



**FFA**

**A Regional Assessment Of The Potential  
Role Of Customary Marine Tenure (Cmt)  
Systems In Contemporary Fisheries  
Management In The South Pacific**

**Report To The Forum Fisheries Agency**  
By Edvard Hviding And Kenneth Ruddle

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**A REGIONAL ASSESSMENT OF THE POTENTIAL ROLE OF CUSTOMARY  
MARINE TENURE (CMT) SYSTEMS IN CONTEMPORARY FISHERIES  
MANAGEMENT IN THE SOUTH PACIFIC**

Report to the **Forum Fisheries Agency**

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REFERENCES CITED

ATTACHMENTS:

1: Statement of the workshop "People, Society and Pacific Islands Fisheries

Development and Management", SPC 23rd Regional Technical Meeting on Fisheries

2: Itinerary, Edvard Hviding and Kenneth Ruddle, August 1991

## ACRONYMS USED IN TEXT

CDS	Centre for Development Studies, University of Bergen
CMT	"Customary Marine Tenure" (see definition in text, p. 1)
FAO	United Nations Food and Agriculture Organization
FFA	Forum Fisheries Agency
FSM	Federated States of Micronesia
ICLARM	International Center for Living Aquatic Resources Management
ICOD	International Center for Ocean Development
IMR	Institute of Marine Resources, University of the South Pacific
RTMF	Regional Technical Meeting on Fisheries, South Pacific Commission
SOPAC	South Pacific Applied Geoscience Commission
SPREP	South Pacific Regional Environment Programme
SPC	South Pacific Commission
UOB	University of Bergen, Norway
UPNG	University of Papua New Guinea
USP	University of the South Pacific

## PREFACE

The consultancy on which this report is based was undertaken in August 1991 by **Edvard Hviding** and **Kenneth Ruddle**, both of the Centre for Development Studies, University of Bergen, Norway. The terms of reference were:

"As a basis for future consideration in developing assistance in improving knowledge of traditional aspects of fisheries exploitation and conservation in FFA member countries, the consultants will: -

(1) during the period 5-9 August, 1991, in Noumea, participate in and present a paper (co-authored with Dr. R.E. Johannes) at a workshop "People, Society and Pacific Islands Fisheries Development and Management", within the framework of the 23rd Regional Technical Meeting on Fisheries, of the South Pacific Commission;

(2) based on discussions with representatives from FFA member states at the Noumea SPC Meeting, and with fisheries officers in Honiara and Port Vila,

(a) assess current knowledge of traditional practices and suggest processes by which information relating to them can be improved;

(b) suggest ways in which traditional aspects of fisheries in the South Pacific can receive greater consideration in contemporary fisheries development and management policy and programmes; and

(c) suggest mechanisms for improving the general awareness of traditional fisheries issues throughout the South Pacific region; and

(3) prepare a succinct report on the items listed in (2) above for circulation by the FFA in the South Pacific region, for discussion purposes."

The terms of reference were fulfilled by participating in the workshop "People, Society and Pacific Islands Fisheries Development and Management" during the South Pacific Commission's 23rd Regional Technical Meeting on Fisheries (hereafter 23rd RTMF), held in Noumea, New Caledonia, 5-9 August 1991, and by subsequent travel to Solomon Islands and Vanuatu for further detailed discussion with national fisheries officers and Forum Fisheries

Agency (FFA) staff (see **Attachment 2**). A draft report was submitted to the FFA on 30 August 1991. The present final, revised version incorporates a number of suggestions arising from FFA's preliminary circulation of the draft report.

This report is based on information derived from formal presentations and discussion statements by country representatives during the one-day workshop "People, Society and Pacific Islands Fisheries Development and Management" at the 23rd RTMF, amplified by in-depth discussion with national and regional fisheries staff. The assessments required by the terms of reference were also based on a review of published and unpublished material, both official documents and research reports, on fisheries in the South Pacific region. This review is part of a larger research project on CMT systems being conducted at the Centre for Development Studies (CDS), University of Bergen by Hviding and Ruddle, in collaboration with R.E. Johannes.

In addition to formal presentations, statements and comments of country representatives during the 23rd RTMF, especially during the workshop, many persons provided important information during discussions with the consultants. We are particularly grateful to: Tim Adams, Moses Amos, Wycliffe Bakeo, Molean Chapau, Sylvester Diake, Noah Idechong, Bob Johannes, Nelson Kile, Philipp Muller, Garry Preston, G. Robin South, Gabriel Titili, and Andrew Wright.

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# **1. INTRODUCTION: THE ROLE OF CUSTOMARY MARINE TENURE (CMT) IN THE SOUTH PACIFIC REGION**

## **1.1. A Growing Awareness**

The last decade has seen a burgeoning interest in the traditional knowledge and management of marine resources, in tandem with a growing recognition that standard Western biological and economic models are inadequate for the management of tropical inshore and multi-species fisheries. Problems of resource assessment and the enforcement of and compliance with fisheries regulations have led many fisheries officials to ask whether the widespread and increasingly well-documented systems of community-based traditional fisheries management, or customary marine tenure ("CMT"<sup>1</sup>) can serve as a vehicle for locally adapted, decentralised fisheries management. This is the case not least for the Pacific Basin. In this region, there occurs probably the greatest variety, complexity and adaptability in CMT systems anywhere in the world, as demonstrated by recent volumes of case studies (Ruddle & Akimichi 1984; Ruddle & Johannes 1990). There is every reason to believe that the region has much to contribute to innovative thinking about small-scale fisheries management worldwide.

