The wise management of fishing grounds is fundamental to the sustainable use of marine resources. This is especially so for village-based inshore fishing in the South Pacific, because of the generally restricted area 'owned' by villagers as their traditional, exclusive fishing ground. In this region intensification of fishing efforts in response to increased population, combined with the now greater efficiency of fishing and the resultant consistency of catches, is resulting in the depletion of fisheries in traditional village waters. Since fishing grounds covered by traditional ownership are the most productive inshore fishing areas in the Pacific, as well as being the areas closest and most accessible to villagers, they are those most threatened by overfishing.

Although commercial fishing is relatively recent in most Pacific Island villages, it is a major cause of socio-cultural and environmental change. Village-level fishing includes a wide range of activities that influence society and culture, as well as being a source of employment. However, despite the wide acceptance and adoption of modern fishing and fish marketing practices, traditional influences remain. For example, despite having purchased expensive fishing gear, fuel, and other inputs, fishers are often unable to demand cash for their effort. Generally, too, they still observe certain traditional fishing practices.

In Fiji, village-level commercial fishing is expanding rapidly and involves most of the estimated 20,000 subsistence fishers. Such fishing is village and lineage based. Household production units exhibit a well defined division of labour, with men and women working either individually or collectively to earn cash for the family. In 1991, the number of licences to fish inside the demarcated areas (IDA) increased to 1,975. This did not include either most indigenous Fijian fishers, who do not require licences to fish in their own traditional fishing grounds, or the many people who participate in fishing-related activity.

Fishing practices used in the Pacific are varied, and reflect the fishers’ understanding of fish behaviour and the local fishing grounds. Although the sustainability of fisheries resources was not necessarily a specific objective of traditional fishers, it would appear to have been assured under the system of fishing used in former times. The fishing methods and practices used, although occasionally destructive, generally promoted the sustainable use of resources within the limited areas exploited. Problems began, however, when traditional fishing methods were abandoned in favour of newer and more efficient methods, and when fishing became commercialised.
Most village fishers, unless they have personally experienced the collapse of a fishery, still believe in the inherent capacity of an ecosystem to restore itself, regardless of the destabilising effect of increasing effort. It is therefore difficult to convince fishers of the need to exercise caution in their fishing, and that fisheries resources require careful management if they are to remain renewable.

The current deterioration of fisheries in areas under the responsibility of traditional fishing ground owners is now perhaps the major fisheries sector challenge to Pacific Island governments, because of the complexity of the problem. In nearly all cases, there occur the contradictory demands for the maximisation of production with the sustainable use of resources. Traditional practices and fishing methods have been altered while the adoption of new practices has changed the way fisheries resources are perceived and managed. Given this situation, it is inevitable that whatever fisheries management approach is adopted, it must comprise a blending of both the traditional and contemporary systems. Any management programme must be acceptable to most of the fishers and accommodate the socio-cultural features of coastal communities. Total reliance on any one system is doomed to fail.

Traditional resources management

The primary objective of any management programme in coastal communities should be the sustainable development and use of marine resources. This was possible in the past because fishers were fewer in number, had lesser needs and a limited fishing capacity. Further, socio-cultural conditions were such that custom and tradition were strong enough to support and enforce sustainable use practices. But conditions today are vastly different. Nowadays sustainable fisheries resources management is being undermined by such factors as the emphasis on production and participation in the formal economy, and by an increased fishing capacity that can easily result in overfishing, a lack of information on which to base management, and the destabilising influence of the cash economy. Under these conditions the best way to develop a sustainable fisheries management system is to strengthen traditional fisheries management practices and make them consistent with contemporary legislation and government policy, so as to enhance their effectiveness.

The sea and its resources were formerly treated with the utmost reverence by traditional fishers throughout the Pacific. For example, the Tatana villagers, in Port Moresby harbour, Papua New Guinea, formerly collected dead turtles and fish for burial on land, so as to avoid the pollution of their fishing area and also prevent shark infestation (Gaigo, 1982: 301). Similar practices were common in the Pacific.

But it must be also remembered that Pacific Islanders have employed some destructive practices. In parts of the region destructive methods such as fish poisoning and fish drives were used. But small human populations and their limited fishing capacity reduced the impact of such practices and kept them localised. Thus local ecosystems could regenerate. Generally, coral reefs, seagrass beds and mangroves were well managed, since their importance to the sustainable production of fisheries was widely understood. Thus in Fijian coastal communities the traditional land rights claim includes the land and the contiguous sea area, including the reef. Geographical isolation and the resultant difficulties of transportation associated with village life, together with the limitations they imposed on marketing, were important indirect conservation devices, because they limited fishing effort to satisfying just local needs. Further, there was little call for fish marketing, since there were fishers in all villages and most households did their own subsistence fishing. In most Fijian villages, because of role specialisation, fishing was normally done by the master fishers, who are from particular families. These conditions limited fishing effort and contributed to resource conservation.

The use of traditional techniques made fishing dependent on the weather. Thus fishing was occasionally impossible. The reliance on sail was a major factor limiting the fishing areas that could be visited.

Totemic and other taboos, such as those that restrict particular clans, families, age groups, or genders from eating certain types of marine food, contribute towards conservation sustenance (Johannes 1982: 240). In parts of Papua New Guinea, for example, turtles and dugongs were eaten only on special occasions, and the fishing of certain species was banned during specified periods, especially spawning times (Johannes 1982: 246). In Qoma, a fishing village on the north-east coast of Viti Levu, as well as in other parts of Fiji, fishers neither catch nor eat their totem fish. In traditional Fijian society the prohibition on turtle meat and/or turtle egg consumption in some areas and the restricted use of the breeding pool of mullet were management practices supervised by the chiefs (Siwatibau 1984: 368). In Naigani and in Nasomo, in Vanua Balavu, Fiji, the special fishing for which these villages are famous is conducted only if the master fisher (bete)
approves. These various limitations exemplify some of the different fisheries management measures used in the Pacific.

