

Marine Tenure and Rights to Resources in the Milne Bay Province, Papua New Guinea.

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Introduction

The Milne Bay Province (MBP) lies at the far eastern tip of Papua New Guinea (PNG) and is dominated geographically by its marine environment. It has a maritime area of approximately 110,000 km² and contains some of the most biologically diverse and pristine coral reefs, mangrove forests, and seagrass beds in the world (Sekhran and Miller, 1994; Allen *et al*, 2003), and is now the target of a major UNDP conservation intervention, which has been subcontracted to Conservation International (CI) to implement.

The majority of the province's 210,000 inhabitants live in coastal or island communities. They are predominantly matrilineal, so that clan membership, territorial rights, and inheritance are determined through the female line; and rely mainly on fishing, trade and subsistence agriculture for their food security and livelihoods.

The MBP is the largest producer of beche-de-mer in PNG and pressure exerted on all marine resources is increasing given the burgeoning population of the province (currently growing at 2.5% per annum), the increasing desire for cash, the effects of droughts in recent years, greater access to remote locations and the decline in traditional income sources such as copra. Average annual income per household has been estimated at US\$130.00 (Kinch, 2001a; Mitchell *et al*, 2001).

'Traditional' Tenure

Marine tenure in some areas of Melanesia can be very complex. In some areas this has developed into strict exclusive rights over types of fishing gear, fish species, and seasons as well as locations (Hviding, 1996; Aswani, 1999; Carrier, 1981).

In the MBP, ownership of sea and reef areas by individuals, families or clans at present is fluid and ephemeral and lacks clearly defined boundaries.

There is no real territoriality with respect to the sea . . . almost all people found the idea of territoriality extending to the sea alien and ludicrous (Gerritsen and McIntyre, 1986).

Stevens (1994) writes when consulting people about the now defunct Coral Sea Fisheries:

I had anticipated that ownership could be quite complicated – being fragmented into clan, sub-clan and family groups. However the Councilor from Bwagaman, said that areas of reefs belong to particular islands. No matter which clans reside there they can all fish the same areas.

The Department of Primary Industries (1981) records for Ware Island:

. . . it is not desirable to discuss with village fishermen traditional fishing boundaries because in general they don't exist.

Hayes (1993) states:

On Ware, distant islets and reefs are collectively owned by the whole community rather than associated with clans as such, and the same applies to the surrounding reefs where most subsistence fishing takes place (see also Belshaw, 1955).

There are exceptions though where , the reef is divided into distinct clan and family claims such as the village of Kavataria in the Trobriand Islands (Williamson, 1989). There is a similar report of such lower level claims to reefs from Tubetube nearly a century ago (Seligman, 1910).

Today, increasing commercialization of marine resources has seen the development of a mosaic of clan owned reefs in some areas. This has been observed at Sudest where the commercial use of marine resources has altered the previously open-use policy to one where the reef is now divided into family or clan boundaries of ownership (Ralphael Kiltus, Sudest Islander, pers. comm, 1998; also see Stevens, 1990).

This has been exasperated in recent years by the introduction of new technologies such as dinghies (Smaalders and Kinch, 2003), which has resulted in some reefs areas that had not been property previously, now becoming property and forming the basis of large territorial disputes. One of which will be discussed below.

In general, it has been accepted that sea tenure institutions have been overwhelmed by wider global political and economic contests over natural resources, both pre and post colonial, or by situations where the difficulties of exclusion and the subtractability of benefits have intensified (Foale and Manele, in press).

These assumptions call up an important question for the MBP - is the rise of tenure a reintroduction of older defunct institutions or the development of something new which is reactive to external pressures? Personally, I think the latter but there is a need for further investigation. It is possible that there have long been understandings about how people should conduct themselves in their relations with each other which are completely taken for granted but which do, in effect, potentially mark out fuzzily defined sea territories. As often seen, under external pressure these then get firmed up, pushed out, and consciously manipulated.

