

## MELANESIA

### FIJI

The complex social organization of Fiji was based on a hierarchical kinship system consisting of *vanua* (tribe), *yavusa* (clan), *mataqali* (sub-clan or lineage), and *tokatoka* (sub-lineage or extended family) (Ravuvu, 1983). Each had a hereditary chief with almost absolute power. Land and adjacent waters were held collectively by the *mataqali* or *yavusa* under a complex tenurial system. Since Independence, in 1974, Fiji has adopted a Westminster parliamentary system of government while retaining the traditional system of chiefs. The modern and traditional systems are linked by village and provincial administrations. A Council of Chiefs, composed of the paramount chiefs, sets policy for general Fijian affairs.

In the marine realm, Fijians are traditionally inshore fishermen and gleaners. Apart from the more spectacular techniques, pre-Contact fisheries were poorly documented. Most routine fishing activities are done by women, whereas men are responsible for providing large quantities of fish for ceremonial purposes.

Nowadays, the traditional owners retain their inshore exclusive fishing rights, but the actual ownership of all territorial waters is held by the National Government (formerly "the Crown"). The legal question of rights and ownership is one of the most highly charged and potential divisive issues confronting present-day Fiji. Information on the topic is virtually inaccessible, and official opinion usually closely guarded. However, a reconstruction of the process leading to the present difficulties has been made from documents available in colonial and national archives (Ruddle, 1993a).

#### *Rights Territories*

As elsewhere in Melanesia, fishing rights areas (*qoliqoli*) are an integral part of a tribal estate (*vanua*) that extends in a wedge-shape from an inland central watershed seawards, generally to the upper margin of the seaward slope of the fringing reef<sup>10</sup>. Fishing rights areas extended from the high water mark to the outer reef. Areas beyond the reef were not always traditionally owned by the adjacent rights holding group.

In most cases such territories are in the marine waters directly adjacent to a village or group of villages. Also, in former times, because the continual warfare required people to live in fortified villages, most fishing occurred as near as possible to the settlements.

However, many tribal groups have exclusive use rights to territories located far from their adjacent waters. In some instances, rights to distant fishing areas are held in addition to those in adjacent waters. Most such distant fishing rights areas are associated with patch reefs or with island-studded shallows, and many are separated from the rights-holding villages by inshore waters belonging to other social groups.

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<sup>10</sup> The comprehensive term *vanua* essentially describes the totality of a Fijian community. Depending on context, it is used to refer to both a social unit and the territory it occupies, thereby expressing the inseparability of land and people, as well as to the supernatural world and worldview (Ravuvu 1983; 1987)

### *Boundaries*

In most cases the lateral boundaries of a sea territory are defined by the projection to the fringing reef of the lateral watersheds of a group's landholdings. As usual, they are defined on the reef by such clearly visible features of reef geomorphology as patch reefs, reef holes or reef channels.

### *Acquisition of Rights*

All Fijians inherit fishing rights as a birthright to the collectively-owned kinship land. The chief of the kinship unit had the powers of distribution. Full rights could be granted to immigrants, refugees and military allies.

### *Shared Rights*

The sharing of rights areas between or among different *yasuva* is common, especially those in distant areas. Thus, on the southeastern coast of Viti Levu, just north of the Rewa Delta, a large area is shared by five groups (Kubuna, Batikasivi, Natodua, Mataisau, and Batiki). Sometimes a *vanua* will share rights in one area and maintain exclusive rights in another.

Such sharing has deep historical roots. For example, Native Lands Commission records of 1899 demonstrate that the *yavusa* Vusaratu, Serua, located on the southern coast of Viti Levu, shared their inshore rights area equally with the people of Tomasi of Serua, Manggumangua and Korovisilou (Hornell, 1940).

### *Rights of Outsiders*

Rights could be granted to neighbouring kinship units to fish at specified times and locations. Today such entry rights are granted, with the applicant making a formal request via the traditional *sevusevu* ceremony, that involves presentation of *kava* (*yagona: Piper methysticum*) root, *tabua* (whale teeth) and mats. Further, a portion of the catch had to be offered to the rights-owners as compensation.

However, the impact of the cash economy has had a major impact on such secondary rights formerly granted to neighbours. These have often been revoked since the fish were being caught for the market and not for subsistence. For example, for that reason the customary rights holder at Dravuni and Bulia, on the northern Great Astrolabe Reef, revoked the ancient agreement whereby Ono Islanders were allowed access (Zann, 1983). As a reaction, groups with historical secondary rights have been pressing for legal recognition of such rights, although such disputes are still resolved traditionally, through chiefs or at provincial meetings (Zann, 1983).

On Qoma Island, fishermen jealously guard their fishing rights area against outsiders. They are particularly wary of ethnic Indians, since they use gill nets which, on Qoma, can be used but rarely and only if permission has been granted by the chief (Veitayaki, 1990).

This has led to difficulties in the present. Villagers at Votua, which has the rights at the mouth of the Ba River, have demanded of ethnically Indian fishermen up to F\$500 per annum for entry rights (Kunatuba, n.d.; Zann, 1983).

The law requires that outsiders fishing in customary rights areas must first approach the Native Fisheries Commission, which then instructs the District Officer, of the Ministry of Rural

Development, to obtain permission for the fisherman from the appropriate *mataqali*. This is the official procedure. But, because of the time it requires, it is considered acceptable for the fisherman to approach the *mataqali* directly, to obtain the letter of consent, which is then endorsed by the District Commissioner. The Native Fisheries Commission then issues a permit. Upon payment of an annual license fee to the Fisheries Division, permission for the outsider to operate is then given. It is an open secret that money changes hands during this process, although this is another sensitive topic.

### *Traditional Fisheries Management*

In pre-Contact times the *yavusa* or *vanua* land-holding social unit usually held tenure over adjacent mangroves, lagoons and reefs, together with exclusive ownership of seafloor, water, marine life, and rights of passage. This is unlike land, the rights to which are held by the *mataqali* (Ravuvu, 1983; Fonmanu, 1991). There has been some confusion on this matter in the literature. For example, Baines (1989:288) observes that "Some published attempts to explain ... [sea tenure systems] reflect the author's inability to comprehend their complexities and nuances. An understanding of Fijian traditional marine tenure, for instance, is not helped by the erroneous basic assumption of Iwakiri (1983) that marine area rights follow land rights in being based on the *mataqali* social unit...."

Sea territories were defended to the death against outsiders operating without permission. In pre-Contact times boundaries were in a state of flux owing to conquest and changing alliances, population pressures, marriage, and adoption.

### *Traditional Authority*

Throughout most of Fiji, a specialized fishing clan (*gonedau*) and in the Lau Islands *dauqoli*, the master fishermen or "marine resource managers" (Thompson, 1940) were specialist fishermen for the chiefs. They were members of the upper class who managed the fishing grounds, communal fishing activities and turtling. Communal fishing by women was managed by the wife or daughter of the master fisherman (Thompson, 1949).

Routine daily management is conducted by each household. Communal fishing and long-distance fishing were managed by the *gonedau* (or by the *dauqoli* in the Lau Islands). The *gonedau* remains responsible for imposing the 100-day fishing taboo following the death of a chief (Zann, 1983).

At present, the protection of customary fishing rights and management of fisheries in rights areas is done via a complex arrangement. Responsibility is essentially shared by traditional authorities and various branches of the National Government.

Fishing in rights areas is mainly for subsistence, although there is some small-scale commercial fishing to supply urban markets. Subsistence is controlled by the local chief. Both members of the rights-holding group and outsiders may engage in commercial fishing within a rights area provided they obtain an IDA (Inside Demarcated Area) license. However, members of the rights-holding group are exempted if fishing commercially from the shore with either a spear or line.

