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WORKSHOP ON: PEOPLE, SOCIETY, AND PACIFIC ISLANDS FISHERIES
DEVELOPMENT AND MANAGEMENT

RESOURCES OWNERS AS IMPLEMENTING AGENCIES OF PAPUA NEW GUINEA
COASTAL MARINE RESOURCES MANAGEMENT REGULATIONS

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**RESOURCES OWNERS AS IMPLEMENTING AGENCIES OF PAPUA NEW
GUINEA COASTAL MARINE RESOURCES MANAGEMENT REGULATIONS.**

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INTRODUCTION

Since the 1940's, Papua New Guinea coastal fishermen have commercially been exploiting the sedentary resources in the near shallow waters. The resources were two species of bivalves; the Black lip, *Pinctada margaritifera* and Gold lip, *Pinctada maxima* and two species of gastropods; *Trochus*, *Trochus niloticus* and Green snail *Turbo marmoratus*. Records of PNG export productions are available dating back to 1948 (Glucksman and Lindholm 1982) which shows that the highest trochus production of 1030 mt was recorded in 1951 and for Green snails, reached over 100 in the period from 1951 to 1957. The black lip and gold lip production were grouped under Mother of Pearls (MOP), and the highest production exiting 50 mt were recorded from 1970 to 1973.

In 1980's the world price for trochus, green snail, black lip and gold lip started in take a steady increase. The effect of this was that the price paid to fishermen followed a similar trend. The shift in price was enough incentive for fishermen to swing from the finfish fishery and other agricultural cash crop to the harvesting of commercial shells and bech-de-mer. There was also an increase involvement of foreign interest in the fishery. These foreign business men were going directly to Provinces and Villages agencies to harvest, processed and export sedentary product to either Korea, Singapore or Hongkong.

The experience led to a fairly heavy exploitation of commercial shells and bech-de-mer in the face of no management plans except for the national Continental Shelf (living Natural Resources) Acts. The Act had a serious problem with it in that it dealt only with the **taking**, although it served as an initial management tool, the national DFMR never seriously enforced it. From 1987 to 1990 the Sedentary Resources Assessment Project (SRAP) in kavieng monitored the production for Kavieng and Manus and carried out initial resources surveys. A management plan was submitted to the National Government through the National Fisheries Council (NFC) in 1989 and a second attempt in 1990 is still to be considered by the National Executive Council (NEC).

The effected Provinces such Manus, New Ireland and mor recently Milne Bay have taken their own inititive to draw up management plans to protect their sedentary resources. Since 1990 Manus have annacted a Marine Resources Protection Act (MRPA), New Ireland is in the final drafting of their MRPA and is likely to be annacted by the end of this year whilst Milne Bay is in the concern stage of drafting their own provicial MRPA. The biggest concern now **who** and **how** are the management regulations are going to be implemented. It is this concern that the SRAP is seriously looking new management options that would suit the PNG situation.

This report provide some over views of the National Government concerns in marine resource management, the constrains in implementing management plans and providing effective surveillance and enforcement of regulations. To demonstrate these concerns the report will show two difference experience cases such as, the Mouwe (Milne Bay) Sandfish (Bech-de-mer) fishery and the Tigak (New Ireland) Sandfish fishery. In the final discussion we want to show using the Manus Survey (Lokani P and Chapau M

indraft) on alternative form of resource management using resources owners (the community) in the role surveillance and enforcement of the Manus Provincial MRPA. We hope to generate some good discussion which are like to give SRAP at Kavieng to develop a project proposal that could easily carried out jointly by SPAR and SPC or other interested organisation with suitable funding.

BACKGROUND

Papua New Guinea (PNG) has an estimated coastline of 10,000 kilometres and approximately 4,000,000 hectares for shallow waters of depth less than 30 metres and 17,000,000 hectares of depth less and equal to 200 metres, Fishery Sector Review Papua New Guinea 1989. In 1980 Census it was estimated that 13 % of PNG total population of 3 million live on the coast and island (Freiling 1983) with a population growth rate of 2.5%.

Fishery

Over the last 20 years the coastal marine resources have been exploited (20,000mt) for subsistence consumption whilst the Artisanal catch accounted for 2000mt. Some resources such as Lobster, Barramundi, Trochus shell, Green snail, Black lip, Gold lip and some species of Sea cucumbers (Bech de mer) were exploited at a commercial level for export.

The Fishery Sector Review of PNG estimated the combine potential yeild for the shallow water less then 30 metres at 80,000 metric tonn using 20kg/ha/yr and even greater for coastal waters less than 200 metres using 8kg/ha/yr, A B Freiling (1983), Munro J (1976) and Wright and Richards (1983). The present level of harvest safely suggest that the vast majority of reef areas in PNG are under exploited.

