

SOUTH PACIFIC COMMISSION

**HUMAN RESOURCES DEVELOPMENT AND MANPOWER PLANNING
IN THE PACIFIC ISLANDS
FISHERIES SECTOR**

DISCUSSION PAPER

presented to

**FORUM FISHERIES COMMITTEE
5th Technical Subcommittee Meeting
Wellington, New Zealand**

Workshop on Education and Training

April 22 - 23, 1991

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INTRODUCTION

The South Pacific Commission Human Resources Development Survey Team is pleased to present this Discussion Paper, which attempts to identify issues related to human resources development in the fisheries sector common to most of the countries visited to date (Tuvalu, Kiribati, Marshall Islands, Federated States of Micronesia, Palau, Commonwealth of the Northern Mariana Islands, Guam, Papua New Guinea, Solomon Islands and Vanuatu). As our work is not yet completed, it is not our intention to present, at this time, recommendations for consideration by the attendees at this workshop. Rather, it is hoped that the common issues presented in this paper will be discussed by those with a collective experience and knowledge of the South Pacific fisheries greater than that possessed by the Review Team itself. It is the hope of the Team that such a discussion will lead to correction of any errors of fact and will ultimately help shape the recommendations of this survey.

In addition to this discussion paper, the Survey Team has produced preliminary reports on the ten countries so far visited. These reports contain a total of 76 national recommendations, and have been forwarded to the Chief Fisheries Officer of each country. While the Team attempted to make recommendations which were in keeping with the practicalities of country circumstances, time constraints did not permit an opportunity to discuss either the veracity of the facts, or the preliminary recommendations contained in each country report. Again, it is hoped that the country representatives attending this workshop will take the opportunity of discussing their individual country report with the Team members, who can take into account any corrections before the final report is submitted to the South Pacific Commission's Regional Technical Meeting on Fisheries, to be held in early August. The Team sincerely asks for your constructive criticism and direction in completing its mandate.

MANDATE

- **Update the existing information already collated by SPC on fisheries personnel in island fisheries administrations, regional organizations and elsewhere.**
- **through review of existing documentation (five year plans, existing staff development plans, etc.) and by in country discussion with senior fisheries and government personnel, develop on an individual country basis a perspective of future fisheries management and development programmes planned in the countries, intended staff numbers, mixes of skills and levels of competence required for the effective conduct of such programmes.**
- **review existing plans for staff development and, where appropriate provide advice on updating such plans.**
- **draw conclusions on future requirements for training in both qualitative and quantitative terms at all levels (both academic and vocational).**
- **at all stages of the consultancy liaise with regional and national educational establishments to inform them of the purpose of the study and seek their perspective.**

The Terms of Reference for the Survey Team are most ambitious considering the time allotted to complete its task. Differing cultures, educational systems, economic capabilities, personnel management systems and the traditional associations with a variety of metropolitan countries make it impossible to easily generalize the issues and solutions. As a result of other commitments, or understandable absences of key personnel, the personnel quantitative data on the fisheries staff were not provided to the Team in most countries as requested prior to the Team's country visit. While this is disappointing, the objective of the survey of establishing a data base on all fishery workers in the Pacific Region can still be realized with determination and direction from this workshop.

The Team has taken the opportunity of visiting most of the educational and training institutes in the countries visited. It is hoped that these visits will have sensitized these institutions to the needs of the fisheries sector and the purpose of the survey. Most institutions demonstrated a helpful attitude and a willingness to be flexible in curriculum development to meet the specific needs of a longer-term human resources development plan.

Because of the lack of individual personnel data and time, it was not possible in any country to actually develop a long-term manpower development plan. Rather, the team directed its attention to the issues which, if resolved, will make such plan development possible.

TIMING

Over the recent past, Fisheries Divisions within the Pacific have undergone a period of change and development, and some have emerged as independent departments. Expatriate staff have been gradually replaced by local staff and a large amount of education and training has been offered and accepted from a variety of agencies, institutions and countries. Unfortunately, the lack of clear long-term staff development plans has meant that much of the training and education has been conducted on an ad hoc basis, and some of the training has not been exactly what was needed. Coupled with this, there appears to be poor communication between educators, donors and the clients, which has resulted in a lack of timely information to fisheries departments, and a lack of appropriate feed back on the adequacy of the programmes to training/education institutions and the funding agencies.

The development of the fisheries departments in most countries has now reached the stage where the focus must be shifted from project development and implementation, to policy development and implementation. Many have said that staff development has been "donor led" and national needs cannot always be addressed by the offered programmes. This will probably remain the case until some time in the future when Pacific Countries will be required to partially fund such programmes. Donors, on the other hand, are requesting more input from the countries involved, into programme design and the development of more cost-effective in-country programmes. A focus on the development of a long term policy and plan for human resources development will address these concerns. It is appropriate to note that in several of the countries visited, government officials are currently working on the writing of new national or sectoral development plans for the next 3 to 5 years. Fisheries departments can take the initiative now to input into these national plans an effective fisheries staff development plan. The opportunity should not be missed.

ISSUES

The following questions are being put in the hope that a free and frank discussion of the issues will assist the survey team direct their remaining work.

1. Are Manpower Development Plans necessary?

Over the last five to ten years most fisheries departments in the Pacific have experienced a period of rapid staff growth. This period of expansion has been accompanied by a great amount of staff training and development, made necessary by the need for departments to undertake increasing work and responsibilities.

The stage has now been reached where many departments have close to the required staff numbers and the period of rapid growth and the need for large amounts of training has passed. An analysis of past training and present needs indicates that the development of staff has generally been on an ad hoc basis to meet short term objectives. There has been a substantial amount of inappropriate training and a lack of longer term planning which would coordinate staff development with the overall government and / or fisheries strategic plans. This has resulted in departments not having staff with the spread of abilities to meet objectives. If care is not taken, the simplistic solution to this becomes "more training" or "more staff". While more training can usually be obtained, staff numbers are regulated by budgetary constraints decided outside of the fisheries department.

The emerging circumstances require more emphasis on policy planning and less on project planning. An increase in policy development skills will be necessary to develop appropriate sector plans towards which projects can be directed. Within this context, is it important that each fisheries department within the Pacific Region prepare, with assistance if necessary, a manpower development plan which accurately reflects both the long term objectives of the department and the economic constraints of government?

2. Is a structure which assesses the effectiveness of training regimes necessary?

In most countries visited by the Team, there was no mechanism for effectively assessing the benefit or effectiveness of training which has been undertaken by fisheries staff. Individual Country Reports contain recommendations on ways this may be implemented in-country, but there still exists the need for a recognized path or system which will allow Chief Fisheries Officers to transmit their assessment of the effectiveness of training to government, the institute concerned and to the donor or the sponsoring regional organization.

The purpose of such assessment would be to encourage the institutes and donors to adapt the courses in such a way that they better reflect the needs of the individual and the country, or in extreme cases to notify them that the course of study is inappropriate.

While the Chief Fisheries Officer himself may institute an in-country regime, the breadth of training being undertaken in the region and the number of institutions involved make it very difficult for any individual officer or country to make an impact, or get the whole picture. It is suggested that human resource development in the fisheries of the Pacific would benefit from having a single regional focus. This focus could take the form of a regional coordinating committee. This committee could bring regional needs up to date, coordinate feedback to educational institutions and donors, coordinate individually designed training programmes and conduct regular meetings of donors, institutes and fishery organizations. This body should also monitor all training being offered to fisheries departments of the region and be able to respond to individual country needs.

This coordinating body should contain representatives from the main groups involved with fisheries training in the Pacific as well as selected representatives from Regional Fisheries Departments.

It may take advantage of one of the annual fisheries meetings to report to members and may be administered under the auspices of one of the regional bodies.

Should such a regional capability be established? Once established, should one of the first tasks of the committee be to review and implement the approved recommendations of this survey? In the longer term, could this group evolve into a Regional Education and Training Resource Centre?

3. Is training at the technician level required?

The Diploma in Tropical Fisheries offered by the Institute of Marine Resources (IMR) at the University of the South Pacific (since 1975), underwent a major review in 1989 (the Clift Report). This review was undertaken to ensure the curriculum reflected the needs of the student and his department, and that the subjects and standards reflected work to be performed. The study examined the work being undertaken by Diplomates, and the intended work which current students would undertake on their return home.

All Diplomates who were working in fisheries were interviewed, or sent questionnaires: senior fisheries personnel were interviewed or sent questionnaires: staff at the IMR were interviewed, as were students attending the course.

The conclusions made in the Clift Report were that the Diploma, as it stood, no longer reflected the needs of the region, and two significant recommendations emerged:

- 1) That the Diploma be upgraded to a higher academic standard and that it be structured so that attendance can be credited towards a degree course (Note: this survey has several recorded cases where persons who attended the Diploma course immediately on finishing started a B.Sc., indicating the need for such a correction).
- 2) That the needs of a majority of students currently attending the Diploma programme were for a course of study at a lower academic, more practical and work related level.

The USP has developed a five-year Plan (South, 1991) which, if implemented, will cover these recommendations. This survey has also identified (the need for the creation of a shorter certificate course) as an area of significant need. It is the belief of the Team that such a qualification would complement the Diploma courses which USP proposes to implement, and allow persons with a lesser academic ability to gain relevant education and skills training. While this may lead on to a Diploma course, the two courses of study need not be inter-related through credits.

This Certificate of Fisheries Studies could be completed in about one year, and as well as including technical skills necessary for the technician level, would also include basic writing, science and mathematical skills to an appropriate level. It should also include extension, and administration skills as well as awareness of departmental procedures.

It is considered that such a preparatory year could equip a person with the necessary "tools" to effectively start a career in fisheries, rather than a Diploma in some countries. Also, it would offer an opportunity for those valued employees in the organization (e.g. unestablished staff or trainees) to enter normal career paths within the department, or be used as a "stepping stone" to even higher qualifications, e.g. Technical, Diploma, or Degree. The emerging private sector may also welcome the opportunity to utilize such a course to train their existing and potential staff. Ideally, such a programme of study would be "recognized" and accorded some accreditation by regional tertiary institutions and organizations.

4. Is there too much emphasis on academic qualifications to the exclusion of work experience, when considering staff for appointment and promotion?

The development of personnel is an on-going and integrated process of which formal education and training courses are but one part. In every circumstance, a variety of educational and staff development avenues are available and these should be examined to ascertain which is the most appropriate to the particular situation. Possibly because of the job classification standards which exist in all countries, the emphasis within Pacific island fisheries departments has been placed on institutionalized training and education, which leads to a recognized qualification. While such education has a role, a recurring comment obtained from all countries was that some people were well trained but lacked experience; also, to a lesser extent, that the particular training had not resulted in improved performance.

The Team believes that countries and donors should place more emphasis on the development of staff through individually designed programmes which integrate work experience through attachments, coupled with short training courses, rather than sending that person to a longer academic course. An example could be a person who will run an in-country fish plant, who might be better trained by a programme which integrates factory experience in other centres, short training courses, and in-country work experience, rather than being sent overseas for a general educational programme, such as a Diploma or Degree.

For this approach to work, donors must make funding commitments, and countries must be prepared to give the resulting experience the same recognition as the equivalent certificate or diploma.

5. Should the Staff Development Officer in larger fisheries departments take on additional responsibilities and be upgraded?

In the smaller fisheries departments, the chief fisheries officer would most likely have a personal knowledge of the abilities, training background and future duties of individual staff members. As long as the chief executive officer takes the time to properly examine the avenues for the development of his staff, undertake open assessment and evaluate the training which is undertaken, there is little need for a dedicated position for a Staff Development Officer.

Within larger departments, with more complex structures (e.g. Papua New Guinea; Fiji; Kiribati; Solomons), it is perhaps important that there be one staff member responsible for staff development and training. Currently the person designated as Training Officer in a few larger government departments in the Pacific has the fairly basic responsibility of running low technology training courses for fishermen, or junior staff. He or she may also perform clerical work associated with sending someone to overseas courses such as ticketing and completing the required government procedures. The position is generally low graded with the incumbent having a minor technical qualification. Presently, the Training Officer may take no part in the larger staff development issues and policy decisions.

If staff development is to be taken seriously, this position should perhaps be upgraded so that future staff development officers have the ability, training and background to work with the chief fisheries officer in the development of personnel policies and staff development plans, as well as the institution of training regimes. In this role, he or she will also counsel staff and influence personnel policy.