## **1.2. CMT - A Viable Alternative for Inshore Fisheries Management?**

In the South Pacific, a number of factors combine to make CMT systems a potentially valuable alternative for inshore fisheries management. A recent review of fisheries research in the region during the 1980s states, regarding the nature and scope of traditional subsistence fisheries, that:

"The decade has seen a significant increase in interest in traditional and subsistence fisheries, related to the importance of traditional fishing rights ... in many countries and their impact on inshore development. This is

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<sup>1</sup> In "CMT" or "customary marine tenure" as used here, "customary" refers to a system that emerges from firmly traditional roots, constitutes part of what is often termed 'customary law', and which has continuous links with local history as it adapts to changing contemporary circumstances; "marine" refers to the system as dealing with reefs, lagoon, coast, and open sea and including islands and islets contained in this overall seaspace; and "tenure" refers to a social process of interacting activities concerning control over territory and access to resources (Hviding 1989).

combined with the growing awareness that subsistence catches in many cases still substantially exceed inshore artisanal catches. Whilst such research generally does not lead to production increases, the central goal of most government development plans, it does facilitate an understanding of the overall exploitation of inshore resources and is fundamental to efforts to maintain this production with its considerable socio-economic and cultural implications" (Lewis 1990:72).

In that same volume, the FFA overview of options and prospects for the 1990s states that:

"For management of [the subsistence] fishery sector, it may ... be advantageous to examine traditional or customary marine management. The Pacific Islands have a rich history of traditional management that is up to now only partially documented. Studies such as these fall at least partly within the realm of socio-economic baseline research. Modern management of this fishery can then be based on traditional or cultural practices, This would then greatly facilitate its acceptance" (FFA 1990:362).

As these quotations indicate, a wider appreciation of the importance of inshore subsistence fisheries in the Pacific Islands has been accompanied by a realisation that, by and large, these fisheries are under some form of local-level management through CMT systems. In other words, CMT is gradually emerging as an important factor that cannot be ignored when examining various potential strategies in inshore fisheries development.

Further, Pacific Island CMT systems have been increasingly involved in issues beyond the village-level subsistence sector, as demonstrated by a number of recent encounters involving conflict and/or negotiations between traditional rights holders and a variety of non-local commercial developments. The latter include, for example, the industrial tuna fishery (involving baitfishing in lagoons), tourism (involving access to diving sites, and pollution), "marine products" enterprises, and coastal aquaculture (cf. Hviding 1988). CMT systems today operate under environmental, economic, social, political, and demographic circumstances that are often very different from those of even the recent past, and form an integral part of the overall context for rural development in the Pacific Islands (Johannes et al. 1991).

All this comes as no surprise to most island nationals working in the Fisheries Departments of the South Pacific nations. After all, most of them grew up in coastal villages, and many remain important actors in the village politics of resource management, while also holding jobs in the planning and implementation of national fisheries policy. Nevertheless, frustrated by a seeming lack of integration between CMT and national fisheries management needs, some officers, and also some of their expatriate counterparts, have expressed a concern that CMT systems pose serious problems for the efficient development of inshore fisheries.

However, CMT systems embrace far more than just fishing rights, and their functions range beyond the organisation of economic activities. In the Pacific Islands, CMT forms part of the framework that regulates social and political relationships and defines cultural identities. Thus in many cases abandoning a CMT system is unthinkable for villagers, since it would imply an alienation of their marine resources (Hviding 1988). And, as Kunatuba (1989) has stated: "It is important to note that the social and political setting of a fishing community is not a problem; rather it is a situation. It would prove very costly and time-consuming to try to change that 'situation'".

Some Pacific Island nations have recognised this, through legislation that embraces customary resource rights. For example, elements of the Constitutions and Fisheries Acts of Papua New Guinea, Solomon Islands, Vanuatu, and Fiji provide considerable recognition, either implicit or explicit, of CMT and associated marine resource rights. Under such circumstances, being recognised as a form of customary law, CMT systems may function as powerful mechanisms for maintaining local-level, community-based control over inshore marine resources and their development. They also may have considerable potential as decentralised management measures, enforced in a flexible manner by those groups directly involved in the long-term use of local marine resources.

### **1.3. Attaining Regional Perspectives**

Despite a growing body of information on specific CMT systems from many parts of the South Pacific (for example, those in the anthologies referred to under **1.1.**), there has been little identification of general, region-wide patterns in traditional resource management. Exceptions are reviews by Johannes (1978) and Ruddle (1988). But, this situation is changing. For example, in several sessions of the 1991 Pacific Science Congress, in Honolulu, researchers discussed the role of CMT in contemporary development, and a collaborative effort by the present authors with R.E. Johannes will

provide a synthesis of CMT issues in the South Pacific region (cf. Ruddle et al. 1991; Johannes et al. 1991.)