At present some marine resources are being exploited at or near Maximum sustainable yeild. These includes Prawn, Lobster and trochus (Trochus niloticus) and in some cases localise over fishing such as Sandfish (H. scabra). Apart from Prawns and Lobster, Tuna and Tuna Baitfish there are no management regulations to protect our coastal marine resources from being over exploited.

Management Acts

The PNG marine resources are being develope and manage under five National Acts; these are Fisheries Acts, Continental Shelf (Living Natural Resources) Act, National Seas Acts, Fisheries (Torres Strait Protected Zone) Act and Export (Fish) Regulations. More recently East New Britain have declared a new Provincial Marine Park Protection Act, the Manus Province have passed a Marine Resources Protection Act and now the New Ireland Province are in the advance stage of passing a new Marine Resources Protection Act. This brings to a total of eight fisheries related Acts.

Sedentary Resources Harvest

Since 1985 the sedentary resources namely; Trochus shell, green snail, black lip, gold lip, and about ten species of commercial sea cucumber (bech-de-mer) harvest were starting to increase as price for each of the produce increased. With increase in harvest for trochus, and some bech-de-mer species, localised over fishing was becoming a major concern for the major producing areas such as North Solomon, Manus and New Ireland (trochus) and Mouwe Island in the Milne bay Province and Tigak in the New Ireland Province (Sandfish).

TRADITIONAL MARINE RESOURCES CONSERVATION AND MANAGEMENT PRACTICE.

In the late 1970, after the PNG gain independence in September 1975, the government was becoming concern about the fast eroding rate of the PNG traditional customs and consevation practices as a result of the religious influence and the trading in of the traditional life style with the Western way of life. Modern concepts of natural resources development and management approachs were being used for developing fisheries projects with a fairly high rate of failure.

In October 1980 the then Office of enviroment and conservation together with the Institute of Applied Social and Economic Research (IASER) invited experts from Overseas and PNG to discussed issues relating to PNG traditional conservational knowledge and practice and its implications for today resources management developments. Notable expertise in the like of Robert E Johannes, Ebia Olewale, and Allan K Haines, In 1985 the Torres Strait serminar again discussed similar issues relating to traditional use of resources and conservation practices that would be relavent to the implementation of the Torres Strait treaty. The UNDP/PNG Fisheries Sector Review in 1989 pointed out a number of major constrains in developing the coastal fisheries. Two of these constrains were traditional resources ownership and problems relating to surveillance and enforcement capability. The final report of the ADB/Agrodev recent study (1991), expressed the need for PNG government through DFMR to involve resources owners in the early stages of planning fisheries projects (B Alan Stockwell and Deborah A Tumbull May 1991) and in the management of the coastal marine resources.

The messages that these various conferences, serminars, and studies is bringing to us today is one that in my opinion will set the sceen for a new approach to developing and managing our coastal marine resources. Problems hindering fisheries development and management such as Marketing, transport cost, improve fishing methods, funds to carry out extension work, fishing right, surveillance and enforcement capabilities and many others are still the same problems identified (Waigani Serminar 1980) 10 years ago as they are today (Fish Sector Review Study and Agrodev). What we are more concern with here are the problems associated will the implementation of Fisheries management

regulations. Could the resources owners become more involve in the managing their own resources.

CURRENT EXPERIENCES

In the course of SRAP since 1987 and more recently the undertaking of Provincial Marine Resources Surveys (PMRS), Islands of New Ireland Province (1989) and Manus Province (June 1991) a number of important events have quickly happen in the last three years that warrant us to rethink our management approach for the sedentary resources.

Localized Over Fishing

There was a general trend for the trochus production declining in North Solomon, Manus and New Ireland since 1986. The decline in production may have been related to bad recording and or under reporting of exported products. There were changes that this speculation was true however we found that in 1987 and 1988 that 20 % and 40 % of trochus shells for Manus and New Ireland respectively were less then 7.5 cm (bascial diameter).

In the Bech-de-mer fishery, Mouwe Sand fish fishery, the most intensive fishery which started in mid-1986, at the pick of production in 1987 it was producing an estimated 30mt of dried sandfish per month. In 1987 Mouwe contributed to 90 % of the total PNG bech-de-mer export untill it collasped at the begining of 1988. In this case no initial survey were conducted before the project and untill to this present day no work has been done to look at the rate of recovery, similaly the operated without a management plan.

In 1989 a sandfish fishery less intensive method of operation, operated out of Tigak Islands in the New Ireland Province. During the early part of this fishery, a resources survey was undertaken to determine the potential harvest for the Tigak area (Lokani P in Prep). In 1989 this fishery produce some 60 mt of dried sandfish contributing to 80 % of PNG total sandfish export. The fishery against collasped in early 1990 resulting in a lost of two local bech-de-mer dealers (Export Agents) and a local exporter of bech-de-mer. Again this fishery operated in the absents of a management plan.