6. Management training for Senior Staff - is it an urgent need in most countries?

A recurring theme throughout the Team's country visits was the identification of the need for training in two areas, namely: vocational and trades training for junior staff and the fishing industry; and management training for the more senior departmental staff. Specific subject areas identified for inclusion in such management training were personnel, finance, organizational development, administrative procedures, delegation and accountability methodologies, and small business management principles and systems. Perhaps such a programme could be designed in a modular format to ensure that specific skills and knowledge deficiencies are adequately addressed in a cost efficient manner. In designing the modular programme care should be taken to ensure that it meets regional needs, is integrated with similar types of training (i.e. extension), and is progressive over a long period of time.

It was noted that several key staff members who had received scientific training are currently occupying more senior positions which require skills and knowledge which was not part of the curriculum of their degree programme. In some cases, staff assigned to a research / stock assessment position are called upon to manage development projects or carry out office administration functions at the expense of their regular duties. Ironically, the classification standards in most fishery departments demand a science degree for appointment to senior positions. Accordingly, several research sections have lost, through promotion or reassignment, the capability of utilizing fisheries information for research and stock assessment purposes. Many of the people reassigned from research, recognized the need to improve their managerial skills.

7. Should the current extension training programme of the SPC be continued and upgraded in the future?

Over the last three years, the South Pacific Commission has conducted an extension training project which has been helpful in increasing the extension skills of fisheries staff. Through this project there now exists, in most countries or sub-regions, the ability to conduct extension and communication skills training in-country, perhaps with the help of other country trainers or, in some cases, with overseas trainers. It is believed that this initiative should be actively supported by chief executive officers and donors.

It is considered important that staff who work in an extension area have a supportive infrastructure and that their communication and extension skills be fully developed. Fisheries departments should continue the in-country two-week extension and communication skills courses, until all staff who are required to perform any part of their work activities in the extension mode (not just those designated as extension officers) have an opportunity to attend. When all staff have attended the initial course, it could then be upgraded to a one or two week refresher course, and continue to operate until all appropriate staff have attended.

8. Would a Regional Staff Data Base which is updated on a regular basis be a valuable tool for all concerned in the region interested in human resource development?

During this study, some difficulty was experienced in obtaining complete records of educational, training and work backgrounds for staff at all levels. This information was not readily available in most departments and this must, to some extent, indicate the need for this survey, and a more planned approach to staff development.

The South Pacific Commission has a partially completed data base which lists Pacific Island fisheries staff, including their work and education background, and it was intended to use the information obtained through this survey to bring this data base up to date.

Views have been expressed that it is desirable, from a regional staff development and training perspective, that this data base be made complete and be further developed in order to allow the extrapolation of further information. It is considered appropriate that the SPC be given assistance to upgrade the data base and complete the data entry so as to include current regional staff members. If Chief Fisheries Officers share this view, they must be committed to forwarding this information to the SPC, and support procedures to regularly update the contents of the data base. As human resource development plans are completed for each country, projected training / educational needs for individuals can be added to the data base, which would then become a valuable regional tool for programme planning by regional organizations and donors.

9. Would an in-country review of personnel policies and practices be helpful in establishing effective manpower planning?

In each of the countries visited, time was spent with officials of the personnel agencies in an effort to understand how personnel policies and practices might affect or influence a more planned approach to human resource development. The personnel management systems varied from country to country and were generally seen to reflect both local culture and the colonial history of the country. Those with a British colonial history have personnel policies and practices which have not changed, or have changed only slightly, since independence.

Those countries within the sphere of US influence have policies and practices which reflect North American systems, or continue with modified Trust Territory systems. In examining this issue, the Team concentrated its efforts in three areas: the job classification process; performance evaluation; and training.

(1) Job Classification:

In all cases, the authority to establish a level for a position rests outside the fisheries agency. Normally this function is performed by a government central agency such as a Civil Service Commission or Personnel Department/Division which uses its own, modified or inherited standard against which positions are rated. In no case, are line managers involved in the process other than in the submission of appropriate documentation (job description and qualification requirements). In most countries, the line managers had little or no understanding of how the standard is applied and felt that the process should be "opened up" to them.

While other criteria exist in the standards, personal qualification requirements for the position seem to dominate as the principal criteria upon which a position is classified. In the past, for small fisheries divisions, this has been completely understandable; however, these standards should be reviewed because they may now be unnecessary barriers to career progression and effective manpower planning exist in such a system. For example, in ex-British colonial countries a typical hierarchy flows downward from a Principle Fisheries Officer to a Senior Fisheries Officer to a Fisheries Officer to an Assistant Fisheries Officer to a Fisheries Assistant. While some flexibility to substitute relevant experience for academic qualifications may exist at the lower end of the hierarchy to progress beyond the Assistant Fishery Officer position is practically impossible without diploma or degree qualifications regardless of the duties being performed.

Most fisheries agencies have reached a point in their development where work is now structured into specialty areas. For instance, there now exist sections for licensing, extension, research, administration, and fisheries management within fisheries divisions. Do you need a degree to work in or supervise others in licensing or extension work? Although the answer may be "no", most current job classification standards do not, and cannot, in the context of comparison with other positions in other government departments, recognize this fact. The most practical way for the Extension Officer to progress up the hierarchy is to gain a perhaps unnecessary B.Sc. degree.

(ii) Performance Evaluation:

Some form of performance evaluation system exists in all countries visited. Some exist for the sole purpose of gaining salary increases and/or approvals for overseas training, while others are more regularly prepared on an annual basis. Some require discussion and openness with the employee being evaluated (ex-American), while others remain confidential (ex-British system). With the exception of one country, none of the systems evaluate performance against an up-to-date job description or agreed upon work objectives and milestones, and none effectively identify the current human resource development needs to meet skills or educational deficiencies.

If future training is to be effectively identified within an overall manpower plan, and staff are to be offered incentives and encouragement to seek such training for the overall benefit of the fisheries organization, then this area of communication with employees and ultimately with funding agencies through a planned approach to development, may need to be improved.

(iii) Training:

The degree to which government central agencies get involved with training and employee development varies from country to country. Some simply "rubber stamp" departmentally-identified courses and selected candidates, while others exercise considerable control over the process, with approval, especially for overseas training, resting, in some countries, with the Governor, President, or Prime Minister. Some utilize selection committees to make decisions based on nationally published development plans, while in others no such process or plan exists. Regardless of the processes involved or the degree of centralization, there exists a need to plan for future training within fisheries divisions so as to either influence the centralized process or deal bi-laterally with funding agencies.

10. Is there a need to refocus attention on fisheries data collection and its analysis?

The continued exploration and expansion of effort in the inshore fishery is a concern expressed by senior fisheries staff in most countries. If the fisheries are to operate on a sustainable basis, some basic stock assessment, which underlies all successful resource management, must be undertaken. An increasing effort is being directed towards the collection of data which, when analyzed, will lead eventually to appropriate management measures. Some countries have, with various forms of assistance, gathered lengthy bibliographies of inshore studies and for certain key species and areas (primarily near urban centres) the work is continuing. For various reasons, it would appear to the Team that most of the data collected in the past, or currently being collected, is not being used effectively.

Those who possess the necessary academic background for this work are not always being employed in the stock assessment area because other priorities and workload simply preclude the possibility of doing the necessary work involved with data analysis. Secondly, perhaps sights have been set too high in attempting to reach an understanding of biomass and/or ecosystems. Perhaps the curricula developed for previous training in this subject area should be examined to ensure that a less sophisticated approach to simple data manipulation is emphasized, which recognizes the key country species and staff capabilities.

11. Should more training opportunities be provided to assist with the privatization of the fishery?

In all but one country visited, national governments have the intention, in current or future development plans, to shift certain fisheries-related activities from the public to the private sector. It is realized that such moves are necessary to meet various economic priorities (employment, wealth, localization) and gain necessary efficiencies in order to compete internationally. Current transitional initiatives take several forms, such as; joint ventures with international groups, government-owned but fishermen-operated vessels, and fishermen cooperatives. Ongoing extension work is attempting to expand this shift to the private sector in rural areas.

Most countries have limited human resources to support this shift to privatization. Personnel requirements for private enterprise, in almost all cases, must be drawn from government institutions; from a labour force with few of the skills and knowledge necessary to manage a private business. It has been suggested that training institutions and donors must focus on this need, and provide training in such areas as fish handling and processing, marketing, small business management, financial systems, etc.

12. Will the development of a regional aquaculture technician training programme assist in ensuring a healthy industry at the least cost?

In most countries visited, aquaculture has been identified as a development area for government and the private sector. Team members have had the opportunity of visiting several facilities, including: the Micronesian Mariculture Development Centre, Palau; Guam Aquaculture Training and Development Centre; University of Guam Marine Laboratory; and the Coastal Aquaculture Centre, International Centre for Living Aquatic Resource Management, Honiara, Solomon Islands. We have also taken the opportunity to learn about future plans within the region through the study of development plans (e.g. Fitzgerald, 1982 [Guam]; Aquaculture Feasibility Study [CNMI]), and the work plans for the recently opened facility in Kosrae, FSM.

At the moment, many national aquaculture programmes are in a period of change. As previously noted, a new facility is just in the start-up phase in Kosrae, FSM, with the intention of focusing on fin fish, invertebrates and sponges. The giant clam activity in Palau will shortly undergo a transition to the private sector, and its future as a training ground for giant clam aquaculturists is not yet determined. The Guam facility plans to diversify its production and provide regional training to potential government employees and fish farmers. Similarly, the ICLARM Coastal Aquaculture Centre, Honiara, will concentrate on ocean ranching of giant clams, but will also diversify and provide facilities in the future for training. All of these developments, and others we may learn about in the future, will require increased research and development effort and the development of the necessary training in technical, extension and marketing skills, together with the research infrastructure necessary to support the industry over the next 5 - 10 years. Cost effective training and technology transfer will only be assured through the evolution of regional centres of excellence dealing with specific species. Such an evolution requires close cooperation and planning between all relevant institutions in the region.

13. Does a differential in benefits and attendance criteria between donors for various courses distort the training process?

A suggestion was made to the Team that the allowances offered by donors for similar courses of study may differ by a wide margin. The Team does not wish to comment on what the sum should be, as country circumstances and the location of a course would have to be considered. It is felt that where a wide difference for similar regional courses exist this adversely influences the course selection. Perhaps donors should discuss this issue amongst themselves and present the results at one of the Regional Meetings such as FFC or the RTMF or through the South Pacific Organisation Coordinating Committee (SPOCC) which has been set up for this purpose. Course allowances, need not be identical, but if the differences were less, more objective course selection would be possible.

A similar issue, which may be addressed in a similar manner, relates to the basic documentation required for a course by a donor. It goes without saying that, as the donor is paying the costs of the course, it can establish its own selection criteria. However, similar documentation requirements such as, the candidate's job title, job and training history, job description and a statement of how the training fits into the department's human resource development plan, would make selection for over-subscribed courses easier. A common form could be developed to facilitate the process.

14. **Would it benefit the region if non-regional countries which run institutional courses specifically conducted for "overseas students" redirected their efforts through giving financial and tutorial support to in country or regional courses?**

Discussion with senior staff and persons who have attended courses overseas which were specifically conducted for foreign students indicated that such courses were not a preferred means of training their staff. The principal reasons for sending their staff to such training was that it was mostly freely offered, it presented an opportunity for staff to experience a different environment, it was easily organized and fisheries departments did not wish to offend by refusing the offer.

It was felt although the opportunity to go overseas was beneficial, the educational content was not specifically relevant to the needs of the student or the fisheries situation in the Pacific. In the Japanese courses the necessity of learning Japanese language in order to complete a technical course placed an extra burden on the participant. The Fisheries Division of one country was sending an individual to a course he had previously attended because every one else suitable had already attended and there was no one else in the department who would benefit.

It is believed that rather than Pacific Island students attending such courses, which are also attended by persons for Asia and Africa, that a greater benefit would accrue to the region if the overseas organisations concerned would redirect the funds or tutorial assistance into courses run in the country or through assisting regional institutions or organizations with their regional courses. This may be through the supply of scholarships to attend regional courses or through the supply of qualified english speaking tutors at regional institutions or courses.

ACKNOWLEDGEMENT

Members of the survey team wish to express their appreciation for the considerable cooperation and assistance given by many individuals in each country visited. Particular thanks, of course, go to the staff of the various fisheries departments who provided logistical support and made many appointments for the team members. Through their efforts our short time in each country was utilized in a most productive manner.

SOUTH PACIFIC COMMISSION
FISHERIES HUMAN RESOURCES SURVEY

VANUATU REPORT

A. THE FISHERY

(1) General:

The republic of Vanuatu consists of an irregular Y-shaped chain of approximately 180 islands extending over more than 800 km and has an Exclusive Economic Zone of approximately 800,000 sq km. It is situated between 13 and 22 south and 165 and 177 East.