IDA licenses are issued by the Fisheries Division. However, before applying, a fisherman must first obtain a permit from the social unit in whose rights area he intends to operate. This is issued by the District Commissioner, if the tribal group consents. Thus the principal authority determining whether commercial fishing can occur is still the traditional authority of the rights-holding group, which both consents or not to commercial fishing and can set such conditions on the licensee as target species, permitted gear, areal exclusion, and conservation rules. However, no legal provision exists

for compensating the rights-holding group for harvesting in its area, although it is common knowledge that *sevusevu* or "goodwill" payments are made.

But this seemingly straightforward modern management of traditional rights areas is, in reality, highly confused and emotionally highly charged. A major confusion stems from the convoluted legal framework governing inshore fisheries. Further problems are introduced by the several institutions and agencies that are involved in fisheries management in Fiji. Among these are the Native Land and Fisheries Commission, District Commissioners (see above) and Fish Wardens.

The Native Land and Fisheries Commission is under the Ministry of Fijian Affairs and Rural Development. It is responsible for identifying, surveying and registering the traditional fishing rights territories, conflict resolution and protecting ancestral Fijian rights. Prior to registration of these territories, the boundaries established through the survey must be approved by each social group.

Fish Wardens, honorary officials appointed under the provision of the *Fisheries Act (1978)*, are appointed by the Minister of Primary Industry, usually following a request from a social group. Their task is to enforce the provisions of the *Fisheries Act* and ensure compliance with conditions attached to fishing licenses in their community's traditional fishing rights areas.

### *Sanctions*

Trespassers were subject to physical violence and their catches were confiscated by the rights-holding villagers (Kunatuba, n.d.). Boats and gear are also destroyed (Zann, 1983). The situation is both grave and sensitive, owing to the legal uncertainty of owners' rights. For example, Zann (1983) reports that politically and traditionally important high chiefs were taken to court and charged with the illegal confiscation of a poacher's gear.

### *Traditional Conservation*

Traditional attitudes and behaviour to land and sea have assisted in resource conservation, based on the spiritual affinity with the natural environment, as expressed in the terms *na qau vanua* (lit. "the land which supports me and to which I belong"), or *na vanua na tamata* (lit. "the men are the land").

Certain taboos protected marine animals and reefs. Of these probably the most important was the taboo on the consumption of turtles by commoners. But social factors, and particularly the need for large quantities for ceremonial feasts, may have contributed to the former over-exploitation of turtles (Zann, 1983; Kunatuba, n.d.).

Temporary fishing bans are imposed in certain areas to allow stocks to recover, especially on spawning fish. Live storage of excess catches was also practised (Kunatuba, n.d.). There were also 100-day taboos imposed after the death of a chief, as well as those associated with birth and marriage (Ravuvu, 1983).

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## NEW CALEDONIA

New Caledonia remains a French colony, hence its inshore waters are managed both according to the traditional tenurial system of the Melanesian indigenous Kanaks and a superimposed European system. The two systems co-exist, and marine resource management incorporates elements of both.

However, the traditional ownership of maritime territories is not recognised by French law. This has given rise to a number of problems for professional fishermen (Europeans, Tahitians and others) who fish in an area with a permit from the Merchant Navy and Fisheries Service, but who fail to seek access permission from chiefs of the different territories they exploit. This has led to conflicts.

Literature dealing directly with Kanak fishing societies is limited, since there were no substantive ethnological studies of Kanak fishing prior to 1973 (Bensa, 1973; Teulières, 1990). Elements of the traditional marine resources management system have been described by Teulières (1990; 1991), and this section relies heavily on her two studies. Teulières' (1990) publication on the Nenema zone of Northwestern New Caledonia was the first study of the local management of marine resources in the country.

Most of the information presented here pertains only to the Nenema zone, a geographically, politically and linguistically self-contained area comprising eight autonomous "chiefdoms" (*kavebu*), traditionally the largest political and social unit. (The French Administration superimposed a system of "great-chiefdoms" over the traditional order. These often have no real social or cultural basis, but function rather as administrative groupings for local government.)

### *Fishing Territories*

Throughout New Caledonia, lagoon waters are associated with the land-based domain, and are everywhere delimited and owned. Access to marine resources is controlled mainly through a tenure system, owned and controlled first at the level of the "great chiefdom" and then at the "chiefdom" (*kavebu*) level. As is common elsewhere in Melanesia, each chiefdom possesses a defined terrestrial and marine territory, considered as a single unit. The concept of a territory is expressed in Nenema as "the place from which one draws one's provisions": *na yalap* (*na* = a place; *yalap* = to search for food), to which is added as appropriate, *ni wi yak* (*wi yak* = salt water, i.e., the sea) to designate "fishing grounds", or *ni daak* for agricultural areas.

### *Boundaries*

The seawards limit of a marine territory is the seaward slope of the barrier reef. Territorial limits are fixed for each *kavebu*, based on such landmarks as peaks, stream mouths or capes, and by seamarks like submerged reefs, channels or reef passages. Seawards of the barrier reef there are no social controls on access.

### *Primary Rights*

Primary rights are a birthright inherited patrilineally. This inheritance is regarded as a temporary right to benefit from natural resources, a status that is conferred by the ancestral spirits who are the true proprietors. From this, it is held, inshore waters are not free, and that the inherited use right is conferred by genies and ancestral spirits. The right is not traditionally regarded as one of ownership.

### *Rights of Outsiders*

Prior permission is required to fish in the territory of another chiefdom. This is rarely denied to fishermen from neighbouring clans, who generally may freely fish occasionally in exclusive rights areas, provided that they do not target the annually migratory totemic species (see below). Such secondary rights are rarely denied, since the *kavebu* are often linked by kinship, from which frequent exchanges of goods and favours arise in connection with ceremonial events.

Outsiders may be granted permission to fish commercially, especially for crabs and *bêche de mer*. A Kanak fisherman can usually fish unhampered another chiefdom, provided he is accompanied by a local fisherman. But this varies, as some chiefdoms impose more restrictions than others. The people of Yandê, for example, prohibit commercial fishing by members of neighbouring chiefdoms, reserving the resource for themselves.

But permission may be withdrawn from outsiders, as happened in Yenghebane in 1986, owing to the almost total disappearance of *bêche-de-mer*. The fishermen of Yenghebane feared degradation of the local ecosystem from overharvesting. They also observed that processing the holothurians near the fishing grounds, which involves cleaning the guts into the sea, poisoned fish. Although the Yenghebane do not themselves eat or harvest for sale *bêche-de-mer*, a ban was imposed on harvesting it in their area, which is now considered as a reserve, available only to the chiefdom should a future need arise (Teulières, 1991).

### *Traditional Authority*

Traditional authority resides in the chief. This is supported by the belief that property rights are protected by ancestral spirits (*duee*), via bans or taboos, the infringement of which brings supernatural punishment, in the form of sickness or death, upon the transgressor (Teulières 1991). Ancestral spirits are manifested in certain totems.

### *Sanctions*

The traditional system, which demands respect for the territory of one's neighbours, is still strongly observed among Kanaks. This is reinforced by strong and universal beliefs about the supernatural consequences of transgressing the rules of access to fishing grounds. For example, it is held that a fisherman who fishes without permission in another territory will not catch fish if seen by the people of that chiefdom. His sense of guilt at his transgression will probably result in his becoming physically ill. To overcome the sickness, he must seek the pardon of the chief of the *kavebu* in which he fished. It may be the chief or another representative of his own *kavebu* who must seek forgiveness from the offended *kavebu*, on behalf of the fisherman.

Supernatural proscriptions preclude any access to a few specified locations. For example, a certain part of the shore may not be used by fishermen (or anyone else) because it is believed to lie on the road used by the dead to travel to their underwater domain.