The emphasis on regional perspectives is also evident among fisheries managers in the South Pacific. Recently, regional organisations have promoted fora for dialogue and the exchange of views about the practical role of CMT in marine resource management and development. For example, the SPC's 1988 "Workshop on Pacific Inshore Fishery Resources" included a session on "Traditional Marine Resource Management Concepts". And, as noted above, the FFA's Tenth Anniversary Conference generated a number of statements on the place of CMT in fisheries research and policy.

At the 23rd RTMF, issues relating to people, society and the development and management of fisheries in the South Pacific were examined in a one-day workshop, the major focus of which was how to use local knowledge and customs in the management of Pacific Islands fishery resources. Presentations by invited speakers were followed by an extended round-table discussion among senior-level country representatives. This discussion highlighted a wide range of national experiences of fishery management successes, failures, conflicts, and compromises involving the government with local CMT systems, as well as new attempts at creating such involvement. The workshop yielded a number of recommendations and statements about research and policy efforts dealing directly with CMT systems and their associated systems of environmental knowledge.

The next section of the report examines some of this range of experiences and initiatives, as expressed during the 23rd RTMF, in further discussions with fisheries officials, and in various documents.

## **2. AWARENESS, RECOGNITION AND APPLICATION OF CMT IN SOUTH PACIFIC FISHERIES MANAGEMENT**

### **2.1. Introduction**

The brief reviews and assessments contained in this section have been organised according to three key dimensions, relating to (1) the awareness of traditional fisheries-related practices (i.e., CMT and associated environmental knowledge and skills) among officials responsible for fisheries management and development in the Pacific Islands; and (2) the recognition of such practices in national government policies and legislation, leading to (3) the current application of traditional practices in fisheries management

and development.

It is apparent that in most island nations, rural people frequently attempt to gain the recognition of government officers and policies for their customary resource rights, and for their traditional fisheries-related knowledge. In many countries, among them Papua New Guinea, Solomon Islands, Fiji, Vanuatu, Western Samoa, Cook Islands, Tuvalu, Palau, and the Federated States of Micronesia (FSM), there are numerous examples of traditional leaders formulating and enforcing diverse fisheries regulations through a variety of channels. In many cases, these concerns and associated measures are brought through the successive levels of formal government channels, often legislated as by-laws, and sometimes even ending up in Parliament.

## **2.2. Awareness**

Statements from country representatives at the 23rd RTMF, and subsequent discussion with national fisheries staff, demonstrated a keen awareness and knowledge of and pride in traditional fisheries knowledge and practices. In neither RTMF roundtable discussions nor in interviews was there a paucity of detailed examples of traditional aspects of fisheries knowledge and management, and their relationship to contemporary issues. On the contrary; at one point during the RTMF discussion, the chairman noted that the anecdotes told about conflicts or accommodations between CMT and outside parties were so valuable in terms of regional and thematic coverage that it would be desirable to have them collected and published.

Most national fisheries officers grew up in coastal villages (in Solomon Islands, for example, a number of the Fisheries Department staff are themselves from tribes of so-called "salt-water people" renowned for their fishing skills), and many retain strong links with their rural roots, some also being traditional resource managers in their own right, be they Samoan *matai* or other hereditary leaders, or sons of master fishermen. A number have also, either as assigned projects during training or on own initiative, documented aspects of traditional fisheries practices in their home areas. Further, their awareness of customary practices and local concerns is usually neither static nor confined to their own area, since many officers must frequently deal with different rural groups, either through touring or receiving delegations.

There is genuine interest among many fisheries officers in taking into account traditional knowledge and management practices in government fishery planning, but this may be somewhat inhibited or curtailed by several factors: (1) The belief that

traditional environmental knowledge is neither accurate nor "scientific" enough for incorporation into, for example, Western-biological or economic models for stock assessment; (2) the belief that customary management measures are so locally specific as to be of little use on the national level; and (3) a tendency (though less widespread than in many other parts of the tropics) to consider rural people and their institutions as unsophisticated and "problematic" (the more sympathetic and highly pragmatic view exemplified by Kunatuba [1989, quoted under **1.2.**] seems to be by far the most widespread, however).

Much of this is clearly a reflection of strongly Western-biased training curricula that focus exclusively on quantitative science and formalised management programmes, because a growing number of younger, educated public servants become increasingly alienated from their traditional background. The notion of "putting custom back into fisheries management" was, nevertheless, voiced frequently at the 23rd RTMF, and often backed by the argument that only by giving recognition to local custom, can it be expected that local people will comply with fisheries management measures.

It was pointed out by some officers that although traditional knowledge might be accurate as far as predicting the seasonal abundance of fish or shells (particularly trochus) was concerned, it must often be supplemented by Western science to convince local people of the need for minimum-size regulations. For example, it was pointed out for Vanuatu that local people, before the advent of the cash economy, operated in a depletion-free fishery with little need for conservation. Against such a background, many villagers tend to oppose new regulations from above, and considerable time needs to be spent in discussion and on education to convince fishermen of the need for a 9 cm minimum size on trochus. In this regard, however, it was also pointed out by many country representatives that closed seasons, whether applying to trochus reefs, reef fish aggregations or other resources, are an important element in customary management practices, and a most useful measure for achieving present-day conservation, so long as the CMT managers can be convinced of this need.