The land area is 12,190 sq km with a population of approximately 144,990 (1988) of which the majority are Melanesian, Ni-Vanuatu. The economy is mainly agrarian with more than 80% of the population living in rural areas. The principal exports are copra, beef products, cocoa and timber. Fishing does not significantly contribute to the economy, with the recurrent government expenditure in the fisheries sector being less than 1% of the total government expenditures.

Prior to independence, there were no strategies for fisheries development in Vanuatu. Fishing activities were mainly subsistence in nature, with low production from traditional harvesting of the shore and reef areas, either on foot or from canoe.

The overall policy objectives for the fisheries sector, as defined in the Second National Development Plan 1987 to 1991 are to:-

- develop the exploitation of fisheries resources to achieve their potential as an important economic activity;
- maximize the sector's contribution to an expansion in the nations's income earnings and employment opportunities;
- increase the production of fish and other marine products for domestic and overseas markets;
- reduce the level of canned and fresh fish imports; and,
- increase the sector's contribution to government income available to support other areas of social and economic development.

(2) The Commercial Fisheries:

Industrial Fishery

There has been no industrial fishery operating in Vanuatu since 1986 when the South Pacific

Fishing Company (SPFC) closed its base at Palacula on Espiritu Santo. SPFC operated as a transshipping, cold storage and fishing base, being majority owned by a Japanese Company. Palacula initially serviced a Japanese longline fleet which targeted mainly albacore tuna for the canned fish market in the United States. These were replaced first by Korean vessels and by the mid 1970s, Taiwanese vessels dominated the fleet. In 1986, the government of Vanuatu acquired total ownership of the facility and from this time has sought a foreign company to manage it.

A Ni-Vanuatu employment scheme was initiated to crew the Taiwanese longliners in 1981 and, in 1988, 120 persons were employed on these vessels. There are currently 40 Taiwanese longliners licensed to fish in Vanuatu waters (the current license fee is US\$ 5,000 per vessel) while over 400 Ni-vanuatu are being recruited to fishing boats in the Pacific and Indian Oceans (Country Statement - Vanuatu 22nd RTMF Noumea 1990).

Artisanal/Semi Commercial Fishery

Prior to 1982, everyday fishing at the village level was mainly orientated towards home consumption. David (1985) estimated that the catch was around 2,400 tons annually, approximately 23 % of which was sold. Of the fish which was sold, crayfish accounted for 45% of the sales and fin fish 42 %. In 1982, the Village Fisheries Development Project (VFDP) was initiated with the purpose of developing the capacity of rural fishing groups to catch fish on the outer reef slope and creating an infrastructure for marketing this fish in urban population centres. This sector is currently selling around 130 tons per year through official sources and an estimated additional 30/40 tons through non recorded sources. In the last two years, there has been a slight (around 10 tons) annual increase in fish landings from this fishery.

There is only a very small amount of marine products being exported from Vanuatu. In 1986, this totaled 29 tons only, comprising green snail, trochus and shark fin.(Second National Development Plan 1987-1992)

B. THE FISHERIES ORGANIZATION

Fisheries, as a branch of government, was started in 1978 when a Department of Fisheries was established as part of the Ministry of Lands and Natural Resources. With the assistance of FAO/UNDP, an expatriate Fisheries Adviser was recruited to build a Fisheries Department within the government service.

With the ratification of the Fisheries Act in 1982, the Department became responsible for the management of the nation's fisheries resources which, under the Maritime Zones Act (1981), includes the monitoring and management of the EEZ.

During its time of operation, the Fisheries Department has come under the direction of several Ministries. In 1983, it was transferred to the Ministry of Agriculture Forests and Fisheries (MAFF); in 1987 it was transferred to the Ministry of Lands, Minerals and Fisheries then returned to MAFF in 1989 only to come under the direction of the Prime Ministers Office in 1991.

Since 1985 when the total staff was 41, the staff of the Fisheries Division has declined both in terms of national and expatriate staff. The current staff numbers 31. This, in part, is due to the

rationalization of the VFDP. Only slight staff increases are expected over the next several years.

The Fisheries Department has two main areas of emphasis; Extension (through the VFDP) and Research (in collaboration with the French research Institution, ORSTOM). The VFDP underwent a review in 1988 (Sheppard). This project has never realised its early expectations, which were possibly unrealistic, and is currently going through a process of rationalization and consolidation to make it more reflective of the aspirations of the rural communities. At the request of the Fisheries Division, FFA conducted a review of the Fisheries Research Section in January 1989. (Wright 1989) This report included suggestions for restructuring and recommended future projects.

Through an EEC funded development scheme, a Fisheries Training Center has been built at Santo, consisting of class rooms, workshops, student and teacher accommodation. It will ultimately accommodate housing for both training and extension staff within the complex. The training center has a staff of one expatriate adviser and one Ni Vanuatu manager. The current emphasis of the center is training for fishermen who are undertaking a boat leasing scheme managed by the extension services. It also includes training for fisheries extension staff and will be used variously for different aspects of fisheries training within the country.

An Organizational Chart of the Fisheries Department is attached.

Human Resource Development within the Fisheries Department.

The Fisheries Department has recognized the need to strengthen the capabilities of its Ni-Vanuatu staff if it is to meet the government objectives as contained in the five year plan. In this respect it has sought advice from FFA which has instituted:-

1. a **"Review of Fisheries Research"** in 1989, which contained suggestions for staffing, and,
2. a **"Review of the Structure of the Fisheries Department"** which recommended staff training and development, currently being conducted by the Fisheries Development Officer of FFA.

The Team Supports these initiatives and has taken the opportunity to use the contents of the reports and the recommendations they contain to examine the issues related to current staff development in the Fisheries Department. A summary of the reports and the team comments follow.

"Review of Fisheries Research" (1989)

This review recommended several human resource, initiatives, most of which have been accepted or implemented, as follows :-

1. the Senior Fisheries Research Officer be redesignated Senior Fisheries Biologist and the position be upgraded to P15;

This has been accepted in principal (although the grading will probably be P 13 and the exact title is uncertain). Funding has been sought from FAO/UNDP to fill this position, initially with an expatriate adviser.

2. the Fisheries Research Officer position be regraded to P11 and redesignated Fisheries Biologist;

This has been done and the position has been filled by a graduate with a BSc in Marine Biology recently returned from New Zealand. The Public Service Regulations automatically place this person at level P13 because of his qualifications;

3. the Fisheries Technician position should be upgraded to P8 and a new person recruited;

This recommendation has been accepted and two new Technician positions at P8 have been approved. One will be recruited this year (1991) and another in 1992.

4. the Fisheries Research and Statistics Unit be retitled the Resource Assessment and Surveys Section. (RASS);

This has been accepted in principal although the exact title is not certain.

5. the Department create a unit responsible to the Director that handles the department's computing requirements and the acquisition and dissemination of information. This be called the Computer Information and Services Unit;

This has been included as part of RASS and is unlikely to report directly to the Director in the future but probably, will report through the Senior Fisheries Biologist.

6. the unit should be staffed by a Computer Services and Information Officer at a level range between P11 and P13 with an assistant at level P8. Also that the current occupant of the Fisheries Research Officer position be transferred to this section;

This has been done, except that the Computer Services and Information Officer remains at level P10 and the Public Service Commission recruited the assistant position at P5.

While the research section has been restructured as suggested, the relationship with ORSTOM remains an unresolved issue. The current Fisheries Biologist originally working under the auspices of ORSTOM is now funded by the French Government. There is a certain amount of uncertainty regarding the incumbents' role within the new structure and how the work will relate to the objectives of the Fisheries Division, ORSTOM and the French Government. It is important that this be clearly resolved. It is understood that a new agreement between the Governments of France and Vanuatu concerning this position will be negotiated this year and, at that time, it is important that the role of this position with respect to departmental operations be resolved.

In deciding what work should be undertaken by the French Biologist due regard should be taken of the suggestions contained in the 1988 paper prepared by ORSTOM, "Prospects for Research"

There is also a great deal of uncertainty about the role and work of the French volunteer research worker (VSNA). Again, it is important that both the role and employment structure of this person be clearly understood. This should be resolved by the Director of Fisheries writing a complete Duty Statement for this officer, which not only describes his duties but outlines the staff structure in which the VSNA will operate. This should be submitted to the French Government for their ratification and each VSNA should get a copy soon after commencement of work in Vanuatu. (See recommendation no.4)

Review of the Structure of the Fisheries Department

This review is ongoing, and if adopted, will establish the staff structure and future training of fisheries staff over the next several years. The efforts of the Team with regard to this review focussed on the reaction of government to the creation of the recommended staff positions and regradings which can be summarised as follows:-

1. the manpower plan is felt to be in keeping with the government policy which allows the Department Head (ie. the Director of Fisheries), develop the structure of the department.
2. the major constraints to new positions will be mainly budgetary. In this regard, the Director of Fisheries should make every effort to emphasize the possible financial benefits which might accrue from the re-structured department.
3. the Management Services Division plays a key role in the decision on how posts will be established, i.e., at what level and how salaries are assessed. The Director of Fisheries should liaise with this Division at the earliest date to ensure required levels are realized.
4. within the budget allocated to the Fisheries Division funding for salaries may not be a problem but finding funds to support the activities of the positions might be. The possibility of external funding of some projects should be considered in conjunction with the Manpower Plan.

C. EDUCATION

Education in Vanuatu reflects the difficulties of coordinating the dual English/French educational systems which operated before independence. Major efforts have been made to standardize the curricula in the dual system and generally upgrade educational opportunities; especially at the primary level. While it is accepted that education must continue in both languages, there are attempts to have this done within a single school system. Two junior secondary schools are now bilingual. Education constitutes appx. 30 % of the recurrent budget of Vanuatu and is structured in three cycles.

1. Primary Cycle (6 years)
2. Junior Secondary Cycle (4 years)
3. Senior Secondary Cycle (3 years)

The Primary Cycle.

The curricula has been standardized in both French and English systems and there are now sufficient places to accommodate all 6 year olds into the first year of the primary cycle. At the present time, 100% attendance has not been achieved due to the difficulty in getting children to primary school in remote areas; however, it is estimated that 90% of all children attend primary school.

The Junior and Senior Secondary Cycles.

It is estimated that about 25% of children completing primary education enter the 17 Junior Secondary Schools and about 10% of these enter the 3 Senior Secondary Schools (2 English, 1 French). In 1990, approximately 1000 students graduated from Primary to Junior Secondary and 90 students advanced from Junior Secondary to Senior Secondary.

The Senior secondary cycle ends at year 13 and this is still one or two years before matriculation. This is giving Vanuatu major problems in getting persons qualified to enter degree programs. The failure rate of Vanuatu students attending the USP foundation year in Suva has been high.

Sending student to Suva is being phased out and foundation will be conducted at the extension center of USP in Vanuatu in the future. It is hoped, by educational authorities, that this will prove more effective. It is the longer term objective (perhaps five years) to increase the Senior Cycle to matriculation level.

In addition to attaining foundation standards through the USP Extension Centre, 14 persons a year are selected for scholarships provided by the New Zealand government which will qualify them for matriculation at a New Zealand High School and further education at a New Zealand University or Technical Institute. The French Embassy also runs a private school which leads to the Bacca Laureate exams through New Caledonia and French Polynesia. Examination for the Bacca Laureate was stopped in Vanuatu last year. There is now a scheme which allows francophones to gain access to the University Francaise du Pacifique in Tahiti. There is also an unquantified number of persons undergoing secondary education overseas at personal expense.

Post Secondary Education

There are two institutions in Vanuatu conducting post secondary education, The Teachers Training College and the Institute Nationale de Technologie de Vanuatu (INTV).

The Teachers Training College annually enrolls about 50 persons seeking qualifications to teach primary school in the English system. It has recently started a 2 year course for 25 junior secondary teachers. A scheme to recruit Junior Secondary teachers for the French system is nearing completion. It is considered by 1994 all teachers in primary and junior secondary will be Ni-vanuatu.

INTV was set up before independence to teach technical subjects in the French language. It currently has an enrollment of 140 french speaking students and a recent enrollment of around 40/50 English speaking students studying a variety of technical subjects (building construction, diesel mechanics, typing, etc) as well as math, science and social science. The Institute has a capacity to take up to 640 students and, following a general policy for all schools, the department of Education intends to encourage it to develop into a bilingual establishment.