### *Traditional Conservation*

As well as limiting access to the resource, social pressure influences how heavily resources are exploited, and the means used. Although the Nenema people did not traditionally manage intentionally to conserve, nevertheless they refrained from catching more than they could consume. Wastage was condemned.

Fishing is only to provide food. Overfishing has always been associated with commercialization, and with the resources that present economic opportunities, *e.g.*, crabs in the North and lobsters in the South. The stocks of crabs available in Nenema, particularly at Baaba, reached such a low point around 1965 that fishermen were obliged to travel to Balabio Island to catch commercially viable quantities (Rocheteau, 1968).

Certain fishing methods known to be destructive were not systematically used. For example, although stupeficients are used throughout New Caledonia, this technique was apparently not favoured by the Nenema people, who fear that currents would disperse the poisons too widely. Elsewhere, as at the Isle of Pines and Maré, the use of stupeficients was locally regulated by the chief, who authorized them only rarely, such as during famines or other similar occasions (Leblic and Teulières, 1987).

Traditionally, efforts were made to preserve favoured fishing habitats to ensure a continued availability of marine resources. Thus, for example, care is taken not to damage the animal's burrow when digging for mangrove crabs, and so to ensure its reoccupation. Elsewhere today, Kanaks (particularly those of Yenghebane and Tie) fishing commercially avoid working the same spots as fished on their previous trip. They will re-use them only as a last resort, if fishing is poor elsewhere. In addition, certain areas near a fisherman's residence are reserved to ensure a continuous subsistence supply of easy access.

Numerous clans (*yamevwuk*) have some form of relationship to a species of fish or crustacean, as a result of which it is not normally exploited commercially. This is a system of control over exploitation closely linked to the Kanak worldview.

The capture of certain species is traditionally restricted for reasons unrelated to resource conservation. Nevertheless, such restrictions may function to this end, especially if the species concerned are the targets of commercial fishing. For example, certain marine animals have a special totemic or other relationship with a given clan. They are often annually migratory species which migrate at a precise time and according to a known route, from the lagoon zone, that they occupy for most of the year, to spawning locations outside the reef. While migrating they may be found close to a part of the shore that they frequent only briefly on that occasion, subsequently returning to their original habitat.

In Taanlô two species are associated in this way with a particular clan. These are a rabbitfish, *aalaat* (*Siganus* sp.) and a trevally, *nok daalaak* (Carangidae). The first migrates at the full moon around November and the second around March 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. The fish 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 former times, these fish were caught in encircling nets (as they are today), but were protected from being speared. This is another consequence of their "special relationship" with the clan.

Other bans which appear to work somewhat differently also have a bearing on the capture of certain species. In Lifou, for example, turtles are reserved for the chief, and may not be captured without his permission. Each turtle captured must be brought to him. Since this often involves such a complicated journey, fishermen prefer to avoid turtling.



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## PAPUA NEW GUINEA

In cultural and socio-economic terms Papua New Guinea, in common with most of Melanesia, is a complex and extremely diverse nation, as demonstrated by the more than 700 languages spoken in a nation with a total population of only 3.8 million people. Further, in great contrast to the very large literature on land use in Papua New Guinea, traditional marine management systems have barely been documented. But the tantalizingly brief references in a scant literature indicate a richness of traditional marine resource management systems in Papua New Guinea, and reveal the scope for further research and documentation.

Any summary of the situation in Papua New Guinea is made even more complicated by rapid change. Traditional rights were asserted in inshore waters to known resources in areas customarily fished. Deep water fishing was a rare occurrence but, when non-traditional resources of value are found in deeper waters, these then become claimed also (Anon, 1989). This has resulted from commercialization and commoditization. Essentially, traditional rights have been defined by the role of aquatic resources in the local subsistence economy. Where fish was not important to the local subsistence base rights may not have existed but, where it was a staple complex, systems of ownership and close defense of rights were the norm. Further, and problematical for documentation and registration, is that traditional rights and claims often do not exist until they are inquired about; also, previously unclaimed areas may suddenly become the centre of a dispute as a result of increased fishing pressure (Freilink, 1983a).

Given that situation, only a few of the recent main items of the literature on traditional, community-based marine resource management systems are summarized here in terms of (1) Specialized Fishing and Maritime Trading Societies and (2) Societies with Mixed Agricultural-Fishing Economies.

### *1. Specialized Fishing and Marine Trading Societies*

Two good examples of such societies have been well documented, that of Ponam Island (Carrier, 1981; Carrier and Carrier, 1983; 1989) and the Trobriand Islands (Williamson, 1989; Tom'tavala 1990). A sketch of an example from the Murik Lakes Area of East Sepik Province have also been provided (Barlow and Lipset, 1984).

#### *(a) Ponam Island, Manus Province*

Ponam Island is small, agriculturally-poor, and heavily dependent on fishing and trading. It is located 5 km off the north-central coast of Manus Island. The system of marine resource management on Ponam is complex and unusual. It is composed of three main independent and overlapping elements: (i) ownership of reef and inshore marine waters, (ii) ownership of species, and (iii) ownership of fishing techniques (Carrier, 1981; Carrier and Carrier, 1983; 1989).

##### *(i) Ownership of reef and inshore marine waters*

Historically the waters around the island were divided into six concentric ecological zones. These are best developed in South Ponam (see below). Further, the island waters are divided into quadrants: Ponam North and South, and Tonuf North and South (South Tonuf waters are seldom fished). For both historical and ecological reasons, the pattern of water and reef ownership differs in each zone.

The simplest tenure pattern occurs in Tonuf North, where one clan owns all the waters as a single, undivided unit.

The pattern in Ponam North is more complex. There the waters and reef are divided in two ways. First, with one exception, the reef slope defines the boundary between those holdings which extend from the shore to the reef slope, and those which extend outwards from the reef slope. Second, waters within the reef are divided into six radiating blocks. Six different patrilineal groups own those blocks within the reef, and the one that extends beyond the reef is held by five lineages and a dying clan. Outside the reef, Ponam North waters are divided into two large blocks: one is held by one clan and the other is in dispute among three social groups. This pattern arose only in the early-1950s, with the commercial boom in trochus, which led to a rebellion against the paramount clans' sole ownership of the area, and the assertion of independent claims by the different patrilineal groups.

The most complex pattern of holdings occurs in Ponam South. There six concentric zones extend from the island shores. These are, successively, the sea grass zone, the clear sand inside the reef edge zone, the outer shoulder of the reef, the deep water of Seeadler harbour, the relatively deep reef edge of the Manus Island shore, and the sandy belt inside the Manus Island reef. Each of the six zones is divided into a series of blocks, the seaward and landward boundaries of which are determined by the natural boundaries of the concentric zones, and the lateral boundaries which are marked by stones, coral formations, and the like. These blocks are owned by lineages and sub-lineages. A single group may own several geographically separated blocks. Only the productive parts of these zones are claimed: sections with sea grasses that attract turtles and, in deep areas, places where coral grows close to the surface and thus provides good angling sites.

*(ii) Ownership of species*

Owners of sea and reef areas do not have exclusive ownership to their tenured waters. Their ownership is strictly limited by two sets of countervailing rights: species ownership and gear ownership.

Some patrilineal clans own some of the species caught, regardless of the gear used to catch them and irrespective of where they are caught. The most important are those which form large schools: tuna, mullet and anchovy. Any expedition targeting these species must first obtain the owners' permission. Thus the water- and reef-owning group does not have the right to catch all the fish that inhabit its area.