Freehold Title in the Milne Bay Province

In 1909 the government disallowed any further applications for the alienation of small uninhabited islands that might have been stopping places for Papuan canoes or visited by their fishermen. This suggests that the colonial government was already conscious in the first decade of the 20th Century of claims by local landowners to isolated (and unoccupied) reefs and islands (United States of America Armed Forces. 1942).

The Conflict Group is one of the largest areas that has been alienated in the MBP. A retired US Attorney General now owns this freehold land and the islands are currently up for sale for US\$ 25 million. CI is presently investigating the possibility of purchasing these islands, which would be returned to customary ownership (after appropriate genealogical studies) with covenants attached.

Rights to Resources

In Melanesia, a number of works have shown that territoriality in coastal waters only came into existence in response to the commencement of trade in valuable marine resources and this was sufficient to aggravate disputes over tenure (see Carrier, 1981; Johannes, 1982a,b; Akimichi, 1995; Polunin, 1984).

Traditionally, Mailu people from the Central Province used to sail to the MBP each year where they would dive for conus shells, which they use for ceremonial exchange (Swadling 1994). This stopped when it was observed that Mailu people were also diving for valuable marine resources such as trochus, clam and beche-de-mer (Heveve, 1977; Elimo, 1986).

During the operation of Coral Sea Fisheries, Brooker people closed off their areas to outsiders, though fishing for local consumption was not restricted (Louisiade Local Government Council, 1994). In some cases, areas such as deep water, which were, only used previously for travel, also came under claim. Willis (1993) writes

For the open and deep-sea water areas . . . up until now, only have been used for travel. With the new technologies proposed to be used by Coral Sea Fisheries, it is expected that fish will be caught in these areas. Once this is realised, claims of who has rights to what areas will be made. Disputes are bound to arise (see also Huber, 1993).

As can be seen when marine resources come to represent cash at the market, villages begin to guard their rights jealously and arguments have developed over exactly where boundaries lie and who, by virtue of clan or village ties, has the right to fish within these boundaries. The fluidity of the situation also increases with boundary permeability between groups due to a long history of friendship, kinship or trading.

An Anatomy of a Dispute

In certain areas, like Australia the historical context of ownership exists in legends and mythical stories. Also in the MBP, features within the seascape are named after events and mythical characters, providing people with a visible historical anchor and some groups have used these stories to validate claims of ownership, though this is not always that case though (Macintyre 1983).

Ware and Brooker Islanders have had a long running dispute over the Bramble Haven/Long Reefs and the Nabaina and Nagobi Islands (Kinch 1999; Kinch 2000) and the problem has escalated in recent years due to the increase in prices paid on beche-de-mer and a subsequent rise in harvesting.

This long-running dispute finally became confrontational in 1998 when Ware people confiscated bags of processed beche-de-mer belonging to Brooker people at Nabaina Island. In mid-1999, Ware people confiscated the engine handle off a local fishing company's vessel, which was purchasing clam muscle and crayfish from Brooker people who were once again based at the island. A court order was finally placed restricting both parties from harvesting marine resources after further attacks by Ware people on Brooker people and canoes in late 2000, and early 2001.

In the lead up to the court mediation, Brooker people began to mobilize mythological events with the area to validate their rights to the islands under dispute, and used other linguistic evidence and historical associations for substantiation. The passage Liwaus that is designated by Brooker people as the territorial boundary is also a language boundary between the Misima and Tubetube languages, with most named places to the east of this passage are in the Misiman language, those to the west are in the Tubetube language.

The major myth which Brooker people used to substantiate their claims was the one of Manak nagobi which originates from Eborra on the western tip of Misima. This legend details the story of a Meisoga woman who was crossing a river and was swept out to sea where she eventually came to Nagobi Island. She later gave birth to Manak nagobi who was a bird being. As he grew bigger and stronger he flew further a field where one day he flew back all the way to Misima where he collected a house and returned to his mother. People later followed in his direction and found him and his mother. He would go out and catch fish using his wings as a sweeping net. Several places in this area are named after actions of Manak nagobi including reefs, a lagoon, a tree and some rocks. As the original clan migratory routes extend from Misima, people in the outer islands claim this story as their own.

