct link between the ancestor of the clan and his descendants.

Other bans, which appear to work a little differently, also have a bearing on the capture of certain species. Turtles in Lifou, for example, are reserved for the chief, and may not be captured without his authorisation. It is obligatory for each turtle captured to be brought to him, which in itself often involves a complicated journey, to the point where the fishermen prefer to avoid catching turtles. Numerous clans have some form of relationship to a species of fish or crustacean, as a result of which it is protected from being exploited commercially.

Another factor which reduces fishing pressure on certain species but is not linked to a cultural consideration is the existence of ciguatera poisoning, called **shan** in the Nenema area. This influences the capture and consumption of fish according to their species, their size, and the place and season of their capture. Nenema fishermen tend to avoid eating large fish "especially when they are fat. They have **shan** when they are fat". They also avoid:

— **phuru**: under this term the Nenema fishermen distinguish at least four lutjanids; *Lutjanus*

fulviflamma, *Lutjanus kasmira*, *Lutjanus lineolatus*, and *Lutjanus quinquelineatus*. **Phuru** are not eaten if they are fished from certain places (in the closed basin on the west coast of Yandé, and the one which lies between the island of Yowowé and Poum, for example), although other fishes are. Elsewhere, these four species can be eaten;

- **deee**: under this name, the Nenema people distinguish several serranids, or coral trouts. The one which is not to be eaten is "black with white marks on the back. We find it inside and outside the big reef. We find it everywhere inside the big reef on the west coast and we do not eat it anywhere". It may be *Plectropoma melanoleucus*;
- **bwavu**: *Plectorhynchus picus*; this pomadasid is not eaten at Yandé from the time that the **wââric** (*Semecarpus atra* (Vieil)) flowers and bears fruit, until the season when yams are planted.

The customs and beliefs described here play, to differing degrees, roles in the traditional management of marine resources by the Nenema fishermen. These practices may not always fit western concepts of optimum yields or freedom of the seas, but they are nevertheless accepted and put into practice by the resource users. Only knowledge and understanding of this type of 'management' will permit resource managers to cooperate with the interested parties in developing their positive aspects within the framework of a modern management regime.