A number of fisheries officers also pointed out the inherent flexibility of unwritten CMT systems, noting that they allow for adaptation to shifting circumstances on the local micro-level, and that this flexibility should be promoted as a valuable element of CMT. And in a number of island nations, for example Fiji, Vanuatu, Solomon Islands and Western Samoa (cf. examples throughout section **3.**), the existence of viable CMT systems with a background of strong traditions and explicit legislative support simply dictates that fisheries officers take customary rights and privileges for granted, sometimes to the point of seeking active assistance from traditional resource

managers. As the leader of a trochus reseeded project in Vanuatu pointed out, with regard to newly established trials on reefs that were simultaneously tabooed for the duration of the trial, through customary law: "Only custom gives us the guarantee that we need."

### **2.3. Recognition and Application: The Role of CMT in Contemporary Fisheries Management**

At the RTMF workshop, a wide range of examples were presented of CMT managers playing an active role in fisheries management and development on various levels. A key question: Which management measures and needs can be successfully handed over to/handled by CMT? Using CMT systems is apparently good for the management of sedentary resources, but it is also relevant for finfish resources. For example, it was pointed out by the Solomon Islands RTMF representative how taboos are traditionally put on reef fishing grounds in preparation for feasts. Also, it was noted how fishermen's knowledge of spawning aggregations may be useful for planning management measures. A number of examples from throughout the region illuminate these issues further:

Papua New Guinea is seeking ways for the national government to return of the enforcement of marine resource management to local "resource owners". Since independence (1975), considerable work has been done in PNG in relation to government concern over traditional resource use and management practices. A number of marine resources, not least sedentary stocks, seem particularly vulnerable to intensified exploitation in times of high prices. The question now being examined is how fisheries managers can involve people to undertake their own sustainable resource management (Chapau et al. 1991). In this process, the devolution of power to provinces and further to community government is fundamental.

At present, the Solomon Islands Fishery Department is revising the country's fisheries policy, through which the responsibility for inshore fisheries management is to be transferred to the country's provinces, as part of a continuing process of devolution of power. Each Province will have full jurisdiction within the already existing "Provincial Waters", extending 3 nautical miles from main island shores, and each will formulate its own by-laws. The intention is also to have Provincial management match more closely customary laws. Thus, on the Provincial level, fisheries management by-laws are to be formulated and enacted through processes influenced by local chiefs, or CMT managers, whose initiatives and concerns are mediated through the Area

Councils. For example, this procedure has been followed recently when bans on turtle-netting, for periods of six months to two years along various sections of part of the coast of one of the main islands were announced and implemented, with initiatives and sanctions on all three levels of Province, Area Councils and chiefs.

In Vanuatu, government recognition of customary rights is fundamentally influenced by the fact that the Constitution does not provide for government to override customary rights. All inshore marine resource development must take into account the fact that all reefs are locally owned. The Vanuatu Constitution recognises customary rights. The fisheries legislation of Vanuatu has not been devolved to "Local Government", but remains a national responsibility. Fisheries legislation is exercised by extension officers, who are answerable to the Director of Fisheries, in Port Vila.

The question then arises of the nature of the relationships between local CMT-influenced fisheries management and nationwide, coordinated policies. In Palau, a society with highly formalised traditional political structures, the 16 states at some point all declared their own closed seasons for trochus stocks, which implied the existence of 16 different closed seasons for trochus in Palau. Under these circumstances, people have been able, through kinship-based access rights, to collect trochus continuously, notwithstanding closed seasons in their own area. Such a situation, it has been argued, would appear to inhibit the development and enforcement of a uniform policy nationwide, and so require national coordination. On the other hand, if enforced effectively at the local level, this might alternatively be viewed as a good example of rotation, whereby no single trochus stock is exploited continuously, and several resource areas are left undisturbed at any one time. (The present situation in Palau relating to the efficacy of such enforcement appears to be unclear, however.)

In recent Western Samoa fisheries policy (1988) it is recommended to attempt to merge the rules formulated by *matai* councils into legislation, and thereby obtain legal recognition. Today, if a *matai* council works to impose rules within its fisheries zone, its members consult fisheries officers. The government has to cooperate with the *matai*, and fisheries staff feel that this creates good opportunities for achieving the desired merger.

The Cook Islands Ministry of Marine Resources must receive a request from the Island Council in question before they can conduct research activities or development projects in any given island, especially concerning the pearl oyster industry, where there is an expressed need for national-level policy considerations. In the pre-colonial Cook Islands, a variety of CMT laws were obeyed, and it is still noted that policing of marine

regulations must come from within communities.

Legal regulations in French Polynesia's highly valuable pearl oyster culture industry are organised such that every village has a surveillance committee, the objective of which is to (1) relieve pressure from outside, and (2) facilitate management. This is based on a joint approach in which scientific parameters are defined to assist local decisions in resource management.