Counter claims from Ware also used mythological associations, but most of their claims extend from a later association with the island during the plantation expansion era in the 1960s when

Bob Bunting moved Ware boys to the area. The association between Ware people and Buntings provided opportunities for widespread economic activity and certain legitimacy to the disputed area. In fact the government thought so to, as alienated plantations close to Ware were returned to them in 1983.

Finally, in late 2002, two court mediations were held. The first mediation rejected the use of mythological associations and requested proper clan and genealogical connections. The final mediation ruled in favour of the Brooker claimants, who interestingly enough are from the Meisoga Clan, the same one as in the mythological story. The original Meisoga clan had migrated all the way to Ware leaving one family and then returning to reside at Pana ala-alan where another descendent family resides. The successful claimant from Pana ala-alan is actually the nephew of claimant from Ware and therefore junior. However, the mediators ruled in favour of him because his family was actually residing in closer proximity to the disputed area.

The final ruling states that the Meisoga clan of Pana ala-alan island now extends invitation to the communities of Brooker and Ware islands to harvest marine resources for consumption and/or for commercial purposes. A diving and fishing boundary was also established at a sand bank called Hipopomwa which lies half way in the disputed area. Neither communities' are allowed past this point.

The present situation sees certain groups at Ware not happy with the results of the mediation and now mobilizing to have the findings contested in a higher court. And so it goes on.

Property Rights and Management

All over the world fisheries are collapsing (Hutchings, 2000) through recruitment overfishing. As we all know, the 'tragedy of the commons' dilemma develops when there are too many users of a limited resource (Hardin, 1968; Hardin and Boden, 1976).

In the MBP, historical low population densities combined with a large resource base did not foster a tenureship system or a conservation ethic unlike some small atoll systems in the Pacific who learnt fast the limits of their environment. However, when the resource starts to become scarce as seen in some fisheries, then special care has to be taken as open access is an undesirable regime under which to exploit a natural resource, at least when extraction becomes intensive (Foale and Manele, in press).

The problem is that, in the current fisheries of the MBP, there will be situations in which the potential benefits will be so high that even strongly committed individuals will break norms, like when the price of beche-de-mer is high or a commercial fishing company visits the area, and free-riding will result. As long as profit can be gained, people will continue to enter the system and compete for diminishing resources until all true profit is dissipated.

Recent research on small-scale coastal fisheries in the Pacific has shown that a degree of regulated access, enforced at the local level through community institutions and social practices, as the best chance of success (McCay and Acheson, 1987; Ruddle *et al*, 1992). This is because when resources are located within a bounded common property regime, participants can prevent non-members resource access while enforcing limits on resource use among themselves. In this situation, the regeneration rate of resources is more likely to be sustainable (Aswani, 1999).

The use of Locally Managed Marine Areas (LMMAs), a more culturally appropriate name than the old Marine Protected Areas (MPAs) is now becoming increasingly popular as a management tool amongst conservationists and fisheries managers particularly in developing countries.

As mentioned earlier, CI has been sub-contracted by the UNDP to execute the Milne Bay Community-based Coastal and Marine Conservation Program (CMCP), which constitutes the largest marine resource management and conservation initiative to date. It is to be an intended 10-year program (divided into two phases) assisting many communities in village-based marine resource management and conservation activities aimed at the betterment of their lives and security of their livelihoods. The ultimate goal of the CMCP is to secure a representative sample of globally significant marine biodiversity in the MBP via the establishment of community owned and hopefully driven resource management framework with assistance from the National and Provincial governments, the private sector and other NGOs.

By social necessity many of the LMMAs that will be developed under CMCP activities are likely to be small and numerous, often with small separating distances, thus forming a network of refuges. The geographic scale of stock-recruitment relationships must also coincide, with the scale of tenure if the LMMA concept is to gain acceptance at the community level. Also, if a fishery's stock-recruitment relationship is not effective within a group's territorial boundary (i.e. if larval longevity and the prevailing current regime means that larvae is dispersed out of one group's territory and into that belonging to another group), then there would be little reason for the first group to embrace the LMMA as a management tool (Foale and Manele, in press; Kinch, pers. obs.). This has already been observed at Panapompom Island where some members argue the relevance of reef set-asides that would benefit others.