D. HUMAN RESOURCES DEVELOPMENT

The development of human resources in Vanuatu is directed through three main government organizations whose roles are as follows:-

Manpower Planning Unit (MPU)

This is a Branch of the National Planning and Statistics Department (NPSD) of the Prime Minister's Office. The role of MPU is one of coordination to ensure that manpower decisions within the 3000 strong Public Service are in accordance with overall manpower planning policies of the Government of the day. A manpower development plan for the entire government service does not yet exist; therefore, leeway is available for individual departments to proceed with their own human resource development plan.

Public Service Department (PSD)

Located within the PM's Office, PSD has four branches; namely, Personnel, Management Services Unit, Industrial, Training and Development and the Training and Scholarship Office.

Of these, both the Management Services Unit and the Training and Scholarship Office are directly involved in staff development and training.

The Management Services Unit (MSU) processes all applications and departmental submissions for recruitment into the public service. Upon receipt of a job description from a Department, MSU channels it to a Manpower Committee comprising representatives from MSU, Planning and the Accountant General (Department of Finance). This committee, depending on whether such a post has a budgetary allocation, approves or disapproves. Once it has been approved by the Committee it is forwarded to the **Public Service Commission (PSC)** for final approval. If an expatriate is to be hired, the Ministry of Foreign Affairs becomes involved in the process.

The PSC is a statutory body comprising of 6 individuals from both the public and private sector appointed by the Prime Minister. Their term is for 2 years and they are expected to meet weekly. The Commission acts as the final authority in the sanctioning of both short and long term training, recruitment, setting of salary levels for special cases, promotions, transfers and settlement of disputes.

The Training and Scholarship Office is responsible for the receipt and processing of all applications for both short and long term training and acts as a secretariat to the Scholarship Board which measure requests against national priorities. Requests fall into three categories:

1. pre-service, the majority of these from year 12 (form 6) students of the Junior and Secondary Schools in the Republic;
2. the In-service category; and,
3. the Private Sector

All requests for training are reviewed with priority given to localization of positions, the long term manpower needs of the country, post graduate education and the policies of the funding agencies.

The Public Service in Vanuatu is structured into 21 levels with each level having 3 steps. Promotion within each level is conducted every two years and is conditional on a favorable assessment. An annual assessment form is completed for each staff member.

The level or grade of a new position or regrading is decided by the Department Head and must be reflected in the job description which he prepares. These are scrutinised by the Management Service Unit to ensure they accurately reflect PSD policy and the responsibility of the position e.g. the Director of Fisheries Position is currently classified at P19.

At independence, there were very few Ni-vanuatu public servants and it has been a major government policy since this time to localise positions. It is now policy that all positions below P15 be filled by Ni-vanuatu citizens.

Although someone with a university degree enters the system at P12, there are no prerequisites which tie any level to a designated educational qualification. It is basically the Department Head who decides who should fill positions and levels can equally depend on experience as well as academic qualifications. It is also possible to have persons regraded after attending a training course, although this may take some effort on the part of the Department Head.

It was considered by most persons consulted by the team that, although a "Course Assessment Training Sheet" (copy attached) existed, not enough effort was made in assisting course sponsors to improve training courses and in providing other appropriate feed back.

ISSUES AND RECOMMENDATIONS

1. In discussions with officials from Planning, Personnel and the Prime Ministers Office it was apparent that the priority given by the Government of Vanuatu to the development of any Division within the Public Service was, to some extent, related to the economic benefits which might accrue from the activities of the Division. With the closing of SPFC in 1986 and the relatively modest performance of the VFDP, the fisheries sector does not currently contribute, in a large way, to the economy of Vanuatu.

In pursuing the staff development objectives as formulated by FFA, the Fisheries Department must consider the Government's wish that there be some economic gain. When presenting the staff development plan to government departments, the Director of Fisheries should make some effort to identify the economic gains which might be made to the country through the implementation of the manpower plan.

The Director of Fisheries should examine the staff development plan to identify areas which could contribute directly or indirectly to economic gains, and include this information in any submission to PSD.

2. Joint venture fishing agreements are seen as a possible means of increasing the economic contribution of the fisheries sector to the economy of Vanuatu and giving job opportunities to Ni-vanuatu citizens. While joint ventures in offshore fisheries have demonstrably worked in many Pacific Island countries the inshore resource is excessively vulnerable to over exploitation where the overseas partner can easily move away from a denuded resource simply by removing his vessels. Joint ventures are not generally recommended as a means of exploiting this resource.

There are now several joint venture operations in the Pacific which contribute to both the economy and job opportunity of Pacific Island Countries and these can be used as an example for the fisheries sector of Vanuatu. Some examples of these are:-

- i). the various joint venture small scale longline operations in effect in Fiji; actively encouraged by relaxed fiscal policies;
- ii). the Solomon Taiyo joint venture in the Solomon Islands (refer Solomon Island Report);
- iii). the operation of a dedicated training unit in Kiribati to train I-Kiribati crew for

the Japanese Pole and line fleet (Refer Kiribati Report). This supplies a significant input into the economy by way of remittances.

While some joint ventures are a totally private sector responsibility there is a need for an effective monitoring mechanism to ensure that the local counterparts are not disadvantaged in any way and, more importantly, that the fisheries resource is not unduly exploited. As such, it is vital that the Fisheries Department as a Government institution prepares itself structurally and expertly to meet the challenge. At the current rate of development of the fisheries and manpower of the sector, it is not envisaged that any move towards joint venture arrangements will be possible in the next 2/3 years. This should be enough time for a possible restructuring of the Department.

The Fisheries Department should undertake, with assistance if required, a study into the various joint ventures in operation in the Pacific with the view of recommending to government an approach which will give economic gains, create employment and protect the resource. Simultaneously every attempt should be made with the relevant Departments in Government to address the required organisation structural changes and staff training plans as recommended in the FFA report.

3. Within the manpower plan being developed by the Fisheries Department, the role of the French funded (formally ORSTOM funded) fisheries biologist is unclear. In order that the country gets the maximum benefit from the position, this must be resolved. The signing of a new agreement due this year (1991) presents an opportunity to accomplish this.

When the agreement with the French Government to supply a Fisheries Biologist is ratified this year (1991), the areas of research to be undertaken by this person and the ways in which this work is to be integrated with the Fisheries Department staff should be clearly defined.

4. The role of the French fisheries research volunteer is not clear and, if maximum productivity for the benefit of the advancement of the department and fisheries research in Vanuatu are to occur, this needs to be defined.

The Director of Fisheries should prepare a Duty Statement for the French fisheries research volunteer. This statement should make clear the reporting relationship for this position. This duty statement should then be discussed and ratified by the appropriate representative of the French Government.

5. Records have shown that the bulk of the training undertaken to date, or sought by pre-service applicants, has been largely for academic rather than technical training. The "white-collar mentality" is prevalent with very little interest expressed in the vocational and technical skills area. A reason for this has been the minimal public relations effort; such as career talks by appropriate Departments. Fisheries and Agriculture have been encouraged to move in this direction.

The Director of Fisheries should initiate career talks on fisheries at the school year 12 level to increase awareness of the importance of the fisheries sector and the rewards of undertaking a career in fisheries. Public relations initiatives

presented to senior civil servants in supporting departments could contribute a great deal to improving the Fisheries image which, for a complex of reasons, has been a lack lustre one to date.

6. The Management Service Unit of the Public Service Division has the responsibility of establishing new positions and allocating the appropriate salary level. It is properly placed to review organisation structures to meet the needs of individual departments. PSD encourages discussions of this issues on an informal basis as a means of assisting departments with preparation of formal submissions which meets government policy or objectives.

The Director of Fisheries should contact the Management Services Unit to thoroughly discuss the new staff development plan on an informal basis with the view of ensuring they reflect PSD criteria and government policy.

7. The Government of Vanuatu is very appreciative of the assistance of both the Governments of Great Britain and Australia in the significant assistance they have given to Vanuatu in raising the educational standards of Ni-vanuatu citizens through their respective scholarship schemes. Some recent changes of policy by both these Governments however, has created some difficulty to education administrators in Vanuatu.

The changes in Policy of British Development Division in the Pacific (BDDP) has meant that British scholarships are more closely related to the various projects being run under British aid and, as such, are not available to meet more general needs.

The Australian, "Merit and Equity Scholarship scheme" operates outside of the government system and, as such, cannot be directed to areas of defined need. These scholarships, while of great benefit to individuals, do not necessarily benefit the country and in some cases may even disadvantage the country e.g., as in Vanuatu through the loss of a trained teacher and in Tuvalu (see Tuvalu report) through qualification not being linked to job opportunities.

The South Pacific Commission should :

- a). **encourage all donors (as far as practically possible) to discuss training needs with PSD and NPSD to ensure that national needs and priorities are being addressed;**
- b). **communicate with the Australian "Merit and Equity Scholarship Fund" officials to ensure that they understand the difficulties being experienced by Pacific Countries caused by scholarships granted without consultation with appropriate government officials.**

8. It was clear from discussions with Government Officials that, since independence, there has been very little progress in localizing senior management positions currently held by highly qualified expatriates. For the Fisheries Department, expatriate staff are primarily project oriented. Government's attempts to accelerate localization depends on available scholarships and training opportunities. Importantly the effectiveness of such attempts in large measure could depend on the length of time a trained local stays in Government Service.

To enhance this process and, at the same time, ensuring that Government reaps the benefit of investing in training, the BDDP now contemplates a bonding system similar to that already in place in Tuvalu and Kiribati for all British Sponsored students/trainees.

The Government of Vanuatu should consider the institution of a student bonding scheme which would ensure that returning graduates remain in the Public Service for an appropriate period reflective of the period of training.

9. The team considers the suggestions contained in the FFA staff development plan are sound in principal and agrees this is an appropriate plan for the Fisheries Division to follow. However, the Team has had the benefit, through this survey, of discussing the training needs and methods for staff development in fisheries departments in the Pacific. Some major issues have emerged and these will be discussed during the Forum Fisheries Committee 5th Technical Subcommittee Meeting in Wellington in April 1991. The Fisheries Department may wish to re-examine its current manpower plans in the light of the issues and possible solutions discussed at that time

In re-examining the current manpower plan the Fisheries Department should consider placing more emphasis on work experience rather than additional academic courses and preferably a combination of short academic courses combined with work attachments.

SOUTH PACIFIC COMMISSION
FISHERIES HUMAN RESOURCE DEVELOPMENT STUDY
TUVALU REPORT

A. THE FISHERY

(i) General

Tuvalu, a small country with a total land area of only 25.9 sq. km (nine islands, of which eight are permanently inhabited) and a population of 9000 will spend about AUD\$900,000 in 1991 on its fishery sector.

As fish represent a major part of the diet of Tuvaluan people, subsistence fishing prevails throughout the country. The commercial fishery remains limited in scale with most marketable production comprising fish surplus to subsistence needs or landed by government owned vessels where catches are shared on a 50/50 basis with the fishermen. Landings from the inshore fishery currently approximate 300t per annum. Additional revenues (US\$300,000) are received from license fees collected from Distant Water Fleets (Taiwan; South Korea and the USA), which fish tuna in the relatively small (200,000 square miles) EEZ of Tuvalu.

The government is currently writing new Sectoral Development Plans to commence in 1992 and be operative over the next two to three years. While the fisheries development plan was not available for review, the Team was informed that the objectives for the sector will be unchanged from Development Plan IV, which are:

- Commercial development of the artisanal fishery.
- Improved fish processing
- Improved participation of fishermen from the outer islands.
- Maximization of returns from the industrial fishery.
- Development of aquaculture.

Major initiatives which have been taken or are planned for the future to address the above noted objectives can be found in recent country reports to the appropriate committees of the Forum Fisheries Agency and the South Pacific Commission.

The pace of future development of the fishing sector in Tuvalu will depend, in large measure, on overcoming constraints which are not necessarily unique to this country. Examples include:

- Infrastructure to store and transport fish.
- maintenance capabilities.
- distances to export markets.
- stabilization of fish supplies.
- collection of catch statistics.
- improved catching efficiency.

(ii) The Commercial Sector

There is currently a desire within Tuvalu to strengthen the commercial operations within the fisheries sector of Tuvalu and these will mainly be coordinated through the auspices of "Naficot", the National Fishing Company of Tuvalu. Naficot is a Statutory Corporation owned by the Tuvalu Government and operated through a board of directors. It was created in 1981 mainly to look after the pole and line vessel Te Tautai which was donated by the Japanese government. In 1987, Naficot took over the operation of the Fish Market and facilities from fisheries Division and in 1991 will take over the operation of the share fishermen scheme, fishing vessels and workshop operation on a commercial basis. Naficot will continue to work in close cooperation with the Fisheries Division.