A complete contrast to many of the preceding cases is that of American Samoa, where, apparently, no local-level, informal/customary restrictions are imposed on resource use. Here, conservation of fisheries and wildlife has recently been put into law. There is also an awareness programme in elementary schools, and other awareness initiatives including TV spots and newspaper advertisements on endangered species, including marine animals. Conservation officers now enforce marine regulations and monitor fishing around the islands, reminding people of the regulations now in force. These regulations apply, for example, to lobsters, crabs and giant clams, as well as to turtles and fruit bats. Repeated violators are prosecuted.

#### **2.4. Codification?**

"The aura of mystery connected with [unwritten] traditional resource management in Palau was part of its effectiveness". This statement by a country representative at the 23rd RTMF points to some of the potential dangers of codification of flexible, adaptive and unwritten CMT systems.

How far do we go in making traditional systems into law? In other words, how far can and should such systems be codified? At the RTMF, there seemed to be a clear agreement that it is not desirable to dilute the flexibility of CMT systems. Several representatives noted that codification of CMT is very difficult, and possibly not desirable.

To take the Vanuatu example, CMT is based on the three levels of family, community and clan. These local levels of management are considered to be well suited for the culture of clams, reseeded of trochus and other forms of marine resource enhancement, since they represent owners' guarantee of safety. The government is required to respect these local levels, but has additional national legislation measures covering, for example, size limits for trochus. Specific local-level management measures cannot easily be introduced into nation-level legislation, but must be

recognised by the latter's allowing for each community's own system.

From the RTMF discussion, there seems to emerge an approach of "joint management" that has national government setting basic rules and principles while simultaneously recognising important aspects of customary resource rights, and local "government" handling locally appropriate management within this legislative framework. It was argued by several speakers that local "title to" resource should imply an obligation to manage that resource effectively. This stand is not unproblematic, however, since it involves political issues far beyond the restricted field of fisheries legislation, relating to local-level autonomy, rural influence on development policy, and recognition of hereditary claims and customary rights, all issues of high importance in the contemporary South Pacific.

## 2.5. Traditional Knowledge of Marine Resources

The Recommendations of the 23rd RTMF workshop "People, Society and Pacific Islands Fisheries Management and Development" state:

"Pacific Islanders' knowledge of their marine environment (including such phenomena as seasonal, lunar and tide-related migrations and spawning aggregations of various food fishes) can be of exceptional value to government resource managers. This information is no longer always being transmitted effectively from generation to generation in the region. The workshop **strongly supported** research efforts to record traditional marine environmental knowledge, and where practical, put it to increased use in government marine resource management."

The potential value of traditional knowledge of marine organisms for contemporary inshore fisheries management has been demonstrated by Johannes (1980). The management of very complex coral reef systems requires detailed knowledge, many important items of which (for example, relating to the lunar spawning cycles of reef fish) are contained in the oral tradition of fishing peoples. Thus, extensive documentation of traditional environmental knowledge is needed. The academic and practical usefulness of Johannes' comprehensive work in Palau (Johannes 1981, 1980) is a good example of how Western science can work together with traditional knowledge to provide a better framework for management.

A key question on the role of traditional knowledge in possible management is: What about the situation in 20 years' time? As old people die, considerable changes occur in the status and body of knowledge. It is important that traditional environmental knowledge must be maintained, and added to, and not only recorded for posterity by anthropologists. It would be useful to formally integrate "cultural teaching" in schools. In this regard, it was mentioned at the 23rd RTMF that in Yap there are Culture Teachers, who are paid to be "extension officers" from the "Tradition School". A range of mechanisms for passing on traditional knowledge needs to be investigated.

Finally, discussion at the 23rd RTMF also noted the role of traditional knowledge in safety at sea. This particularly relates to islanders' navigational knowledge and weather knowledge. It is highly important that younger seafarers do not lose this vital information about how to interpret, predict and handle the environment.

## **2.6. What Future for CMT in the Pacific Islands?**

CMT systems are contemporary, functioning management systems that have all too often been overlooked, ignored, or even derided in the management-development process. It is significant that all small countries have considerable problems with enforcing the law within such field as rural fisheries management. Therefore it is useful to make use of people's own ways of looking after their own fishing grounds. As noted, at the RTMF the opinion was expressed by some that local "title to" resource should imply an obligation to manage that resource effectively. One extreme implication of such a stand was a suggestion that, where CMT favours management of marine resource, the government supports and maintains the system, but where it does not favour management, however, the government should try and get rid of it. While the implementation of such policies might seem, though superficially, to be possible in a hierarchical, centralised [Polynesian] society, it is not at all relevant for those nations in which the recognition of customary rights is enshrined in law, and is in many ways an antithesis to the dominant decentralised political systems of the South Pacific.