*(iii) Ownership of fishing techniques*

Ponam Islanders distinguished between technique that are "on or of the sea bottom" (*lo has*) and those that are "in the sea but not on or of the bottom" (*hire has*). Sea and reef owners control the former but not the latter, and, apart from angling, anyone wishing to use such techniques must first obtain the permission of the sea-owners. However, if an individual obtains permission to construct a stone fish trap, once built it belongs to him and can be automatically inherited by his patrilineal descendants, without the need to seek further permission of the sea owners.

However, the bulk of the fishing on Ponam uses *hire has* techniques, over which sea-owners have no control. Some such techniques are owned by patrilineal groups, some are restricted to certain waters whereas other may be used anywhere, and some require the prior permission of the water-owner. *Hire has* techniques may be sub-divided into collective and individual techniques. Collective techniques belong to patrilineal groups and are restricted to certain waters, whereas there are three classes of individual techniques: free (open to anyone anywhere), semi-restricted (apart from certain

conditions, open to anyone anywhere), and restricted (always requiring the water-owners' prior permission).

*(b) Trobriand Islanders*

In the Trobriand Islands land, beaches and marine waters are claimed and owned according to different rules and principles. Land ownership is generally exclusive to particular matrilineages, and all garden lands are defined by fixed boundaries and named. Since in Trobriand society land determines an individual's wealth or social influence, outsiders desiring access rights must compensate owners. Beaches, however, are regarded as the communal property of each village, and can be used by villagers who are both clan- and non-clan members alike. In general, outsiders are not permitted to use beaches freely (but see below). In contrast, village claims to marine waters are less well-defined. Both living and non-living resources are claimed, whereas territories *per se* are usually not. There are, however, exceptions to this general rule (see below).

The nature of claims toward resources varies according to whether a village is predominantly agricultural or in fishing, whether exploitation is for subsistence or commercial purposes, and whether the resource being exploited is living or non-living. In villages that depend primarily on fishing, exclusive claims to resources predominate, whereas in primarily agricultural villages outsiders are given access rights for subsistence fishing. However, in both fishing and agricultural villages exclusive rights are claimed for commercial fishing: the right to make money from village waters is regarded as belonging exclusively to the villages. Whereas for living resources agricultural village grant subsistence rights to outsiders, neither agricultural nor fishing villages permit outsiders to extract sand, gravel and, especially, coral limestone. Rights to non-living resources are reserved exclusively for the villagers (Tom'tavala, 1990; Williamson, 1989).

Trobriand Islander claims to beach areas and marine waters are based on three principles:

The first is a "mother-right" (*toluuula*) that governs all aspects of Trobriand Society. According to this principle, all contemporary rights and privileges are traced in a direct line of matrilineal descent from specific ancestors (*tabusi*), who made the original claims to marine areas and resources, to the present claimants (Malinowski, 1926; Tom'tavala, 1990).

The second is that of inseparable and natural appurtenance, in that beach areas and inshore waters are connected to the land. In predominantly fishing villages, coastal water and the fish therein are regarded as an aquatic garden, because fish are exchanged with inland villagers for their yams and other agricultural products (Williamson, 1989; Tom'tavala, 1990).

The third principle is heritage and traditions relating to, and traditional use of, marine resources. This heritage and traditions are contained in a rich oral literature song and dance repertoire pertaining to the ancestral claims to, and use of, marine resources and ancient cultural relationship with the local seas. This oral literature is the basis of customary law that is used to resolve conflicts. Contemporary islanders use marine resources much as did their ancestors, thereby demonstrating a continuing of occupancy and use (Williamson, 1989; Tom'tavala, 1990).

*Boundaries*

The extent of fishing territories claimed varies. For example, villages on the northern coast of Kiriwina, where deep sea shark fishing is predominant, claim waters as far as can be seen from the top of the tree on the beach. Most other village claims extend beyond the fringing reefs to where they traditionally fished by sinking hooks and lines. The villages on the northwestern, northern and eastern

coast of Kiriwina Island and the Vakuta and Sim'simla Islanders claim 2 - 3 nm from the coast. The west coast or lagoon villages of Kiriwina claim waters averaging about 6 nm from the coast. The claims of most of the lagoon villages overlap. Kevatariya village claims the most distant boundaries, at 11 - 15 nm from the village, but these are to patch reefs only rather than the waters *per se*.

### *Fishing Rights*

In general, all beaches are owned according to the principle of adjacency to owned land by matrilineages (*tolipwepwaya*, lit. "land-owners"). Within a village they are regarded collectively as "village beaches" (*kwadewa*), and are available to all villagers for everyday use (Tom'tavala, 1990).

Trobriand Islanders unanimously claim special rights to inshore and nearshore waters. Maritime territorial claims are expressed by the term "*ma bolitasi*" (lit. "our seas"), where *ma* denotes rights of usage or exclusivity of title. The nature of the rights claimed is not clear, but ownership is definitely included. Ownership rights are generally vested in the villages as a whole rather than to individuals or matrilineages, although the latter does occur (Tom'tavala, 1990).

However, some instances of private ownership of reefs also occur. At Kevetariya, a large lagoon fishing village on the northwest coast of Kiriwina, ownership rights are asserted to reefs in and on the fringes of the lagoon. These villagers own the coral patches in the lagoon as well as the extensive reefs fringing the lagoon. The rights extend to 15 nm along the coast from the village and 10 nm offshore.

In that village sections of reef are owned either by individuals or matrilineages. Each claim is clearly delimited and recognized by the villagers, and forms part of the family inheritance. Because the reefs afford especially good year-round fishing, they are regarded much as gardens on land and are sometimes referred to as "yam houses" (Tom'tavala, 1990) or "our gardens" (Williamson, 1989).

### *Acquisition of Rights*

Rights to resources and resource territories are inherited matrilineally in Trobriand Society.

### *Rights of Outsiders*

Outsiders are given some rights to village beaches, such as congregating on them for trading with fishermen, for collecting coconuts during transit, or, to inland villagers, to use the beaches when bathing. Beach-owners assert their rights and demand payment from outsiders for removing sand and gravel for construction. Although the rights granted to outsiders are based on custom, these are now being scrutinized more carefully by beach-owners (or beaches even closed entirely) who increasingly suspect outsiders of using their beaches for commercial gain (Tom'tavala, 1990).

Trobriand Islanders do not generally enforce territorial exclusivity. For example, on a reciprocal basis, outsiders are generally allowed to transit, bathe and fish in these waters. The main reason is that voyaging is a fundamental traditional activity which, if restricted by exclusive rights claims, would severely hamper inter-island travel. Also the imposition of trivial rules which restrict movement or usage of one's resources indicates meanness (*piki*), considered a major sin.

But territorial exclusivity is enforced in some villages. The most striking example is when the Labai villagers fish for *kalala* (mullet). Labai Village, on the northwest coast of Kiriwina, is regarded as a principal source of the Trobriand Islanders', and so is especially important for keeping traditions and magic. This village is renowned for mullet fishing. Every few months, during calm seasons and

full moon periods, schools of mullet migrate into the shallow waters between the fringing reef and beach of Labai, en route to the estuaries in which they spawn. As the villagers prepare to catch the mullet, they forbid outsiders to enter their village or beaches, in accordance with the supernatural requirements of mullet fishing (Williamson, 1989; Tom'tavala, 1990).

In predominantly fishing villages, outsiders are permitted to fish if they pay for the right. Rates vary from 20 *kina* per day at Gilibwa, to 100 *kina* at Bwadela. At Siniketa a one-time licensing fee of 1,000 *kina* is levied for the right to collect bêche-de-mer (Williamson, 1989). Other fishing villages, especially Kevatariya, do not permit outsiders to fish in their claimed area.