Given the present loosely defined tenure-ship system, and the lack of a conservation ethic among some targeted resource-owning groups in the MBP, one method of trailing LMMAs will be the modifying the practice of traditional reef closure, which was carried out for a certain length of time ranging from several months to several years following a death (Kinch, 2002a). These closures in a modified form could be employed to enhance local self-sufficiency by promoting culturally appropriate and environmentally sustainable adaptations acceptable to people as they exploit their resources commercially.

This practice has already been modified in some parts of the MBP. For example, at Skelton Island in the Engineer Group where community members decided to apply this modified traditional practice of closure to allow the numbers of beche-de-mer and trochus to replenish so money could be made available for a new church building.

Criticism leveled at closure systems are that they are nor really effective in fishery management because each time the closure is lifted and there is a harvest, the removal of most or all of the spawning stock occurs so that all new recruits have to come from elsewhere, unless the closure has been left on for long enough that the population is actually starting to self-seed a bit (depending on local currents), and you have a population of (possibly cryptic) pre-recruits that is maybe larger than before (Foale, pers. comm.).

Also, if there is a heavy economic pressure a closed season does not work well. There would be a need under the CMCP to link modified traditional closures with awareness and extension on the need for quotas, and/or size limits. Once people understand the relationship between husbanding breeding stocks and increasing the rate of recruitment (and thus yields), then they can start to use closure systems (Foale and Manele, in press). There are difficulties however in the development of such an ethic in a region where cultural norms militate against it, and the low population density of people in the past means that they have only just started to come up against their carrying capacity of their environment.

Husbanding marine resources is in fact conceptually no different from husbanding money. Conservationists and resource management advisors often compare marine resources to money in the bank, imploring reef owners to try to harvest only the 'interest' (i.e. sustainable yield), and not to eat into their capital. Unfortunately, notions of formal economics are not well understood by villagers and capitalism has mostly failed spectacularly in Melanesia due to social pressure on the would-be entrepreneur to be seen to be generous (Foale and Manele, in press; Brooks, 1996).

As mentioned above, it is the commodification of marine resources that underpins the majority of conflicts over property rights and which also poses obstacles for the development of LMMAs in the MBP. There also appears to be no way of avoiding the increasing engagement of resource owners with the global market (Kinch 2002b). In the meantime Western environmentalist concerns about extinction (Roberts and Hawkins 1999) have led to a preoccupation among the eco-global NGOs with accessing and closing off the most globally important reefs and coastal zones (Foale and Manele, in press; Kinch, pers. obs.), which are the basis for many community livelihoods. There needs to be a trade-off between ecological considerations on the one hand, and economic and social considerations of the targeted resource owners on the other, as positions based on ecological purism alone are unlikely to succeed.

In recognition of this, the CMCP is designated to develop protected areas under the IUCN Category VI, which means it allows any protected areas to be of multiple-use. This is important, because villagers in the MBP are generally more concerned with the immediate benefits of resource use and are unlikely to be convinced about, or even interested in, the 'global importance' of their reefs (Foale 2001; Kinch, 2001, 2002a).

Summary and Conclusion

Property rights and marine tenure have a crucial bearing on questions of resource sustainability for the MBP and there is a need to understand how institutions help users cope with resource use problems, particularly in a changing political, ecological and social world. Traditionally, when everyone got all the fish they wanted, rights and boundaries were often hazily defined as there was no need for great precision. Growing harvesting pressure on marine resources is linked to the consequences of the process of commercialisation of these resources and in most areas has led to increased frequency of disputes over ownership rights.

All these disputes over access to marine resources, and territories are very significant and will be of major importance in the context of any conservation-related activities that CI tries to implement. Emphasis may need to be put on supporting any programs relating to demarcation of marine territories and on encouraging the resource owners to exploit the resources within their sustainable limits.

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