It is generally accepted that the Te Tautai is not a suitable vessel for a pole and line operation from Tuvalu as it is too large and the engines are over powered making the fuel consumption excessive and requiring a larger crew than equivalent vessels. Between the years 1982 to 1989 Naficot has run at a loss except for a small profit (A\$20,000) in 1989 when it fished in the Solomon Islands. The vessel has been on charter to the SPC as a tagging vessel from 1990 and is currently returning a profit. Its future after the end of this charter is uncertain as a commercial pole and line vessel although some further charters in a scientific capacity are possible.

Naficot presently has a staff of one ex patriot general manager, 3 management staff, 5 factory staff and 21 boat crew. Naficot has no formal staff development plans and staff training, development and assessment is presently ad hoc. The present General Manager has an enlightened policy of rotating responsibilities within the shore staff to extend their technical and administrative skills.

Some problems associated with staff development and training are highlighted in the general report in **Appendix XXX** Section....."Staff Development Case Studies".

B THE FISHERIES ORGANIZATION

Before Tuvalu separated from Kiribati in 1978, there was only one Fisheries Officer, based in Funafuti. At separation, the Fisheries Division was created as a component of the Ministry of Commerce and Natural Resources and comprised a staff of 1 - a Chief Fisheries Officer at the B.Sc. level, who transferred from the former government. Since independence, the responsibilities of Ministries have been shifted somewhat and some have been renamed. The current government structure can be illustrated as follows:

PRIME MINISTER

Ministry of Prime Minister's Office, Foreign Affairs & Planning	Ministry of Public Works and Communi- cation	Ministry of Natural Resources & Home Affairs	Ministry of Health, Education & Community Affairs	Ministry of Finance and Commerce
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Secretary

Asst. Sec. Natural Resources	Asst. Sec. Home Affairs
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Fisheries Division	Agriculture Division
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With the exception of 1981, when only one new position was established, the Division has grown by two established positions per year since 1978 and currently has a total staff complement of 25 positions, comprised of 13 Established Positions, and 12 Non-Established positions. The Department also administers the activity of 20 Share Fishermen utilizing Government vessels.

The current organization for the Fisheries Division can be found in Appendix...

C. HUMAN RESOURCE DEVELOPMENT

An extensive review of the Tuvalu Civil Service was conducted by Mr Ian Mackinson, OBE, during the period February 12 - April 24, 1988. His report was made available to the Team as the central theme of his study relates directly to the Terms of Reference of our survey. It is encouraging to note that many of Mr Mackinson's recommendations have already been implemented; however, some key initiatives with respect to Human Resource Development have yet to take effect. Prior to an examination of these specific issues, it is important to understand the educational system of Tuvalu, and how public service positions are initially staffed, and current staff members are selected for promotion and/or training.

D THE TUVALU EDUCATIONAL SYSTEM

Elementary Education:

School education is compulsory until the age of 15. Children attend Elementary School from classes 1 - 6. Until the current year, they were required to sit an entrance examination for progression to forms 1 - 5, although this will now be delayed until form 2. According to Pafini Nouata, Director of the USP Tuvalu Centre and Chairman of the Task Force on "Education for Life", it is a goal of the Tuvalu Government to retain more students in the country for secondary education, and the delay in qualifying examinations is the beginning of the implementation of the new system.

Secondary Education:

Each year, 60 - 70 students qualify for admission to the only Secondary School in Tuvalu, the Motufoua Secondary School on Vaitupu Island. This school takes them up to Form 5; it is a boarding school with fees (1990) of AUD\$60.00/term. Current changes in the system, as mentioned above, will ultimately increase these numbers. The Motufoua Secondary School presently follows the Fiji School Curriculum.

On completion of Form 5 (age 16-17), the students with the best academic record are selected for Scholarships to further secondary education. There are more students who qualify than there are scholarships, which number about 15 per year. In addition, 15 students obtain scholarships to other post secondary institutions (Fiji Institute of Technology; Solomon Islands College of Higher Education) and nursing schools. Some also attend the Tuvalu Maritime School to undertake training as a general purpose rating in an overseas merchant shipping company. A few Tuvaluan students may be enrolled in overseas schools as private students.

Government Departments (such as Fisheries) may select some Form 5 leavers as unestablished staff, with a view to further development.

Post-Secondary Education:

In selecting students for post secondary education, it is apparent that career paths are determined even at the Form 5 level, and certainly at the completion of Form 7. The Government Staff Development Unit therefore plays an important role well before the completion of post secondary qualifications. Students are advised of courses/programmes that they should take; these determined, in Fisheries for example, on the recommendation of the Chief Fisheries Officer to the Training Officer and Staff Development Officer. Final approval for scholarships rests with the Prime Minister. Students who wish to change their programme of study can do so only with permission of the Government. Because of this pre-selection for a government post at such an early age and the lack of promotion criteria, short of a university qualification, vacant positions can be blocked for staffing purposes for a period of up to seven years, unless filled by expatriates as has been the case for most positions.

E PROCEDURES FOR DEVELOPING NEW POSITIONS AND JOB DESCRIPTIONS:

The department head (CFO), working within the staffing limits set by government decides on what positions are required by his department. He then develops a "New Service Proposal" which includes the job description and educational requirements for the position and rationale for its creation. This is passed to the Secretary who passes it to Personnel. The New Service Proposal is then thoroughly reviewed by the Manpower Planning Committee who identify appropriate persons for the position. This selection must then be ratified by the Public Service Commission (a group of four retired Public Servants outside of the bureaucracy).

F PROMOTION AND TRAINING SELECTION:

The head of the Division (Chief Fisheries Officer) submits a proposal for promotion and/or further training of staff through departmental channels to the Secretary of the Ministry. Included with the proposal would be an assessment of the employee, training record and recommendation. After approving the proposal the Secretary forwards it to the Staff Development and Scholarship Committee, which is composed of the 5 Secretaries in Government. Once approved at this level, the committee's recommendations are forwarded to the Public Service Commission, who send their advice to the Prime Minister. The Prime Minister makes the final decision. There are no written established criteria against which any proposed candidate is measured at any step in the procedure.

G QUANTIFICATION OF FUTURE TRAINING NEEDS WITHIN THE TUVALU FISHERIES DIVISION

Using personal profiles of fisheries staff supplied by the Chief Fisheries Officer and taking into account the current long term vacancies (7), and anticipated turn over, a very broad estimate of the need for training over the next several years may be estimated. Please note that these figures are not meant to be used as a guide to Tuvalu Fisheries Division but are for the use of this report when estimating overall regional needs. They also cannot account for Tuvaluan staff being accepted into the Department from other Tuvaluan sources or those being currently trained abroad who may return to enter these positions.

It is also accepted that these figures are by no means definitive firstly because a current freeze on staff is in force and the figures are based on the acceptance of some of the principles (recommendations?) contained in this report.

Vacant Positions

Training Need

~~Head Fisheries Division~~ specific training needed.

~~Head Admin Section~~ Division, insufficient information but would only need a short admin course (8 mnths max). May benefit from some attachment or secondment experience.

Research Officer BSc Marine Science.

~~Marketing/Processing Officer~~ May benefit from structured attachment training.

Mackinson and his colleagues plus

Assistants structured attachments over a period interspaced with work.

Fisheries Assistant ext. As filled from within the department otherwise by in service training as appropriate, perhaps Nelson or new 1 year Certificate.

Fisheries assistant ext. As above.

Occupied Positions

The current incumbents are well qualified to fill their current positions but may be assisted in their duties by in-service training i.e by attending specifically selected short courses or structured attachments.

H ISSUES AND RECOMMENDATIONS:

Mr Mackinson's report stated that there were several "shortcomings in the whole complex area of managing human resources" and specifically mentioned the following:

- the absence of personnel or training policies.
- inadequate systems for positive human resource development.
- limited career development prospects or succession planning.

Many of his recommendations directly address these shortcomings and, if implemented, will establish a favourable environment for Human Resource Development within the Fisheries Division. These recommendations should be reexamined along with the Team's recommendations, which follow.

1. The Fisheries Division has grown from 1 to 25 positions since 1978. During this 12 year period, staff duties reflect a move from a more general nature to more specific tasks as the organization's growth dictated that greater efficiency was achieved by grouping work into areas of specialization. Job descriptions can provide the basis upon which the Chief Fisheries Officer can organize the work, assess performance, establish objectives and work plans, and determine appropriate minimum qualification levels.

-The Chief Fishery Officer should review the job descriptions for each position to ensure that the current duties are accurately reflected. If they are not, the job description should be re-written.

2. The Staff Development Officer in the Personnel Division informed the Team that a staff development plan would be developed for the Fisheries Division in the near future. This plan ideally should document current educational levels, training completed and future development needs for each staff member to meet established qualification standards for the vacant positions and future organizational needs.

-The Chief Fisheries Officer should work closely with the Staff Development Officer to develop a plan which will be useful in guiding future staff selections for appointment to higher levels, and training. Assistance from an outside specialist could be solicited if desirable.

3. Secondments to other departments within country or within region are currently not generally favoured by Government. Perhaps this is understandable considering the small technically qualified human resource base in Tuvalu. The small number of qualified people are required at home to meet the development objectives established by government. In many instances, however, experience can be preferable to formal education as a means of developing the talent necessary to meet these objectives.

-The current Government policy should be seriously reconsidered so that certain members of the Fisheries Division can acquire necessary work experience.

4. The Planning Division within the Prime Minister's Office has responsibility for the writing of proposals for funding agencies. The Personnel Division, in the same Ministry, has responsibility for personnel policy direction and support for the Staff Development and Scholarship Committee. This Committee, composed of the five Secretaries of the five Ministries approves all staff selections for appointment or training for onward transmission to the Prime Minister through the Public Service Commission. The vital work of the two Divisions (future planning and funding - versus - human resource development) comes together only at the level of the Secretaries.

-A mechanism should be established to encourage coordination between the Planning Division and the Personnel Division, at the working level. This currently operates very well at the Secretary level but requires strengthening at lower levels.

5. There is no formal mechanism whereby the Chief Fishery Officer can assess the value of a particular academic course of studies or shorter term training. As the human resource base is small and the job of fisheries development and management extremely challenging, it is vital that all development initiatives be chosen with extreme care.

-Any person attending training should prepare a report (a form may be prepared with expert advice) and the Chief Fisheries Officer should submit an assessment of the value of any training course based on the changed performance and skills level of the trainee, six months after course completion.

6. The present system where students are selected at Form Five to undertake education or training for a pre-selected position in Government which they will not fill until completion of a degree or diploma in 5 to 7 years time can seemingly hamper the ability of management to meet their current objectives. During this waiting period, the priorities in the fishery can change, requiring different academic qualifications and experience to meet new objectives. Perhaps a person from a lower level has been chosen to fill the pre-selected student's position and has proved over the 5 to 7 years to be very competent and deserving of promotion. Stepping back to the lower level position to make way for a better academically qualified but inexperienced and unproven candidate can cause resentment and poor morale. If the current system is left unexamined and unchanged, it would be difficult to put in place some kind of promotion criteria which recognizes superior performance, experience and shorter-term training as key components.

-The present system where students are selected at Form Five for a pre-selected position in Government must be seriously examined. The system should become more flexible and capable of responding to changing circumstances in country and take into account the suggestions for manpower development contained in this document.

7. The primary emphasis of education and training in Tuvalu is for formal institutional courses which will lead to a recognized qualification (e.g. a degree or diploma). While it is recognized that such education is important and necessary for certain more specialized positions in the Fisheries Division (e.g. stock assessment; and research) shorter structured courses interspersed with industry/government experience or attachments are more appropriate for certain positions (e.g. extension and enforcement).

-Each position should be examined to determine the qualification standards most appropriate for the duties to be performed. For those positions which do not require an academic degree (a limited number) appropriate short term training and experience should be recognized for advancement and classification purposes.

8. With the number of qualified persons returning from overseas education increasing, attrition of qualified staff may occur through their seeking better paid positions overseas. At this time, it is not possible or even desirable to meet the salaries offered by other more developed countries so other incentives must be considered to keep this qualified cadre at home where they are needed.

-Incentives should be developed to retain qualified staff in Tuvalu for an appropriate period after the education they have received on government sponsored scholarships i.e. suspensory loans.

9. The Personnel Division requires that a confidential assessment be completed on staff for any salary increments or for overseas training. To the Team's knowledge, no standard form or set of measurement criteria exist for these purposes and the assessments are not discussed with the staff member concerned. Following Mr Mackinson's review of the Civil Service in 1988, the Personnel Division introduced an appraisal program which would have the multi-purpose of meeting the two needs noted above as well as identifying current training levels and future needs. The programme required that the contents of the appraisal be discussed with the person being appraised and be countersigned by another reviewing officer. Unfortunately, these appraisals have not been completed and the Team received no indications on what the Government intended to do in the future (i.e. return to the confidential assessment for specific purposes, or give firmer direction to the new program).