The specifics of marine tenure differ according to the nature of the resources, the origin of the fishermen, the dominant economic activity in the coastal communities, and the objectives of the fisheries. The principal distinction is between edible and inedible resources. The former includes most nekton species, crustaceans, shellfish, and some seaweeds. Rights or access to edible marine resources depend on the origin of the fisherman. No regulations, apart from taboos on certain species, limit the fishing activities of village residents. Restrictions on non-residents vary by locality. In the primarily-agricultural coastal villages, unrestricted fishing for subsistence purposes is permitted to outsiders, whereas they would not be allowed to conduct artisanal or commercial fisheries. In the primarily fishing villages, unrestricted fishing by outsiders is not permitted. In some villages outsiders are required to pay monetary compensation - notices to this effect have been posted -whereas in others no outsiders are permitted to fish. In contrast, each village claims the exclusive right to make money from its resources, thus no outsiders are permitted to fish commercially (Tom'tavala, 1990).

Among the edible resources are those not commonly eaten, but which are important commercial fisheries, like bêche-de-mer, pearl oysters, green snail and trochus. Islanders assert ownership rights to these and, except for food use, outsiders are not allowed to harvest them. Villagers alone have the exclusive right to harvest these for artisanal or commercial purposes. In some villages, outsiders can exploit them on payment of compensation. The gathering of various non-living resources, like seashells, coral, sand, and gravel is exclusive to villagers. Outsiders are forbidden to gather these resources unless given permission, which sometimes requires payment of compensation (Tom'tavala, 1990).

#### *Traditional Authority*

Land and marine rights areas are controlled by the elder (*karewaga*) of a matrilineage (Tom'tavala, 1990). Beaches are held by village chiefs and headmen as trustees for the villagers (Williamson, 1989). On request, village heads grant access rights to outsiders. Village headmen also mediate trespass and poaching disputes between villagers. These have occurred at Kavataria village, for example, where separate tracts of reef are owned by individual families. Fishermen claim that they can recognize the species that inhabit their tract of reef, and so in the market at Losuia can identify fish that have been stolen from them (Williamson, 1989).

#### *Sanctions*

At Labai village, were an outsider to even accidentally enter the reef during preparation for mullet fishing, he would be killed (Williamson, 1989).

#### *(c) Darapap Village, Murik Lakes Area, East Sepik Province*

A very brief sketch of the traditional management system in this area has been provided by Barlow and Lipset (1984).

### *Boundaries*

Boundaries to family fish areas are marked by stream courses.

### *Fishing Rights*

Mangrove areas and streams running through them are owned by families.

### *Acquisition of Rights*

In this village lacustrine and marine resource rights are vested in the villagers by residence and inheritance. Rights are of primogeniture and may be inherited from both parents. Persons may fish in the mangrove areas to which their parents have rights, even though resident in another village. Spouses may fish in the areas to which their spouses have inherited rights.

### *Rights of Transfer*

Rights of transfer are not acknowledged, and rights may not be sold or given away.

### *Rights of Outsiders*

Reciprocal rights are granted to inland people, in return for sago, as well as to off-shore islanders. The right of canoe passage is free to all residents, whereas outsiders must report at the first village and explain the nature of their passage.

### *Traditional Authority*

Authority resides in the Village Council. Outsiders can fish in lakes and the sea with the permission of the Village Council. However, the senior person (either male or female) has the right to withhold access to his/her family's rights area. No areas are tabooed.

### *Sanctions*

Infraction of another person's rights can lead to physical and verbal violence. Villagers actively prevent outsiders without permission from fishing in their rights area.

## 2. *Societies with Mixed Agricultural-Fishing Economies*

### *Fishing Rights Territories*

Among the Tsoi-Tigak people of New Ireland Province (Walter *et al.*, 1986) and the Baining of New Britain Province (Turner, 1989) settlements claim ownership of the adjacent reef and its resources. There are no nested boundaries with an owned area, and no differential access rights (Walter *et al.*, 1986).

In the Delta of Gulf Province each village has its traditional fishing grounds located along the banks of larger rivers and their tributaries. Fishing grounds are often not adjacent to villages and sometimes fairly distant, owing to the relocation of settlements that nevertheless retain their original fishing territories (Frielink, 1983b).

### *Boundaries*

Among the Baining, boundaries of village beach and sea territories occur where river or stream courses intersect the coast.

Sea territories of the Baining are not internally sub-divided.

### *Rights*

Among the Baining, beaches and reef are owned by a village collectively and not by kin groups or families (Walter *et al.*, 1986; Turner, 1989). There are no differential access rights to village residents (Walter *et al.*, 1986).

Only residents of a village territory have an unqualified right to exploit its reef and beach. Men and women who have married out of a village, and now reside elsewhere, as well as their children, retain their rights to exploit natal village resources, but should first seek permission (which would never be denied) (Turner, 1989).

Among the Tigak, sea and beach adjacent to a village are the communal property of all villagers, who have free access to any part of the reef. There are no sub-divisions by clan (unlike land ownership), nor differentiation of rights among community residents (Otto, n.d.). Village co-ownership is based on the principle of residence rather than descent.

In Waganakai village, on the south coast of the Talasea Peninsula of West New Britain Province, inshore waters and reefs are owned in common by all villagers (Anon., 1989).

On the small island of Pak, located east of Manus Island, inshore waters and reefs are owned by clans, with patrilineal inheritance. Waters beyond the reef are open to all (Anon. 1989).

Owing to a low population, density fishing is only a low-level activity in the Delta of Gulf Province. Each village has its traditional fishing grounds located along the banks of larger rivers and their tributaries. Temporary camps are established for 2-6 nights duration at the fishing grounds (Frielink, 1983b).

### *Acquisition of Rights*

Among the Baining of New Britain Province, primary rights are acquired by residence in the territory of a particular village, and not directly as a result of kin or other social ties, although residence will of course be affected by such ties (Turner, 1989). Virilocal residence is preferred (Walter *et al.*, 1986; Turner, 1989).

### *Rights of Outsiders*

The rights given to outsiders varies. In pre-Contact times, fishing was limited to reefs and shallow water close to a village, partly because of warfare and partly because gear was limited to shallow water types only. But, with the advent of colonialism, the situation changed drastically. With the introduction of deeper water gears and the end of tribal warfare, fishermen ventured into the areas traditionally belonging to other villages, claiming access rights through kinship ties and marriage. This has occurred among the Tigak people of New Ireland province (Otto, n.d.).



Thus there has arisen a discrepancy between areas claimed as sea territories of the ancestors and those actually claimed at present. Sometimes ancestral areas are adapted to present-day demand, and village sea territories have been extended (Otto, n.d.).

With increasing commercialization of marine resources have come increased demands for closure and protection of marine territories. It is commonly claimed that villagers have exclusive rights to such sedentary species as trochus and bêche-de-mer, and that outsiders must seek permission to harvest such species. Fishing for subsistence is regarded as available for all, but that outsiders ought to seek permission first. Commercial fishing is the exclusive right of the owners of a sea area, and outsiders are always required to seek permission. However, the ease with which permission will be granted is perceived of as varying by geographical proximity: neighbours have no problem in obtaining it. However, the principle of reciprocity is always applied (Otto, n.d.).

Some villages in Lavongai and Tigak have established fees for fishing in their waters, although these are difficult to collect, since villagers are unable to pursue poachers. And the poachers invoke kinship relationships to avoid payment. Some catches have been confiscated (Otto, n.d.).

On Pak Island, east of Manus Island, islanders may fish without paying compensation in other clan waters, if permission is first sought (Anon., 1989). After obtaining permission from Waganakai leaders, outsiders may fish in village waters (Anon., 1989).

Elsewhere outsiders are refused access for any kind of fishing. This is the practise on Yule Island, where fishing is relatively important because agricultural land is scarce. There coastal waters are open to Roro-speakers, regardless of kinship or residence, whereas others are evicted if caught (Anon., 1989). Similarly, in the Delta of Gulf Province outsiders are refused access but, since the level of exploitation is low, disputes are few (Frielink, 1983b).