The most important form of marine conservation used in Fiji and elsewhere in the Pacific is the village ownership of an exclusive fishing ground extending to the outer reef, and the right to fish in any part of the reef or lagoon. In former times fishing area boundaries were clearly defined. But nowadays boundary determination is a major issue that requires formal governmental determination. Fishing within this area by outsiders is resented. A presentation of whale tooth (tabua) and kava (yaqona; Piper methysticum) is made to seek permission from the fishing ground owners (Kunatuba, 1983:48).

A fishing ground owner can, from time to time, declare a portion of his fishing ground out of bounds, in order to ensure a supply of fish for a particular purpose. In Fiji certain rituals relating to births, marriages and deaths performed in parts of the fishing grounds impose periodic prohibition on fishing in an area. People who bury the dead can use any section of the fishing ground (qoliqoli) for washing their hands and legs and the tools used at the burial ceremony. This section is then out of bounds (tabu), normally for one hundred nights, so as to provide enough fish for the food gift for the kin of the deceased (Ravuvu 1983).

In Qoma, much of the prohibition associated with fishing is related to the management of the fisheries. During fish drives, for instance, people are forbidden to eat, defecate, urinate or make unnecessary noise. The belief is that the fish will disappear if any of the prohibition (tabu) is broken. With turtle fishing, the traditional presentation of kava to summon turtle fishing (sevusevu ni lawa), is a means of limiting the catch and safeguarding the resources. Amongst the Islanders, it is believed that the ancestors will provide a catch only to meet the purpose for which the fishing is being done. During the presentation of kava, the particular purpose of the fishing should be clearly specified. A net cannot be used to fish for two purposes at the same time. People also believe that unless the fishers are righteous, they will fail to catch a turtle. This serves to limit turtling because some people have stopped seeking them after having been unsuccessful on many occasions.

The concept of a sacred fishing ground is widely observed. Fishing in such areas is strictly regulated, often conducted according to a prescribed code of conduct, and is enforced by beliefs of misfortune and mishap at sea. Permission to fish is sought in advance and noise kept to a minimum. The catch is restricted to subsistence and ceremonial uses only.

**Major problems of traditional fisheries management systems**

Most problems affecting traditional fishery management systems are associated with changes that are part of the commercialisation of fishing, especially the importance of cash, the modernisation of village life, pressures of urbanisation, and increasing population.

Traditional village fishers are capable of destroying fisheries resources, especially now that they have the physical capacity to over-exploit inshore marine resources. In Fiji the issue of licences inside the demarcated areas (IDA), in which the local chiefs are consulted, the control of effort and the development of other marine resources are features that can be abused easily, resulting in the depletion of fisheries resources within traditional fishing areas.

Traditional fisheries management systems can constrain national fisheries development. At present, the owners of traditional fishing grounds determine what to do with their resources. Decisions regarding the number of licences to be issued and the type(s) of fishing allowed in their areas are basically made by those concerned. At the national level this implies a need to ensure that all owners of fishing grounds make decisions that are consistent with the overall objectives of sustainable resource use. In some instances, neighbouring villagers have disagreed on boundaries to their sea areas. To reduce this type of problem, expensive boundary surveying and delimitation is required. Fishing ground owners should also be made aware that, according to national legislation, the state owns all the sea areas from the high tide mark. Ignorance of this has often resulted in problems in Fiji, because traditional fishing ground owners often do not understand the position of the state in allocating licences. Outsiders licensed by the government have occasionally been asked to explain themselves to highly suspicious traditional fishing ground owners. Further, fishing ground owners are beginning to demand increasing monetary compensation for the use of their fishing areas. Boundary disputes are likely to become common because of the implications and potential for resources ownership.

Management of fishing grounds is complicated by their common ownership characteristics. In most instances the state is now charged with the sole responsibility of managing the resource. Tradi-
Traditional fishing ground owners are taking the attitude of doing only as required when the enforcement officers are in the vicinity. For instance, dynamite fishing is still practised despite the many measures to prohibit it. Undersized fish are still sold unless violaters are apprehended.

Environmental disturbances of fishing grounds remain relatively minor in Fiji, and do not yet warrant particular management measures. Unless traditional owners have personally experienced the collapse of a fishery, they still believe in the inherent capacity of an ecosystem to regenerate, regardless of the effect of increasing fishing effort. It is ironic that even though fishers are travelling further from their villages to fish, they still do not acknowledge resource depletion in the nearer areas. Illegal fishing is becoming a major problem in traditional fishing areas close to the main population centres. In Fiji, there have been increasing reports of attacks on fishers from Suva caught operating illegally inside demarcated areas in Kadavu, Beqa, Lomaiviti, and Vanua Levu.

Management programmes must be adapted to different social and economic systems within the Pacific, and must be implemented before signs of depletion appear in the fisheries. The increased mobility of people and the decline of traditional authority make total reliance on traditional conservation methods alone inappropriate. Increasingly, fishers have little knowledge of traditional fisheries management practices. Nevertheless, it is important to note that traditional practices are perhaps still those best suited to managing Pacific Island fisheries. The system can accommodate socio-cultural conditions and be identified by most of those involved. Modification is required to ensure consistency and co-ordination with national legislation and policy.

Traditional fisheries resources management has a significant role to play in the Pacific, but it must be adapted to ensure its sensitivity to the local cultural, social and economic situation. The great deal of effort required to enable traditional resources management systems to address current management requirements can be readily justified.

References