-Annual appraisal of staff performance as recommended by Mackinson (1988) should be implemented as a means of, among other things, identifying training requirements for individual staff development. Appropriate forms have been designed by the Tuvalu Public Service and are available for use.

10. In the Fisheries Division there are currently twelve non-established positions filled by staff with several years' of relevant experience. In fact, three of the "Trainee" positions are filled by non-established staff. This segment of the Tuvalu Civil Service has the potential of being a rich but under developed sector of the work force. Very few, if any, of these staff members can aspire to an established position.

-The recommendations contained in the Mackinson Report with regard to the development of criteria to permit the more highly qualified non-established staff members to qualify for established positions should be implemented.

SOUTH PACIFIC COMMISSION
FISHERIES HUMAN RESOURCES SURVEY
PAPUA NEW GUINEA
REPORT

A. THE FISHERY

Excellent background information on the PNG fishery was found in the document "Development Policies and Strategies" Vol. 1, which was prepared by the Honourable Paul Pora, MBE, MP, on the occasion of the 1991 budget. The following is extracted from that document.

"Introduction:

Papua New Guinea has jurisdiction over 2.3 million square km. of ocean, the third largest Declared Fishing Zone (DFZ) in the region. The marine resources in these waters are rich and varied, with over 10,000 species of fish, molluscs and crustacea. A number of these are harvested by coastal residents for food and trade. Some are the basis of valuable commercial fisheries. In the inland waterways, both native and introduced fish are caught by subsistence and artisanal fishermen.

Historical Development

Marine and freshwater products have long been important in subsistence and local trade. They are a rich source of nutrition and an important cultural element in the coastal communities. The artisanal and subsistence fisheries include lobster, reef fish (such as: mullet, emperor, snapper, grouper, parrot fish, surgeon fish, shark and trevallies, shells, crabs), and tilapia and carp in freshwater areas. Turtles and dugongs are captured in small numbers for subsistence purposes.

Small scale commercial fisheries include barramundi, lobster, small pelagics and reef fish, most of which are also taken by artisanal fishermen. There is also a small but rapidly growing trade in shells with nacreous (lustrous) interiors, such as trochus, green snail and pearl shell, as well as in smoke dried beche-de-mer.

Domestic consumption of fresh and frozen fish is nearly exclusive to those areas in which it can be caught, with minor markets in the major urban centres. Consumption of fresh and frozen fish is estimated to be about 12,000 metric tonnes per year. Local consumption varies widely depending on season, fishing traditions, and access to fish.

Currently, about 16,000 metric tonnes of domestic catch is processed each year. Foreign vessels working in deep water zones report catches of up to 100,000 metric tonnes in some years. This is estimated to be only a small portion of the potentially sustainable catch. The large-scale commercial fisheries are dominated by tuna and prawns.

Export earning from fisheries were K11.7 million in 1987, the most recent year for which

comprehensive data is available. This represented only one percent of total exports. This has declined from a high in 1980 of K31 million, of which 84% was from domestic tuna operations. Today, prawns represent 75% of the total export value. Japan is the main recipient with 75% of the total exports, including over 90% of the prawns. Australia is next, with 11% of total exports, including virtually all barramundi exports and over half the lobster exports.

Current Situation:

Only a very small proportion of fisheries are commercially exploited due to lack of sufficient scale of investment and of easily-accessible markets for final products. There is little tradition, insufficient skills, and a lack of motivation for commercial fishing among Papua New Guineans. Infrastructure, services, and marketing networks are poorly developed.

Participation of women in the sector is extensive, particularly in the post-harvest stage. However, no precise data is available on participation levels.

The future for expansion of employment in fisheries depends largely on increasing industrial fishing activities, and improving marketing and distribution systems so that increased numbers of artisanal fishermen can benefit.

Government focus in the last year has been on three areas: assistance for coastal fisheries development (especially for local businesses), reviewing and increasing the availability of inland waterways fish, and firmly establishing international fisheries treaties for use of Papua New Guinean waters by foreign fishermen.

Coastal fisheries development has been assisted by the introduction of marketing authorities in two provinces through the IFAD project, and work on nets, boats and artisanal fishing methods in the Local Coastal Fisheries Project. A USAID project is being established to improve management of the coastal zone and improve marketing techniques.

Inland fisheries work includes extensive activities on the Sepik River to improve stocks and to introduce new species. Fingerlings supply and hatchery design for several Highlands areas have been completed.

Since Papua New Guinea does not have a domestic tuna fleet, access arrangements are very important. Therefore, development of such arrangements has been initiated with Australia, Japan, the Soviet Union, South Korea, Taiwan, the Philippines, and the United States in 1990.

A number of proposals have been received by Government regarding development of a domestic fish canning industry to be linked with offshore fishing licenses. These have been under review to determine the most appropriate long term investment strategy. Fees collected from all vessels, foreign and domestic for 1990 were estimated to be K15 million.

In 1990, a review of the Fisheries Act has commenced to determine necessary revision and update of the Act in light of recent developments in the sector.

Objectives in Fisheries

The Department of Fisheries and Marine Resources policy statement is found in the Fisheries Section in the Medium-Term Strategy 1990-1994.

"Sectoral objectives for fisheries include the following:

to develop renewable fisheries resources, within the limits of long-term sustainable yields.

to invest public sector resources in economically viable smallholder fisheries activities which lead to the expansion of exports and decreases in imports, and which will expand local food supplies and give smallholders increased access to the cash economy.

to invest in improvements to national extension, planning, training, research, and monitoring in order to improve the technical support offered to provincial divisions in the execution of fisheries projects.

to promote commercial investment in the development of fisheries resources."

B. THE FISHERIES ORGANIZATION

1) National:

Until 1986, the administration at the national level of fisheries was the responsibility of the Fisheries Division, Department of Primary Industry (DPI). In 1986, DPI was abolished and the **Department of Fisheries and Marine Resources (DFMR)** was created, with a staff complement at that time of 151, consisting of 128 nationals, 22 expatriates and 1 volunteer.

The organizational structure identified for the new DFMR at that time contained an establishment of 275 positions. Because of delays in having this organization approved by the Department of Personnel Management (not approved until 1988), staffing was postponed. Domestic problems within PNG subsequent to the organizational approval have resulted in an austerity programme within the public sector; however, a current position ceiling of 193 has now been approved, of which 172 are filled. The 21 vacancies are currently being advertised for recruitment.

An extensive review of the fisheries sector was conducted in 1988 for the government of PNG by the UNDP (UNDP Project PNG/88/004/A/01/31). Several recommendations were made with respect to the organization of the DFMR which have been implemented. A current organizational chart is attached.

2) Provincial:

Because the time available for this survey did not permit an examination of the provincial fisheries organizations, the Team cannot make much comment. These organizations report directly to provincial authorities, which have representation at the national level in the form of 19 Provincial Departments. Government fisheries activities within the provincial governments vary greatly depending on the location and economic situation, having staffs ranging from 44 to nil. Provincial fishery divisions mostly operate as part of the provinces' Departments of Primary Industry, but in three of the main fishing provinces semi-autonomous fishing authorities have been created to run the fishery. The total government fisheries staff employed at the provincial level is estimated at 150.

At the present time, there is a varying degree of interaction between DFMR and the provincial fisheries branches; considerable in some cases, minimal in others. Much of this contact is informal rather than structured. The UNDP study mentioned above, recommended that a stronger linkage between DFMR and the provincial fisheries authorities be established. In keeping with this recommendation, DFMR will place greater emphasis on the provision of technical support for projects implemented by the provinces. Also, it will play a greater role in the identification of human resources development needs to meet the objectives for fishery development projects. With respect to the latter, it was noted that DFMR intends to establish a personnel data base for all government fishery workers in PNG.

C. EDUCATION IN PAPUA NEW GUINEA

National administration of the PNG education system falls under the Ministry of Education, which has two principal sections: the Commission for Higher Education (CHE), which is responsible for Scholarships, Research and Development (including the University of Papua New Guinea and the Technical University at Lae); and the Department of Education, which is responsible for Primary, Lower Secondary and Upper Secondary Education, Alternative Secondary Education, Technical Education and Teacher Education.

Education is not compulsory, although government policy is to provide access for 95% of the children aged 7 - 12 (Grades 1-6). Instruction is in English for all grades. The vast majority of children attend public schools: the only private schools are the International Schools, fee-paying institutions in several centres accommodating children of expatriates and some PNG families electing to send their children to these fee-paying institutions.

Primary Education: (Grades 1 - 6, ages 7-12)

Although it is Government policy to provide access for 95% of PNG children at the primary school level, actual participation in 1989 (most recently compiled figures: Education Portfolio, Minister's Brief, 1990) was 73% (477,748 children) of the total eligible (560,800). While actual figures were not obtained, there are significantly more boys than girls attending school, and efforts are being made to change this. Presently, there is an excess of qualified primary teachers.

During the past year, there has been a concerted effort to improve science teaching at the Primary level; this has involved both the curriculum unit, and especially the School Broadcast system. In 1989 the PNG Government commissioned a Radio Science Pilot Project Evaluation (Olsson, 1989). This is intended as an integrated approach to supply audio-visual and written materials to the schools, and to assist teachers in follow-up classroom activities. Another recent initiative has been the introduction of a pre-Primary school programme called "Village Takless Schools", where instruction in the local vernacular is used (a 1990 survey showed that the official number of languages in PNG is 781!). Introduction of simple mathematical skills at the pre-Primary level has facilitated introduction to English in Grade 1.

Lower Secondary School: (Grades 7-10)

Progression to Grade 7 is achieved by successfully completing the Grade 6 National Examination. Currently, only 35-40% of students attending Primary school continue on to the lower secondary level. There are 128 Lower Secondary Schools in PNG. The vast majority of school leavers finish their Secondary School on completion of Grade 10 as, previously, entry to tertiary institutions (e.g. UPNG) was possible after successful completion of that grade. National policy is now moving towards requirement of Grade 12 graduation.

There is a shortage of qualified teachers at the Lower Secondary Level, and the government continues to employ expatriate teachers where necessary. Through an arrangement with AIDAB, 15 PNG teachers attend, annually, Queensland University of Technology for upgrading. Under another scheme introduced in 1988, students completing Grade 10 attend Secondary Schools in Queensland and, more recently, in the NW Territories. Under this programme, these students have generally returned to PNG for entry into national tertiary institutions for further study.

Upper Secondary School: (Grades 11 - 12)

Currently there are only 4 National High Schools, which have an overall capacity of 2000 students (1000 in each of Grades 11 and 12). For those entering these schools there is a very low attrition rate (950 graduated in 1990).

Tertiary Education:

There are several tertiary educational institutions within PNG which provide educational programmes related to the needs of both the private and public fishery sector.

1. **The University of Papua New Guinea (UPNG)**, currently offers a B.Sc. degree which includes courses in Fisheries Science, and Marine Biology. Recently, the Papua New Guinea University of Technology fisheries programme was closed down and amalgamated with UPNG. In 1990, the Fisheries Department at UPNG was merged with the Department of Biology, resulting in the redeployment of three academic staff. Beyond the B.Sc. level, programmes are available at the Honours, Post-Graduate Diploma and Post-Graduate Degree levels, where specialization in fisheries topics is possible.

2. The **National Fisheries College (NFC)** at Kavieng, operates under the auspices of DFMR, and offers a two year Certificate in Tropical Fisheries course. Between 1979 - 87, 364 students were enrolled in this course, most of whom were grade 10 to grade 12 school leavers. Only a small number of these students found work within the government or industrial sector, and the majority returned to their villages.
3. The **Papua New Guinea University of Technology** at Lae, provides courses in accounting and business studies, food technology, and mechanical engineering.
4. The **Papua New Guinea Maritime College** at Medang offers training for Certificates of Competency required to operate merchant vessels and the larger fishing vessels.
5. The **Administrative College of Papua New Guinea** operates under the auspices of the Department of Personnel Management and offers a wide range of courses of varying length for state government employees in management, and professional studies.
6. The **Regional Administrative Colleges** provide training for provincial government personnel in management studies, communication skills, accounting and financial management and the training of trainers.
7. Several **Technical Colleges** offer pre-employment technical training, extension courses and technician level courses, in a range of engineering subjects; of particular interest to the fisheries sector are diesel and refrigeration mechanics.
8. The **Milne Bay Fishing Authority** previously operated a fisheries training school at Kuiaro which introduced high school dropouts from villages in the province to a range of practical fisheries related activities, through a two year programme. The Authority has recently been disbanded.