MARINE RESOURCES MANAGEMENT SYSTEM

The cases seen in this situation demonstrates some of the major constrains relating to the management of resources which are more vurnerable to heavy exploitation. There is no management plan for commercial Holothurians in PNG however, there is a National Act, known as the " Continental Shelf (Natural Living Resources) Act" The only power we could use out of this act is one that relates to the "taking" of sedentary organism. One of the many problems relating to acts as such is that DFMR have never really enforced the regulations under this act.

As a results of these experiences SRAP submitted a management plan to the national through the National Fisheries Council Meeting (NFC) in 1989 at Lae, requesting that the regulations under the Continental Shelf (Natural Living Resources) Acts be amended to inco-operate the new management plans. The NFC endorsed the management plans and directed the DFMR and the Justise Department to act on it. No action was taken during 1989 and a second attempted was done at the 1990 NFC meeting in Rabaul in which effected Provinces such as Manus, New Ireland, East and West New Britain and Milne Bay province provided strong backing. At the time preparing this report, this management plans are still with the National Legislative Council. Whilst this normal lengthy processes is taking place, various areas are experiencing localised over-harvesting.

THE PROPOSED MANAGEMENT APPROACH

It is the normal processes of either requesting for an ammendment of management regulations or enacting new management Acts that it would that a little bit more then two years before the are passed enacted and enforced. It is also experienced that after passing good management plans, the government often lack manpower, funds, equipment and effective programm to carry out the surveillance and enforcement of the regulations. This aspect alone can and has caused very good management plans to not work hence can result in a collasp of a fishery such as the cases of Sandfish fishery of Tigak and Mouwe and the decline in trochus fishery of various Province such as Manus, New Ireland, North Solomon, West New Britain and Milne Bay.

We want to avoid this situation and are looking at a more applicable management system that would speed up the processes of passing management regulations and similarly reduce government expenses and to increases the involvement of the resource owners in carrying out surveillance and enforcement task in remote areas were government services are very minimal. To facilitate this idea to have a chance of suceses would depend very much on four basic instruments. These we recognised as being one; an administrative system, two; a legal system at the village level, three; a traditional system that would handle fishing right issues and provide a traditional leader, and lastly; a technical input in providing technical assistant in determining that resources are harvested at a sustainable level and similarly technical input on developing projects geared at the improving village based economy.

Government system

The decentralization processes of the National political and administrative powers to provinces after the independance and subsequently the establishment of community government has now meant that villages can make some decission relating to the development of their communities. Tonn Otto (1989) noted that in the Manus and New Hanouwer (New Ireland Province) village communities there are two distingue leader. The first is a traditional leader, who has no political authority however leads his clan in tradition ceremonies and makes important decission relating to the use of land, sea and the resources. The second is a political leader who is either a community government representative or a local council representative which ever one exist. This leader is elected by the community to carry out government instructions issued by the provincial government. The whole community have the tendency to respect the political at the village level compare with their elected political at the provicial and national level.

This system would provide the vechile to transport relevent implementation of the sedentary resources management plans and regulations to the village community, and to involved them in the management of their own resources. It is also our intension to make people become more responsible to managing their own resources and hopefully become even more accountable to the welfare of the village community as a whole.

Village Court System

In most provinces the government have decentralised the national legal power in creating village court system. We see this as an important vechile for providing a legal instrument in enforcing the regulations at the community level. This would allow for minor offences to dealt with quickly at a village level and minimum penalty imposed where required. Any major offenders should be reffered to the District court or relevent court system. From out interviewed conducted at the 1991 June Manus survey most people feel that often under traditional believes that relations between the offender and the surveillance officer could lead to some serious reprecausion. We suggest that penalties should be imposed on offenders with care should system like this are used.

Technical Assistance

The National and Provincial government should continue in the provision on technical input to the village based management approach by assisting in surveys and advising in the over all management of the provincial fishery. We are now looking at training young educated people in the village to collect catch and effort data, carry out very simple survey methods before the opening of each harvest season and at the end of the harvest season. This data would be send to the National Fisheries Research Station at Kavieng data analysis and reporting back to the respective management area before they make any management decission. Their manage strategies should be based on sound technical advice and good consistence Rules of Thump.

CONCLUSION

We feel that the management approach we are now looking would improve the current constrains such as lengthy process in getting management plans to be passed by national and provincial system. It could create savings for the government in the enforcement and surveillance aspect. The system would transfer the power of accountability on management peoples live, their resources and the maintainances of community back to the community themselves. This would allow the resource owners to become more resposible for the development of the village community as a whole. In the long term, develop plans that would increase employment oportunities, reduced foreign involvement, and ultimately manage their resource on a sustainable yeild base.

Finally, it is the hope of PNG government and the SRAP to generate some discussion in this area, with some hope to get good feed back from the pool of expertise present at this workshop. Constructive comments would help SRAP to development a project proposal for implementation in 1992.

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