Some comments on the role of "traditional systems" are required here. Although CMT in the Pacific may be referred to as systems of "traditional resource management" based in "customary law", this does not mean that tradition is something static, rigid and non-changing. Rather, "tradition", as it exists in the rapidly changing worlds of indigenous peoples, is a system of knowledge and rules which has, on the one hand, strong roots in local history and experience, and which is on the other unwritten and uncodified, thereby allowing for flexibility in adapting to changing social, political,

economic or ecological circumstances. Thus, far from being overwhelmed by commercialisation and resource scarcity, many CMT systems in Oceania appear to have considerable capacity for handling and adapting to new circumstances, thereby becoming potentially important tools in the contemporary management of fisheries and of the coastal zone in general.

One case in point are the measures devised by the local council on Ontong Java atoll, Solomon Islands, for managing the contemporary commercial fishery for bêche-de-mer and trochus. Through these measures, the two resources are protected in an rotating fashion for one year at a time, so that in any given year only one is exploited while the other remains undisturbed for that year's duration. Further, recent years have seen repeated events, for example in Solomon Islands, Fiji and Papua New Guinea, that point to the significance of CMT systems and associated privileges for large-scale development issues such as tuna baitfishing, commercial inshore fisheries, tourism, and even land-based activities like logging and mining (see Hviding 1988 for case examples). Conflicts between CMT holders and external development agents, the former assessing their rights partly with reference to provisions in national legislation, have in many cases led to a modification of the activities of the latter. In some cases, local resistance to large-scale commercial resource extraction has led to the cancellation or long-term suspension of such activities altogether.

Such events do not imply that CMT systems are "obstacles to development". Rather, they demonstrate that such systems, being integrated components of the "situation" as described by Kunatuba (1989, quoted above under 2.1., p. 2), often play an important role in the complex processes of rural and national development of which fisheries is only one of many interrelated sectors. Therefore, a better understanding of the social, economic and legal dynamics of CMT systems would seem to be one of many prerequisites for an integrated approach to contemporary Pacific Islands development issues.

### 3. IMPROVING THE AWARENESS, RECOGNITION AND APPLICATION OF CMT AND TRADITIONAL KNOWLEDGE

#### 3.1. Needs and Objectives

Despite an obviously high level of appreciation among some fisheries officers of the potentially valuable role of CMT systems in contemporary fisheries management, there remains a need to heighten the recognition of traditional knowledge and CMT among most staffs of Pacific Island fishery departments, from extension officers to senior decision-makers. There is an urgent need to achieve a parallel level of awareness among national policy-makers and planners (also those not directly involved in fisheries), foreign "experts", and the policy-makers and operational staffs of technical assistance and donor agencies. This requires the concerted effort of regional organisations.

The objective of any such programme on CMT systems (hereafter in this discussion also incorporating traditional environmental knowledge) in the South Pacific region should be to fulfil that need at all levels from extension officer to the office of the senior government executive, and to enhance the recognition of the skills and knowledge of traditional resource managers.

Given the recommendations of the 23rd RTMF (see **Attachment 1**), and the creation there of a special interest group on traditional fisheries, such a programme could be launched in consultation with and among regional organisations such as SPC, FFA, FAO, ICLARM, SPREP and USP. The fundamental components of such a programme are:

- (1) The achievement of a high-level consensus on the objectives and agenda of the programme;
- (2) The conducting of applied research on CMT systems, with the primary objective of filling in the gaps in existing documentation and in synthesis research such as that being conducted by Ruddle, Hviding and Johannes, at the CDS;
- (3) The design of policy, concurrently with (2) above, for incorporating CMT in the development and management of coastal-marine areas;
- (4) The development and utilisation of curricula on CMT for formal education

and training (along existing lines such as offered by FFA's Fisheries Awareness Programme and USP's proposed Public Education Programme, and with a possible involvement by SPREP); and

(5) The development and utilisation of curricula on CMT for use in extension services (see comment under (4) above).

The objective is, through sequences of additive activities and related outputs, to ensure that the contemporary practical utility of CMT systems is thoroughly recognised at all levels of society, that this recognition is translated into practical programmes of education, training and extension, and, as a result, that CMT systems, suitably blended with national needs and development objectives, become an integral component of national fisheries development and management practices.

### **3.2. Achieving a Regional Consensus**

Although the constitutions and policy documents of several nations explicitly recognise "custom" and CMT systems, there is nowhere a detailed national policy statement and resultant national planning document that details the exact role CMT is to play in national fisheries administration (generally a three-tier construction of national, provincial and community levels) and the processes and mechanisms that are to be applied to ensure the appropriate articulation of CMT with state legal codes. However, the FFA now has a strategy to examine how CMT systems could be integrated into national fisheries development (A. Wright, pers. comm.). But prior to implementing such a programme, regional agencies, such as the FFA, must, as is standard operating procedure for the agency (relating to an approach often referred to as "the Pacific Way"), seek a consensus of all participating governments.

### **Recommendation**

*The FFA should circulate this report to senior policy-makers within its mandated region, with a covering letter expressing the wish to convene a high level policy-makers' conference to examine the formulation of policy to integrate CMT within national fisheries policy, and to obtain a consensual decision that the FFA in cooperation with the SPC should spearhead a programme of research, policy-design, education and training, and extension on CMT systems. Given the orientation of and interest expressed by staff of FFA's legal division, the transfer of traditional knowledge and practices to guidelines for resource use*

legislation would seem a logical initial focus for such future action.