#### *Traditional Authority*

Village magistrates have been reluctant to hear disputes, since they lack instruction on how to deal with marine boundary disputes. Otto's recommendation was that the government should not draw boundaries, since this action would only provoke disputes (Otto, n.d.). However, local magistrates should be empowered to and guided in handling such disputes.

#### *Traditional Conservation*

In only a few areas of high human population density have inshore resources been depleted. This has occurred along the north coast of the Gazelle Peninsula, in East New Britain Province, where the excessive use of derris as a stupeficient, together with chlorine bleach and dynamiting, has killed reefs, as well as fringing reefs of the Bali and Witu islands of West New Britain province, and smaller islands in Milne Bay Province (Anon., 1989).

Nevertheless, a concern about fisheries conservation has been expressed by villagers in widely scattered parts of Papua New Guinea. On Yuo Island of East Sepik Province, for example, fish stocks are perceived to be declining as a result of overfishing. Shellfish (not specified), too small for consumption, are removed from their natural habitat and re-seeded near to villages, for use in inclement weather (Kainang, 1984). Similarly, because of observed depletion of stocks by the villagers, giant clams are relocated in specific areas in Bwaiyowa village, Fergusson Island, Milne Bay Province (Yamelu, 1984). In Maipenairu Village, on the Northern Gulf of Papua, small finfish and crabs were formerly returned to the sea (Frusher and Subam, 1984).

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## SOLOMON ISLANDS

Solomon Islands is one of the two nations in the region to have conducted a survey of customary fishing rights<sup>11</sup>. The survey was conducted in 1985, at 43 locations, and the common elements of the customary fishing rights system were synthesized and described by Ruttley (1987). Despite the many weaknesses in the design and conduct of the survey, and the resultant information gaps, the information generated provides a general overview of the main characteristics of traditional community-based fishery management systems in Solomon Islands. However, because of the highly complex cultural variations in the country, the survey results provide only superficial information. To be of any practical usefulness, they require supplementing by in-depth, society-specific field research.

### *Territorial Definition*

In Solomon Islands, as in other parts of Melanesia, the inshore marine waters over which a social group has control are not necessarily those adjacent to its landholdings, as was erroneously stated by Baines (1985) and Ruttley (1987). The situation is far more complex than that. In the Lau and Langalanga lagoons of Malaita Province, for example, whereas the "saltwater" people hold rights to reefs and marine waters the interior-dwelling "bush" people also hold extensive sea rights, including mangrove and estuarine tracts, as well as large tracts of land in the interior of the island (Akimichi 1978, and pers. comm.). In some localities, too, reefs belong to inhabitants of the interior and not to those owning the adjacent coastal land, as in parts of Rennell Island, (Collenson n.d.) and Marovo Lagoon (Hviding, 1990).

Although in Marovo Lagoon a group usually controls a substantial area of land, lagoon and barrier reef, some have large sea territories but only small land holdings, whereas others control large land areas in the interior of the island, but have no sea territory. As everywhere, this is a consequence of historical processes of settlement and migration. In the Marovo area, to escape the endemic warfare of pre-Christian times, the ancestors of the present-day "bush" groups hid in the interior, to escape the powerful coastal peoples. Thus the coastal groups could establish the primary rights over sea and reefs still held by their present-day descendants, most of whom continue living in the traditional villages of "coastal" or "salt water" people.

In the Marovo area, inter-marriage between "bush" and "saltwater" people has led to some influential marine rights-holders living among the interior "bush" groups. However, they still retain their primary rights in marine areas (Hviding, 1990). Thus it is erroneous to assume that a "community" on which traditional management is based always refers to a physically identifiable community, such as a village or the like. In Solomon Islands the "community" in which traditional management rights are vested is a descent-based kinship group, the members of which, as a consequence of personal factors like inter-marriage, or of the alternative economic opportunities brought about by national development, can be geographically widespread.

Whereas the exclusive claim to lagoon waters is unambiguous, the nature of rights in waters beyond the reef is frequently less so. In some instances it cannot be ascertained whether such waters form part of the customary exclusive rights area or whether they are merely areas open of access in which fishing is customarily conducted. In general, waters beyond the seaward slope are under open access, but some communities claim exclusive rights within them (Ruttley, 1987). In Marovo, for example, although waters beyond the barrier reef are regarded as belonging to the community holding

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<sup>11</sup> The other being Fiji

rights to the adjacent lagoon waters, strong claims are nowadays rarely exerted. Formerly, however, when traditional pole-and-line fishing was conducted for tuna, exclusive rights were enforced for several kilometres seawards of the reef. But these became irrelevant, during the 1970s, when trolling replaced pole-and-line fishing (Hviding, 1990).

### *Boundaries*

Lateral boundaries are defined by extending seaward a group's terrestrial boundaries, often in a circuitous rather than direct fashion, to the outer slope of the reef, and sometimes to points beyond. Lateral boundaries are marked by such natural landmarks as prominent trees, distinctive stones, islets, stream-mouths, or reef channels. In the Lau Islands sticks and stone walls are erected on the reef as boundary markers (Collenson, n.d.).

In Marovo Lagoon, stone shrines to contain ancestral skulls are built on rocky islets of 2-4 m elevation in the barrier reef. These function as territorial markers, and knowledge of them is still used to validate historical claims to reefs (see below). There geomorphologically distinctive features of the lagoon floor, such as sandy tracts in an otherwise rocky reef flat, that manifest themselves in the colour and wave pattern characteristics of surface waters, are also used to distinguish between group territories (Hviding, 1990).

The method of calculating seaward boundaries varies; some are measured in terms of the distance from the shore at low water mark whereas others are measured seawards of the reef. A common measure is "as far as the eye can see", or when at sea, when certain on-shore features become invisible. When deep sea species constitute part of the customary catch, seaward boundaries extend further off-shore. For example, the shark fishermen of Temotu Province claim that their exclusive area extends for 12-20 miles out to sea (Ruttley, 1987).

In this fashion, in the Marovo Lagoon, roughly rectangular marine rights areas are delimited. Sizes are estimated to be from 20 to 170 km<sup>2</sup> (Hviding, 1990).

### *Fishing Rights*

#### *(i) Primary Rights*

In most cases primary rights are the property of a descent group, usually the clan or lineage. Although a particular descent group has rights to a defined area of reef and lagoon, in settlements made-up of more than one clan or lineage residents generally share the rights of access and use. Such shared rights occur on West Bellona, Tikopia and Rennell Islands (Ruttley, 1987).

Sub-division among individuals occurs in the Reef islands (Allan, 1957) and on a family basis in Roviana (Allan, 1957) and Lau Lagoon, Malaita Province (Akimichi, 1978). In Tikopia, in contrast, the degree of exclusiveness of rights is but slight (Allan, 1957).

Exclusive versus shared use is related not only to the general significance of a marine area to a community but also to the value of the resources contained. The strength (from strongest to weakest) of exclusive rights by gear and resource is (1) areas for net or trap fishing, (2) areas for collection of commercial shells, (3) areas for collection of shells for making shell money, (4) areas for line-fishing or spear-fishing, and (5) shell-gathering areas (Collenson, n.d.). This is exactly the same as the degree of exclusiveness of interests reported for Lau Lagoon, Malaita Province (Allan, 1957).

In Malaita Province, for example, primary rights holders would exercise their exclusive rights to area types 1-3, above, but not to 4 and 5. In contrast, in Western, Isabel and Central provinces, except on Rennell and Bellona islands, no outsider may engage in any type of fishing for commercial purposes (Ruttley, 1987).