National Scholarships Scheme:

The National Scholarships Scheme is administered through the Commission for Higher Education (CHE). Scholarships for attendance at tertiary institutions are available for Grade 10 and Grade 12 graduates. Tertiary institutions include vocational training, Forestry and Agricultural Colleges, the College of Education, UPNG and the Technical University at Lae. Between 600 and 700 graduates from Grades 10 and 12 are eligible for scholarships in any year. Selection is based on their overall school performance. There are no national funds made available to support attendance at foreign tertiary institutions, although some self-supported students go to them.

Constraints of the Educational System:

There are some serious constraints inherent in the PNG educational system that are currently being addressed by the Ministry of Education, in order to meet future national manpower needs.

-The participation rate at Primary level (73%), while a significant improvement from 56.5% (1975) still falls far short of the national goal to provide access to 95% of children aged 7 - 12.

- There is a serious drop-out rate beyond Grade 6, with only approximately 1% of the Grade 1 cohort graduating from Grade 12.
- The acute shortage of Upper Secondary Schools mitigates against the government's declared intention to increase participation in Grades 11 and 12.
- There is an over-supply of Primary Teachers, and a shortage of Secondary Teachers.
- The serious drop-out problem has exacerbated the normal difficulties created by youth unemployment in the urban centres.

D. HUMAN RESOURCE DEVELOPMENT

1) Personnel Policy

The Department of Personnel Management (DPM) is the central agency of government responsible for the administration of the Public Services Management Act. General Orders issued pursuant to the Act direct national policy with respect to industrial relations, employment conditions, training, staffing, staff development, manpower planning and organization. The authority of the DPM applies to 19 Departments of the Provinces, 26 national government departments, the health services, the teaching sector, police, defence and the prison service. These sectors employ approximately 53,500 staff. Organizational and compensation changes in the remainder of the public sector (an approximate additional 26,000 employees) must also be approved by the DPM.

The Industrial Relations and Conditions of Employment Branch of the DPM is responsible for the compensation plan. Job descriptions; required for all positions, are judged against standards contained in the Hay Compensation System. The Hay System is one of the most popular systems used for this purpose worldwide, being utilized in 30 to 40 countries. The System establishes 65 salary points around which positions are ranged against a set standard. This standard uses three key factors for rating a position; namely,

- (a) "Know-how"-sub-factors considered are the educational and experience requirements and the breadth and complexity of tasks involved in the position.
- (b) Problem Solving - the nature and complexity of problems encountered in the performance of normal duties are considered and rated.
- (c) Accountability - considerations include the freedom to act independently and the impact of decisions made by the incumbent of the position.

When the Hay system was introduced in 1981, the pay points were superimposed over the previous Australian introduced ranking system, which contains 19 rank levels. Currently, the top nine pay points of the Hay System correspond to the top nine ranks of the old system. Performance pay will shortly be introduced for these 9 top ranking levels. The remaining 56

points fall within the first 10 ranks of the old system. Because of the way that the Hay System was applied, certain ranked positions within the Department of Fisheries and Marine Resources, at the more junior level, may only be covered by one salary point and therefore have no annual salary increments available as an incentive for experience and for satisfactory service. Others may be eligible for 6 or 7 increments. This fact impacts on the performance appraisal system.

General Orders of the DPM require that staff be appraised on their performance every six months. As can be noted from the attached appraisal form, the key work tasks are clearly identified along with training needs, the training undertaken in the past 6 months, and the training planned in the next six months. Staff of the DPM informed the Team that unfortunately, the General Order was not being followed by most government departments. The reasons given were the short reporting period requiring managers to complete the documentation twice per year, and the lack of incentive for managers to follow the process. If an annual increment is not involved, managers do not view the process as necessary. As was previously noted, some fishery positions are not entitled to annual increments.

The training and human resource development process is highly centralized in PNG. Two central agencies of government are involved in the implementation of departmental plans; namely, the DPM, and the Department of Finance and Planning for both funding approval and coordination with overseas funding agencies.

About two years ago, the Office of International Development Assistance (OIDA) was established as the sole authority within the national government to coordinate PNGs human resource development needs with donor agencies. This authority was established with the passage of the International Agencies Act - Chapter 132. To fully understand the role played by OIDA, and explanation of the training process is necessary.

Training and development needs are first identified by Department Heads through the preparation of a three-year plan which is prepared annually. This plan is developed in accordance with guidelines found in 3 year sectoral white papers issued by the newly established National Training Council composed of senior government and private sector officials. Once the department has developed its plan, it is forwarded to the Staff Development and Coordination Division of the Department of Personnel Management. Once approved by the DPM, the plan is forwarded to the Economic and Social Affairs Division of the Department of Finance and Planning. This Division analyses the plan and approves it if it meets certain government priority criteria. Each approved project identifies whether it is to be funded by internal funds, or funds to be found externally. All approved plans (whether internally or externally funded) are then published in the 5 year Public Investment Programmes (PIP). The 1991-1995 PIP identifies six approved projects in the fisheries sector, all involving human resource development components. The PIP is then forwarded to OIDA, which extracts from the PIP, all projects which have not been funded internally, and then negotiates with donors for funding to facilitate implementation.

In theory, the system appears very logical and assures that funding is channelled to meet prioritized government needs. In practice, there are several flaws in the process. First of all, the process is new and government departments and donors have not yet gained sufficient experience with the new system to make it work at top efficiency. Departments continue to

work directly with donors to identify development programmes and appropriate candidates. If a project is not included by the department in the PIP, delays are created because pre-approvals have not been obtained and all such individual departmental requests must receive central agency approvals before they can be actioned. This creates frustration and missed opportunities, at times, when department heads receive notice from training institutions or donors for such opportunities after the plan has been developed and published.

Donors in the past have normally dealt directly with departments or, in fact, may work within existing agreements or protocols which require direct communication with the Department of Foreign Affairs. If funding arrangements, candidate selection and other associated issues are not coordinated through OIDA, delays will continue to be experienced.

(2) Progress in implementation of UNDP recommendations:

As was previously mentioned, a major fisheries sector review was conducted by UNDP in late 1988 and reported on in 1989. This report very clearly makes with USP.

Diploma in Tropical Fisheries students should seek assistance from the Micronesian Occupational College Science Centre staff, and from the University of the South Pacific, for remedial studies required for completion of their programme.

3. Difficulties are being experienced by both Palauan and FSM students who are attending the current Diploma in Tropical Fisheries at the University of the South Pacific (now in its final year; see Case Study No. ..., Main Appendix). There is no comprehensive programme within the region currently available to these students at the sub-degree level (a certificate in Fisheries Technology has been proposed in the University of the South Pacific Marine Studies Programme 5-year Plan). It is the belief of the Team that such a qualification would complement the Diploma courses which USP proposes to introduce (see 5-year Plan) and would allow persons with a lesser academic ability to gain relevant education and skills training. While this may lead on to a diploma course, it is not considered that the two courses of study need be inter-related through credits.

Such a course of study could be completed in about one year and as well as including technical skills necessary for the "technician" level would include basic writing, science and mathematical skills to an appropriate level. Other topics covered should include extension, and administration skills as well as awareness of departmental procedures.

The results of this survey will generate approximate numbers for such training, and it is anticipated that such a course may not need to be run every year, but only when numbers are sufficient.

The South Pacific Commission, through the auspices of the Regional Fisheries Training Project, should develop a curriculum which addresses the needs for training Pacific Island Fisheries Officers at the technician level, and should seek a means of implementing such training as a matter of some urgency.

3. The need to upgrade the science curriculum at all levels within the Palauan public school system (especially in grades 9-12) is recognized as a national priority by the Bureau of Education, and by the Micronesian Occupational College. Parallel with this, is the need to

upgrade teacher qualifications, and to improve the overall science literacy of the Palauan population, as a means of allowing rational decision making on the country's resources and environment. Finally, there is a recognized need for the educational authorities and the Division of Marine Resources to work together towards the common goal of preparing Palauan students for identified future national needs in Marine Resources, both in the public and private sectors.

Mechanisms should be found for collaboration between the Bureau of Education, Curriculum Development Division, the Micronesian Occupational College (Science Centre) and the Marine Resources Division, in the development of an improved school science curriculum and the upgrading of teachers along lines consistent with future national needs.

4. As has previously been noted, the PMA, FMA and the MRD operate as separate entities yet have worked cooperatively since 1988 to address shared objectives. Their human resource needs have been clearly identified by the Kunatuba (1988) and Crossland (1990) reports. This Team found no reason to quarrel with these recommendations and, indeed, add its voice in support of their conclusions. Despite the fact that the reports have not resulted in the needed organizational changes, the senior fisheries staff have a common vision of the future and are progressing with a longer-term plan of developing staff who will eventually meet the future fishery development needs. Programmes are currently in effect to obtain the foundation training needed (4 Diplomates) as well as shorter-term training (extension and post harvest) upon which to build an effective team to implement a scientifically based fishery management regime. The success of their plan will depend, in large measure, on convincing the national Government to take the needed action to re-organize its fishery sector.

Staff of the PMA, FMA and MRD stated their desire to obtain assistance in approaching the national Government with a professional, rationally based proposal to consolidate efforts into a single government body. The strategy document, which would be produced, should recognize the financial and human resource limitation of the country, the value and potential of a more fully developed fishery (both inshore and offshore), savings to be made in consolidating staff, the future privatization business plan for the MMDC, clear objectives with "milestones" upon which to measure progress, and the human resource development plan to meet objectives.

-The South Pacific Commission should assist the PMA, FMA and MRD by funding a person for a period of 6 months to work with in-country staff on the development of an appropriate strategy for the successful national implementation of previously documented recommendations for the fishery sector. The three bodies should have some say in the final choice of the person to be selected.

5. There is little likelihood that, in the near term, personnel policies will be changed at the national level to complement the introduction of effective national manpower planning. There are two areas, however, where the Director, MRD, may wish to take action.

1) The Director, MRD, together with his colleagues from other Ministries, should attempt to "open up" the classification process by suggesting that briefings be given on the Standard, and that committees of senior officials be used to classify positions, rather than leave that responsibility to one individual in government. In the meantime, a close and health of common curricula where possible, between NFC and PNGMC to assist students

wishing to study for certificates of competency to obtain dispensation for the subjects studied at NFC;

(c) the feasibility of periods of work experience be investigated in order to prepare students for the work place;

(d) the establishment of a Diploma programme at the NFC be considered, initially as a post-certificate course for fisheries officers in the field and those certificate holders with an above average performance;

(e) the conducting of courses along the lines of the SPC refrigeration course, and training assistance through on-the-job demonstrations by master fishermen and other trained artisans, be provided to the provinces by DFMR on a regular basis;

(f) that the fisheries extension programme be given greater emphasis and a higher priority;

(g) the development by the provinces of their own extension programmes with the assistance of DFMR.

These recommendations have been implemented as follows:

(a) a staff member is currently working at NFC on the establishment of these courses;

(b) although a commendable principle, the criteria required to sit for PNG marine certificates will mainly exclude NFC students, so that this recommendation is viewed as not practicable;

(c) this has been done in the past and all persons talked to believed it was a commendable recommendation;

(d) the Team was informed that this recommendation is currently under consideration;

(e) this recommendation has been agreed to in principle; however, space limitations at NFC precludes this programme during the school term and would have to be conducted during the regular school break;

(f) & (g) both these recommendations have been agreed to through the establishment of a dedicated Extension and Training Section. As yet, not much progress has been made due to the three senior positions not being filled, but this should shortly be rectified.

(3) Future Manpower Planning:

Given time and the cooperation of both departments and donors, the project planning process, as coordinated by the government central agencies, has the potential of becoming a most useful mechanism for future manpower development planning. With appropriate analysis of the PIP, national training needs by sector can be extracted for long range planning purposes. UNDP will shortly be assisting with the development of a manpower planning system. The

future computerization and extension of the current personnel information system to all government departments will, when training information is added, provide a powerful predictive capability for manpower planning purposes.

E. ISSUES AND RECOMMENDATIONS

1. Most all of the recommendations made by the UNDP review of the PNG fisheries sector with respect to manpower planning, training and human resources development have been accepted in principle by DFMR.

Organizational changes have been made to, among other things, facilitate improved manpower development for DFMR, provincial officers and the fishing industry. DFMR obviously agrees with the UNDP suggestion that a clear distinction must be made organizationally between the training of government officers (both national and provincial) and fishermen and associated industries: i.e. processing, marketing and business management.