### **3.3. Research**

Based on the consensus achieved, an applied research project should be launched. This is an essential prerequisite to the design of appropriate policy for the incorporation of CMT within national systems of fisheries development and management. For this purpose, the fundamental topics for which detailed information should be sought are outlined below:

(1) "Tradition" is dynamic, and "traditional systems" are uncodified and remain responsive to change while also retaining strong roots in local culture and society. The nature of such "roots" must be thoroughly examined, and in particular the traditional knowledge base that links a CMT systems to its wider and deeper cultural context, as well as the resilience of a system when challenged by external forces;

(2) Applied research on CMT systems should concentrate on their adaptive dynamics and response to changing social, economic and ecological circumstances, and emphasise the outcomes of processes where CMT interacts with larger political and economic systems, rather than just describing the functioning of such superficial phenomena as local fishery regulations;

(3) Traditional knowledge of fish and other marine resources should be widely documented and analysed, with a view to integrate such knowledge with biological science in order to improve the framework for fisheries management planning;

(4) Building applied models for fisheries management requires an analytical approach in which local CMT institutions are examined in terms of a resource system model (Ruddle 1991) that includes the relationship of the fisheries governed by a CMT to the use of other resources in the coastal-marine zone, as well as to rural development and resource management in general;

(5) Since fishery management is really the regulation of human activity, research on the politics of resource use and allocation is crucial. Territorial regulations and gear restrictions, whether customary or imposed, always entail the exclusion of other fishermen. Therefore, issues of equity, allocation and autonomy are important considerations for policy-making and implementation. Also, since compliance and cooperation by local fishermen operating in a managed system is crucial to success, participatory planning and joint management responsibility are fundamental issues that require study;

(6) Research on the politics of resource use and allocation should focus on the interrelationships among economic and political micro- and macro-levels, and particularly on the joint role of local CMT rules and state law in controlling local fishery resources, since most fishery systems are enmeshed in larger-scale processes that extend far beyond the local level, and because institutional change involves traditional and state politics in continuous interaction;

(7) The present and future role of CMT systems requires interdisciplinary examination, with particular reference to such important contemporary topics as the multiple use of resources and areas by several resource systems and in terms of integrated coastal zone management planning, regional development issues, pollution, and gender and age issues, among others of local importance.

### **3.4. Policy Design**

Based on an analysis of the results of the applied research outlined above, the FFA and SPC should collaborate individually with their member nations to design locally appropriate policy for the incorporation of CMT in national fisheries management plans.

## **Recommendation**

*Following the completion of the analysis of national research data and the concurrent preliminary design of policy, the FFA should convene a policy-design and legislation workshop to examine the principles and processes that would govern the design of policy and legislation to integrate CMT within national fisheries management systems. National teams would then proceed with finalising policy documents. Participatory planning, involving the close collaboration between traditional resource managers and national fisheries staff, should play a central role.*

### **3.5. Formal Education and Training**

Much of the recent erosion apparent in some CMT systems, and the accompanying loss of traditional knowledge of environments and marine resources that sustains them, can be attributed to a modernisation process in which Western-style formal education - often obtained overseas at the tertiary level - has played a major role. Such an education has not uncommonly led to the belittling if not deriding of "custom", including CMT and traditional knowledge, and the substitution of Western scientific curricula that are of limited applicability in most South Pacific contexts. This is both a shame and a waste of a valuable resource.

The proposed CMT programme must contain formal educational components that both counteract that tendency, to protect the intrinsic cultural values represented by "custom", as well as to instill in a formal and structured way the practical benefits to be obtained from managing fisheries on the basis of CMT, as a complement, in many instances, to the valuable elements of a Western fisheries management curriculum.

## **Recommendation**

*In close cooperation with the Institute of Marine Resources of the University of the South Pacific, and making full use of the USP Extension Centres in all nations served by the University, the proposed programme should design and implement a curriculum on CMT systems, also emphasising the transmission of traditional environmental knowledge, as part of the formal training of fisheries officers.*

### **3.6. Extension**

Equally important as the formal educational component outlined in 3.5, is the training of extension officers to work more effectively in their everyday activities within the framework of existing CMT systems, and to act as intermediaries in the two-way information flow between rural communities and national fisheries departments.

## Recommendation

*The proposed programme should undertake the preparation of extension manuals and the convening of workshops for the training of extension workers.*

### 3.7. A Suggested Organisational Framework

It is proposed that the initial basic organisation and administration of the programme be undertaken by the FFA and SPC, divided between them according to their respective mandates and according to the recommendations of the 23rd RTMF (see **Attachment 1**).

Given the strong expression of interest of the IMR-USP and the prior activities of the CDS-UOB, it is suggested that both institutions should be involved in the programme from its very preparation. The prior activities of CDS-UOB team include the many joint and individual publications of Hviding, Johannes and Ruddle on the topic of CMT, their collaborative project on the synthesis of the CMT literature and their inputs to the workshop at the 23rd RTMF, as well as this report to FFA. The IMR-USP, through a letter from its Director to the Director of CDS-UOB, and through subsequent correspondence and discussion between the two institutions, as well as in a verbatim public announcement at the 23rd RTMF, has expressed its strong desire for such mutual collaboration on the topic of CMT. This would be of great value, since the programme of the Solomons-based IMR is predicated on cooperation between USP, ICLARM, FFA, SPC, The South Pacific Applied Geoscience Commission (SOPAC), Solomon Islands Government and UPNG, which are among the principal organisations to be involved in any coastal marine programme in the region.