*(ii) Secondary Rights*

Secondary rights are generally just those of usage, usually acquired by marriage into a primary ownership group. However, in Marovo, they are generally inherited, but held in the area of a group with whom the individual does not reside. This is exemplified by the marine use rights of "bush groups". To exercise them, a fisherman is required to formally seek prior permission from the group leader (Hviding, 1990).

In Marovo a fisherman who has neither primary nor secondary rights must also formally seek permission from leaders before fishing. This is not always granted. When awarded, such secondary rights are usually both temporary and non-transferable. Compensation or "fees" have not traditionally been required (Hviding, 1990).

*(iii) Rights of Outsiders*

Outsiders are generally granted the right of passage but not necessarily that to fish within an exclusive rights area. Outsiders from neighbouring communities are generally allowed to fish within another's territory, provided that permission is first obtained. Frequently, this is limited to subsistence fishing only, and often some form of payment or catch-sharing is also required.

Settlers from other parts of Solomon Islands may acquire land rights, but their rights to adjacent reefs and customary fishing rights areas are either very circumscribed or non-existent. For example, settlers from Tikopia and the Reef Islands now residing at Mbanua, in Temotu Province, have no rights to the Mbanua reef, but, on obtaining permission from the chief, are allowed to fish within the exclusive rights area of the original inhabitants. Again, at Matimi, in Temotu Province, settlers from the Reef Islands have purchased land, but their ownership of that does not give them rights to the adjacent reef (Ruttley, 1987).

*Acquisition of Rights*

Primary rights are a birth-right inherited from either father or mother or both, depending on the principle of descent in any given tribe or clan. However, there have been instances of the purchase of primary rights, as by the inhabitants of Fanalei, in South Malaita. These people are settlers from the Lau islands (Collenson, n.d.).

Secondary rights are acquired by either husband or wife, on marriage into a group, depending on whether the group is matrilineal or patrilineal, respectively. However, universally, the children of an exogamous marriage inherit full primary rights.

Fishing rights are inherited as an integral part of all other rights and obligations entailed in kinship in a particular decent group. In Marovo descent and inheritance is cognatic, an individual inheriting group (*butubutu*) membership and associated primary rights to use and to control from the sides of both parents. (Thus an individual's rights could be held in four group areas, if all grandparents come from different *butubutu*). But other factors, especially a person's place of primary residence, intervene. Rights are normally strongest and most complete in the area of principal residence. They also tend to weaken if they are not actively used (Hviding, 1990).

### *The Right of Transfer*

The right of transfer is apparently rare in Solomon Islands, as is to be expected from the Melanesian spiritual relationship with resources and places. For example, Marovoan groups derive their identity from the estate (*puava*) which they conceive of as being held through ancestral title, and so which cannot be transferred to outsiders (Hviding, 1990).

One example of the right of transfer occurred among the Olevuga-Gaubata tribe, on Florida Island, Central Province. There intra-tribal transfers, made in exchange for pigs, food or money, generally occur only in association with the transfer of adjacent land, with which the reef is linked (Ruttley, 1987).

### *Rules*

Each rights-holding group formulates its own local rules regarding access to and use of its marine resources by both residents and outsiders. Generally, whereas the right of transit is open to all travellers, fishing, shell-collection and other use of resources are regulated, especially if commercial exploitation is involved.

### *Gear Rules*

Gear rules are widely applied. For example, in the interest of sustainable resource use, some rights-holding groups in Marovo lagoon prohibit the use of gill nets, stupeficients, spearguns, and night-diving with flashlights. Blast fishing is forbidden by all groups. In many cases, with the exception of blast fishing, these techniques may be used by primary rights-holders but not by outsiders (Hviding, 1990).

### *Conservation Measures*

Group leaders and resource owners temporarily close, by taboo, portions of their marine territory to both group members and outsiders, as in Lau Lagoon, Malaita Province, where each owner can prohibit all fishing for periods of 2-3 months (Akimichi 1978). Closures of several weeks are announced to permit accumulation of enough fish to provision a major group celebration. Longer periods are also common: trochus reefs may be closed for up to two years, to allow stock replenishment, and the taking of turtle eggs and nesting turtles in the Hele islands have occasionally been banned for a year or more (Hviding, 1990).

Marovoans believe the most important task of the resources "management team" (see below) is to ensure that the resource base is maintained for the sake of future generations. Thus resource conservation is now a key concern for most group leaders and their "management teams" (Hviding, 1990). Despite modern pressures, in Solomon Islands, as throughout Melanesia, this task is made easier by the intimate and spiritual association between peoples and their environments.

### *Traditional Authority*

Three levels of traditional authority exist in Solomon Islands (1) senior decision-makers (chiefs, village elders), (2) reef owners, and (3) community- or group-leaders (Ruttley, 1987).

*(i) Senior Decision-makers*

The group constitutes the ultimate decision-makers, those concerned with the fundamental issues regarding adjudication and use of rights. Their principal decision-making role covers allocation rights to outsiders, authorizing primary rights holders to engage in commercial activities, and resolving disputes over rights (Ruttley, 1987).

Marovo society provides an example. There, resource management is headed by a senior male (*bangara*), the main trustee and spokesman for the group, assisted and advised by other "big men" (*palabatu*) and "keepers" (*chakei*) of the group. Such "management teams" formulate and enforce resource use regulations. The senior leader's position is generally inherited patrilineally, although to assume that position a man must be of good character. Men generally remain as senior leaders until they either die or become infirm (Hviding, 1990).

Commercial fishing is commonly subject to the chief's authority, although this is not universal throughout Solomon Islands. In some cases it relates only to the collection of certain species of shellfish. For example, at Marau Sound, Guadalcanal Province, the chief's permission is required only for commercial harvesting of clams, and at Kia and Tatamba, in Isabel Province, it is required for the commercial harvesting of trochus. Chiefly control over commercial activities is common in Western, Malaita, Isabel, and Central provinces, whereas it is uncommon in Guadalcanal, Makira and Temotu provinces (Ruttley, 1987).

The imposition of seasonal and/or area closures is usually the role of the chief. This often takes the form of a taboo, and is generally done to allow stock recovery, especially to provide for the extra needs of a feast or other special event. This can also be the prerogative of reef owners.

*(ii) Reef Owners*

This group generally controls decisions regarding temporal and areal closures within a rights area, and restrictions on gear types and other fishing activities. This occurs at Lau lagoon, Malaita Province (Akimichi, 1978).

*(iii) Community- or Group-leaders*

These men make decisions regarding such communal fishing activities as trapping and the use of encircling nets (Ruttley, 1987).

*Enforcement*

In Marovo Lagoon, enforcement of regulations varies according to the degree of commercialization, and qualifications acceptable for an outsider to gain access at one time may no longer be valid shortly thereafter. For example, during the mid-1980s, when there were many small-scale commercial fishing ventures in Marovo, regulations concerning the access of outsiders, gear and species were generally strictly enforced. In contrast in 1986-1987, when there was little commercial fishing, regulations were less strictly enforced (Hviding, 1990).

*Conflict Resolution and Sanctions*

There are four principal types of conflict (Ruttley, 1987):



- (1) infringement by either holders of exclusive rights or by outsiders of a taboo over a portion of the customary fishing area;
- (2) fishing without permission in the territory of a neighbouring community;
- (3) rival claims between individual exclusive rights-holders from the same social group or between two different social units to particular fishing grounds; and
- (4) the incorporation of marine areas into disputes regarding adjacent land areas.

Disputes of types 1 and 2, which arise from breaches of customary law, are generally easily resolved by customary means. Such intra-village disputes as types 3 and 4 are generally resolved by the parties in conflict, supervised by their village leaders. However, the leaders of the different social groups will meet if disputes involve members of different clans or lineages. Several different types of local institutions are involved: public meetings, as at Buala, in Isabel Province; customary court, as at Olevuga, Central Province; or a "customary committee", as at Olevuga-Gaubata, Central Province (Ruttley, 1987).

In other cases resolution is attempted at a series of levels. At Aveta village, Utupua Island, Temotu Province, for example, a dispute is first heard by the group leader. If he fails to resolve it the chief intervenes. If he, too, fails to resolve the conflict, other group leaders and elders are requested to help seek a solution (Ruttley, 1987).

Customary law is backed by the national court system. If the former fails to resolve disputes, formal courts can impose a decision. Whereas some communities have switched entirely from the customary law to the formal court system for all disputes, as at Vangunu Island, Western Province, and Russell Island, Central Province, in other locations the means of resolution selected depends on the nature of the conflict, as in Malaita, Isabel and Central provinces (Ruttley, 1987).

Among the Marovoans, in settling disputes and validating rights, the relationship of a group to its marine territory is demonstrated by knowledge of ancestral skull shrines, placed on islets in the barrier reef, of genealogies and oral tradition, and of the nomenclature of the local marine and terrestrial environments (Hviding, 1990).

In Marovo Lagoon, the interpretation of secondary rights is a common cause of dispute. There, fishermen commonly interpret kinship links to maximize their access rights to the widest area possible (Hviding and Baines, 1992). Often this does not accord with a local "management team's" perception of the man's rights, whom they classify as an outsider. As a consequence, claims to primary rights may be re-defined as secondary entitlements, or a claimant of diffuse secondary rights might be regarded as an outsider, and instructed to seek permission properly (Hviding, 1990).

### *Sanctions*

Traditional sanctions are generally imposed for infringement of customary laws. Sanctions include reprimands and gentle reminders to abide by protocol (Ruttley, 1987). In Marovo society, for example, public conflict and criticism and causing shame are avoided. There, when regulations have been infringed once or twice, the senior group leader of the offended group either directly or indirectly sends a letter advising that some unnamed people from the group to which the trespasser belongs have been trespassing, and reminding of the requirement to seek prior permission. But repeated trespass is made public and the offender shamed (Hviding, 1990).

More serious breaches of rules require compensation, in the form of pigs, food, shell money, cash, or the return of the actual resource taken (Ruttley, 1987; Hviding, 1990). Among the Marovoans the most notorious trespassers are ostracized. This is the most serious sanction applied (Hviding and Baines, 1992). Rights are neither withdrawn nor forfeited for infringement of fishing rights or rules (Ruttley, 1987).

For yet more serious offenses police help is sought, and offenders are sanctioned according to statutory law. This is done for blast fishing, for example, which is in contravention of both customary law in Marovo (Hviding, 1990) and statutory law nationwide.

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## VANUATU

Under the *Independence Constitution (1980)*, all land and customary fishing grounds that had been alienated reverted to their customary owners, with whom they now reside (Government of Vanuatu, 1980a).

### *Marine Territories*

Since villages are widely separated, sea territories are large. That of Eton Village, Efate Island, for example, extends for some 35-40 km on either side of the village proper (Fairbairn, 1990).

### *Boundaries*

Legally, based on the *Land Reform Regulation (No. 31)* of 1980, the rights of indigenous customary owners of inshore waters extend seaward only to the seaward slope of the fringing reef (Government of Vanuatu, 1980b). However, many villages make claims for more extensive areas; some extending to the horizon and including sea areas between the reef slope and off-shore islands (Fairbairn, 1990). Eton Village claims that its sea area extends for 50 m beyond the reef slope, and at Eratap Village, also on Efate, villagers extend their claim by 100 m to embrace four small islands. Where villages on one island own land on a neighbouring island, they claim the sea area between the islands as, for example, those on Uripiv Island, the "home" island, claim the sea between it and Uriv Island (Fairbairn, 1990).

Taurakoto (1984) observes that, according to Melanesian custom, seaward boundaries in Vanuatu extended as far as a person could fish or dive for shells. Seawards reefs, in deeper waters, are not owned.

Lateral boundaries of sea territories are a seawards extension of terrestrial boundaries. Some are marked by large rivers. However, many lateral boundaries are imprecisely marked, and have given rise to serious disputes.

### *Fishing Rights*

As a rule, villagers have exclusive and equal rights to use adjacent reef fishing grounds (David, 1990). In general, reefs and lagoons remain the common property of the villages, although there are individual ownership rights (Fairbairn, 1990). However there is apparently considerable diversity within Vanuatu. According to Taurakoto (1984), reef boundaries are determined based on where a person's ancestors landed on the island, or what rights they negotiated, and also on the area of land above the high water mark owned by a person.

In certain areas on Ambae Island, as well as in southeast Ambrym, the scarce reefs are minutely sub-divided, single coral rocks on reefs allocated to heads of families, trespass on which required payment of compensation. In yet other parts of the island access anywhere is free to all residents (Kenneth and Silas, 1986).

On Lelapa island all reefs were divided as the property of the six chiefs of the six villages on the islands (Taurakoto, 1984).

Whereas the ownership rights are clearly recognized, the precise geographical areas to which these rights apply are often unclear. Rights are most straightforward where authority is vested in a

single person, the village chief, who then controls the entire reef on behalf of the village. Ownership is also clear-cut in isolated locations.

Landowners have special rights in adjacent waters, including that to lease parts of their reefs, although this right is subject to the approval of the Village (or Area) Council and the chiefs. Such exclusive rights also include that to use areas close to land for such special purposes as mooring sites, construction of fish traps or the establishment of breeding areas for shellfish.

#### *Acquisition of Rights*

Primary rights of resident villagers are inherited (Taurakoto, 1984). Inland villages without primary rights to coastal waters gain access to fisheries through kinship ties in coastal villages, since the interior was settled by migrants from the coast. However, such a right may be either reciprocal, with coastal villages gaining hunting rights in the interior, or in return for a traditional payment of pigs, *kava* (*Piper methysticum*), taro, or other valued items (Fairbairn, 1990).

#### *Rights of Outsiders*

Neighbouring villagers are generally allowed to use fishing areas if they first inform the owning village and, generally, also receive the permission of the Village Council. Hitherto, such arrangement seems to have been reciprocal, although the practise is now rare.

Commercialization has now become a consideration in granting access rights. At Erakor Village, Efate island, all outsiders must now seek the permission of the Village Council and pay a fee. One outsider was harvesting *bêche-de-mer*, for which he paid an annual fee of approximately US\$ 90, and another was harvesting trochus and paying an annual fee of about US\$ 18 (Fairbairn, 1990).

#### *Traditional Authority*

There appear to be significant differences in local control and management of lagoon and reef areas (Fairbairn, 1990). However, they are generally controlled by the Village Council, composed of village chiefs and elders, and sometimes by an Area Council, made-up of leaders from several villages, and by the landowners. There is much blurring of authority, but usually the Village Council is the paramount authority, although the principal chief is often the dominant influence, especially if he is also a major landowner.

Enforcement is problematical because of the large size of village sea territories. Poaching is discouraged by the posting of public notices on adjacent land borders, and Eton and Erakor villages regularly use the radio to warn against poaching.

In almost every instance, the Village Council is the principal authority governing reef and lagoon use. It has the power to impose fishing bans, enforce government regulation, resolve conflicts with neighbouring villages, and grant access rights and other arrangements with outsiders. An Area Council has an important role in reef and lagoon management, particularly when the areas and interests of several villages are concerned.

#### *Sanctions*

Offenders are simply told to leave an area. Serious offenses are brought before the Village Council. Traditional compensation may be paid by the village of the offender, in the form of pigs and *kava*.

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