A programme on CMT and traditional environmental knowledge would not be viable without the active participation from its inception of representatives of traditional resource managers, who would provide indispensable links to representative "target" communities. Such groups would include Island Councils, Councils of Chiefs, Area Councils, and other relevant organisations, as locally appropriate.

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**ATTACHMENT 1:**

**STATEMENT OF THE WORKSHOP "PEOPLE, SOCIETY AND PACIFIC  
ISLANDS DEVELOPMENT AND MANAGEMENT", SOUTH PACIFIC  
COMMISSION 23RD REGIONAL TECHNICAL MEETING ON  
FISHERIES, NOUMEA, NEW CALEDONIA, AUGUST 1991**

## **Areas requiring attention, and recommendation for SPC action, identified by the Traditional Management Workshop**

Workshop participants emphasized the great diversity of traditional fisheries management practices and associated knowledge across the Pacific Islands and concluded that most SPC member countries would benefit from comparative studies of these practices and this knowledge. They recommended that the SPC work towards sharing information on these subjects within and beyond the region, and expressed the opinion that the SPC would be an appropriate vehicle for the publication of issues that would not normally fit in the context of international publications.

The growing problems of reconciling customary law and Western law were repeatedly raised. The workshop pointed out the need for a survey and a review of available information on the various approaches taken by traditional cultures (within and outside the SPC region) to the integration of western laws and traditional customs.

Some larger Pacific Island nations contain many customary marine tenure systems about which little is known, and the structures and operations of such systems vary greatly within these countries. Rapid surveys of these systems are needed especially in order to determine which among them most need further more detailed studies in order to better facilitate their continued effective functioning.

Pacific Islanders' knowledge of their marine environment (including such phenomena as seasonal, lunar and tide-related migrations and spawning aggregations of various food fishes) can be of exceptional value to government resource managers. This information is no longer always being transmitted effectively from generation to generation in the region. The workshop **strongly supported** research efforts to record traditional marine environmental knowledge, and where practical, put it to increased use in government marine resource management.

Community-based customary marine tenure and associated traditional management systems are facing a number of widespread modern pressures. The workshop strongly supported research on how traditional marine resource management systems respond to such pressures as major demographic changes, commercialisation of marine resources, aquaculture and marine resource enhancement, other coastal developments (including tourism), government marine resource management and enforcement programmes, and to the wider issues of integrated rural development and gender-specific roles in fisheries.

The meeting nominated a sub-group of three participants to formulate specific recommendations to SPC for action in these areas, as follows:

The workshop **recommended** that the Inshore Fisheries Research Programme set up a Special Interest Group on traditional marine resource management and knowledge in the SPC region to provide a focus for collection, discussion and dissemination of information on these subjects.

The workshop also **recommended** that the Inshore Fisheries Research Project assist, in consultation with member countries and, where appropriate, in collaboration with other regional organisations, in the design and use of customary marine tenure questionnaires building on the experience of Solomon Islands in their survey of 43 customary marine tenure systems in that country.

## ATTACHMENT 2:

### ITINERARY, EDVARD HVIDING AND KENNETH RUDDLE, AUGUST 1991

- Sat 3** Arrived Sydney from Norway and Japan, respectively; departed Sydney for Noumea. Arrived Noumea 14:10.
- Sun 4** Discussions with SPC Fisheries staff, preparations for workshop.
- Mon 5** Attended SPC 23rd Regional Technical Meeting on Fisheries.
- Tue 6** Attended SPC 23rd RTMF.
- Wed 7** Paper presented at 23rd RTMF, with R.E. Johannes.
- Thu 8** Attended SPC 23rd RTMF; Literature search at SPC Library.
- Fri 9** Departed Noumea 06:40, arrived Vila 07:40.
- Sat 10** Departed Port Vila 10:20, arrived Honiara 12:20.
- Sun 11** Literature search at FFA Library; preliminary meetings with FFA staff
- Mon 12** Meetings with FFA Director, Research Co-Ordinator and other staff; Meetings with Solomon Islands Fisheries Department staff, Honiara.
- Tue 13** Literature search continued; information from SPC 23rd RTMF reviewed.
- Wed 14** Meetings and literature search at ICLARM Coastal Aquaculture Centre; Final meetings at FFA. Departed Honiara 15:20, arrived Vila 17:10.
- Thu 15** Tour around Efate Island (Vanuatu public holiday)
- Fri 16** Meetings with Director of Fisheries and other Fisheries staff, Port Vila.  
Departed Vila 18:30, arrived Nadi 21:00.
- Sat 17** Departed Nadi for Norway 15:10.
- Tue 20** Arrived Bergen, Norway at 16:25, ex NAN/HNL/LAX/CPH.