With respect to training, the SPC Review Team strongly agrees with the principle suggested by the UNDP study that first priority for training and development should be given to federal and provincial departmental staff. If the fishery is to develop then it is vital to "train the trainers" first.

Domestic problems within PNG have resulted in government austerity programmes affecting DFMR's ability to staff vacant positions which currently number 21. In addition, key personnel involved with extension and external training have been lost to the department in the past year. Recruitment has commenced to fill the current vacancies, but the full implementation of effective manpower development as recommended by the UNDP study will be delayed until key positions are staffed. In the meantime, certain initiatives can be taken now to make progress in this area.

- A. The Secretary DFMR should take steps to ensure that the staff of the Extension and Training Branch, and the Personnel and Staff Development Branch, understand their respective roles as outlined in the UNDP report.
- B. The job descriptions of all staff within the Extension and Training Branch and the Personnel and Staff Development Branch should be examined and rewritten as necessary to reflect the duties under the new organizational structure.
- C. The Staff Development Committee within DFMR should be immediately re-activated.
- D. To improve liaison between the Extension and Training Branch and the Personnel and Staff Development Branch, the heads of the branches should both be part of the NFC Governing Body and the re-established Staff Development Committee.
- E. The Corporate Management Group as outlined in the UNDP report should be formed to assist the Secretary and Deputy Secretary with ongoing policy issues and the implementation of the UNDP recommendations.
- F. The Fisheries Training Council recommended by the UNDP study involving all of the components of the fishery sector should be established at the earliest appropriate moment.

2. Even though the Department of Fisheries and Marine Resources is required to submit, annually, 3 year project plans which include human resource development components, these plans are developed without the assistance of an overall manpower development plan. The project planning process is aimed primarily at the development of the fisheries. Without a manpower plan for the staff of the department, training remains ad hoc and cumbersome to administer through the Office of International Development Assistance, the central agency charged with the responsibility of coordinating training from the whole of the public sector. In addition, without the development of such a plan at an early date, the information which will be needed soon for a proposed automated national personnel information system will not be available and the Department will miss the opportunity of being one of the early departments to take advantage of the system for planning purposes.

The current DFMR records of staff training, personal skills and work record are not coordinated at the federal and provincial levels. Therefore, the development of such a manpower plan would first require a substantial amount of research and collation. The collation of this information for the provinces will take individual visits, time and effort. It is doubtful that the present resources of the Personnel and Staff Development Branch will permit this task to take place without assistance. It is also important that this information be incorporated into a computer data base in such a way that information can be sourced easily by inexperienced computer users (i.e. branch staff), and that it be compatible with the proposed national Personnel Information System.

The Personnel and Staff Development Branch of DFMR should seek assistance from a regional or donor agency to:

- (a) collect, collate and enter into a data base programme all of the staff records of DFMR and the Provincial Fisheries Divisions;
 - (b) develop, in consultation with government central agencies and the Fisheries Training Council, a long range manpower plan for DFMR and Provincial Government staff.
3. The Human Resource Development process in PNG is highly centralized with a new agency only recently emerging on the scene (the Office of International Development Assistance [OIDA]) with the sole authority of coordinating external funding. Regional organizations, training / educational institutions and donor agencies have, over the years, established operating procedures which by-pass this new agency. Indeed, with some agencies (SPC for example) protocols have been agreed to which demand that contacts be made exclusively with the Department of Foreign Affairs. By by-passing OIDA, delays and frustrations will continue to occur on both sides.

If current protocols cannot be changed to alter the route for communications with PNG through OIDA for human resource development purposes, regional organizations, training institutions and donors should copy all formal communications of this nature to OIDA.

4. Difficulty is currently being experienced between OIDA and the Department of Fisheries and

Marine Resources (DFMR). These difficulties were judged by the Team to be minor in nature and can be easily corrected with more effective communication between the two organizations. From DFMR's perspective, OIDA does not react in a timely fashion. From OIDA's perspective, it must deal with three division managers and much of the requested training falls outside of the pre-approved 5 year Public Investments Programme's plan.

A. The Secretary of DFMR should appoint one individual within the Department with the responsibility of communicating and coordinating all proposals forwarded to OIDA. OIDA should be advised formally of this appointment.

B. The Staff Development Officer should consult with OIDA and seek its assistance in the development of appropriate project proposals for inclusion in the Public Investments Programmes plan which could accommodate known short-term training needs for pre-approval purposes.

5. The National Higher Education Plan prepared in 1990 by the Commission for Higher Education (CHE) indicated that Graduates in Fisheries should be at the Diploma level rather than the Certificate level and by 1995 - 1999 numbers should average around 25 per year. This decision combined with the National Fisheries College now being run under the auspices of DFMR and its increasing activities in the provinces in extension and technical areas makes the effective operation of the NFC a key factor in the Human Resource Development of the Fisheries Sector.

Decisions made now regarding the future of the NFC will have long reaching effects and it is very important that the proposed course of studies at the College (Certificates and Diplomas) reflect the realities and needs of the fisheries sector of P.N.G.

It would appear that the majority of graduates from the current Certificate in Tropical Fisheries (CTF) do not enter wage-earning employment but return to the village. Although substantial efforts have been made to adjust the curriculum to a more practical course, the CTF remains relatively academic and more suitable to Government Fisheries Personnel. Should it be decided that this certificate is a "stepping stone" to the Diploma, it would be inevitable that the certificate become more academic, removing it further from the needs of the majority of its clients.

There is obviously the need for the creation of two streams within the College; one through a very practical course, with minimum educational pre requisites, for persons who will return to their village (1 year maximum), and the other to cater for a smaller number of students who will go the certificate/diploma route to Government service or larger Private Enterprise. In deciding on the structure and curricula of the latter, the Government of Papua New Guinea may wish to examine a five year plan prepared by the Marine Resources Department

of the University of the South Pacific (USP), part of which outlines a series of 3 integrated Fisheries Diplomas. Also PNG should consider the results of this survey which has identified the need in the region for a shorter "Certificate in Fisheries Studies".

It has been suggested, as NFC is strengthened (both physically and tutorially) to undertake the Diploma, the staff be regarded as a "corps of experts" and be available to assist the industry and the provincial fisheries departments with fisheries training and related problems. Also, that NFC diversifies into the operation of shorter, needs specific courses at all levels. These are desirable options; however, if they are to be effectively achieved, it is necessary that NFC receives a good flow of information from all sectors and is integrated in all decisions relating to fisheries training and Human Resource Development. The College is situated at Kavieng, New Ireland and is remote from the main fishery areas and from DFMR. If the College is to be able to identify and to quickly respond to the various needs of the country, a very effective means of communication must be established and NFC should be represented in all bodies and meetings relevant to Human Resource Development. It is also desirable that the Principal and staff periodically travel the region to keep aware of needs at first hand. In this regard, it would be useful if either the College or some appropriate division in DFMR be responsible for producing a quarterly "Fisheries Newsletter".

A. DFMR should develop a 5 year plan, with outside assistance if necessary, for the National Fisheries College. This plan should realistically examine the manpower requirements of government, industry and the artisanal sectors and ensure the resulting education reflects the needs of each sector.

B. In considering institutional courses at the Certificate and Diploma level, DFMR and CHE should examine the Fisheries Diploma programmes of USP and the suggested Certificate in Fisheries Studies outlined in this report with the primary purpose of identifying their relevance to the Papua New Guinea situation and the possibility of cross crediting qualifications.

C. DFMR should encourage the NFC to develop needs specific courses for all parts of the fisheries sector and build the staff into a Corp of Experts capable of assisting the fisheries sector in education and technical matters.

D. DFMR should take steps to ensure the NFC is integrated into all committees and meetings concerning Education Training and Manpower Development, and also develop the means whereby NFC is kept fully informed of fisheries activities in Papua New Guinea.

SOUTH PACIFIC COMMISSION
FISHERIES HUMAN RESOURCES DEVELOPMENT STUDY
REPUBLIC OF THE MARSHALL ISLANDS
REPORT

The Republic of the Marshall Islands comprises a double chain of coral islands none more than a few meters above sea level. There are 34 islands (of which 24 are populated) and 870 reefs. The total land area is 171 sq km and an ocean area of 2 million sq. km. The population is approximately 45,000.

A THE FISHERY

1) General:

Fisheries are a major potential resource for developing the economy, as the marine resources are, as yet, largely unexploited. Fishing has historically been a subsistence activity, but the changing structure of the economy and urbanization have resulted in the need to import canned fish to meet the needs of the people. Mariculture is still in an early stage of development.

Some major objectives of the Fisheries Sector are:

- to increase domestic fish production in order to replace imports and increase exports;
- to develop the fisheries sector as a major component of the country's economic base by encouraging the development of artisanal fishing (as well as locally based larger-scale commercial fishing);
- to gradually develop artisanal fisheries through provision of infrastructure services, including: fish preservation and marketing facilities to support small fisheries activities based mainly in the outer islands; advise on fish handling and preservation; better fishing techniques; marketing of fish; repairing and maintaining diesel engines and outboards, and constructing fishing vessels;
- to maintain optimum yields through aquaculture production;
- to collect information on all aspects of the fisheries sector, so that research can be carried out, and results disseminated.

The Marshall Islands Government would prefer greater private sector involvement in the development of the Fisheries Sector, and where necessary joint-ventures. The development of the fisheries in the outer islands is seen as a priority.

The Marshall Islands Marine Resources Authority (MIMRA) was established in 1988 as a corporate body responsible to a Board of Directors for the development, maintenance and protection of the marine resources of the Republic. The Board of Directors is to consist of three ex-officio members and two other members appointed by the President. The Minister of Resources and Development chairs the Board.

As of February 1991, the Directors have yet to be appointed and MIMRA is not functioning as the principal focus for fisheries development. Efforts remain scattered with Foreign Affairs, responsible for Distant Water Fleet licensing and the Marshall Island Development Authority responsible for infrastructure development and maintenance as well as deep water fishing joint ventures. In addition, other ministries (Finance and Internal and Outer Island Affairs) administer funds for private sector initiatives in the fisheries. The new 5 year Development Plan, currently in draft form, includes efforts to provide a single focus (MIMRA) for the fisheries sector.

Programmes:

The following programmes have been introduced with the expectation that inshore Fisheries development will be assured:

- **Outer Island Fisheries Development:** to develop the subsistence nature of artisanal fishing into a commercially viable one through the introduction of modern fishing techniques and equipment and a marketing system.
- **Mariculture Laboratory:** To rear juvenile molluscs and other marine species for reseedling in the outer islands.
- **Outer Island rearing pens:** Pens are being built at strategic locations in the outer islands to keep alive juvenile clams and Trochus until numbers are sufficient for export.
- **Ebeye Marina:** To encourage fish production through the provision of fuel and ice facilities, a fish market, and protection from bad weather.
- **Project Operation Centre:** A central office to manage fisheries development effectively and to house communication, storage and related facilities.

Constraints:

- * lack of know-how in fish processing, inadequate storage and marketing facilities and transportation problems limit the countries artisanal fisheries operations;
- * fish production in the outer islands is constrained by inadequate incentives;
- * continued reliance on imports of canned fish;
- * lack of information on fisheries resources.
- * lack of excess local demand for fish. The need to develop an export industry is seen as an initiative that will encourage greater catches.
- * attempts to establish fish export businesses have failed previously due to lack of knowledge of export marketing procedures and problems in coordinating transport;
- * the Marshall Islands new Development Bank is easing up on providing credit terms to the

fishing industry.

2) The Commercial Fishery:

Several major initiatives have already been taken to develop the commercial fisheries.

1. The Marshall Island Development Authority (MIDA) has entered into two joint venture agreements with the Hawaiian based MGG Company. The first, M & F Fishing Inc. utilizes the purse seiner MV Koocale and the second, M & D Fishery Inc. the purse seiner MV Boldfleet. These vessels fish mainly in international waters and off load in Western Samoa. No statistics were available for the MV Boldfleet but the MV Koocale landed 4,300 t worth US\$3.5 million in the past year. The Republic of the Marshall Islands shares in the profits and hopes to employ more and more Marshallese as crewmen and officers in the future. Currently only four people from the Marshall Islands are working on the vessels.
2. MIDA has also entered into another joint venture with Hawaiian interests utilizing Taiwanese vessels which will eventually establish a deep sea longlining fleet operating in the Marshall Island EEZ. This venture has just started with seven longline vessels currently operating. No statistics were available on catches to date but the objectives, as with the purse-seining venture, is to share in profits and provide future employment for Marshallese citizens.
3. The Outer Island Fisheries Development Project at Arno is well advanced under a project funded and developed by OFCF. This project is designed to assist artisanal fishermen sell their catch to markets in Majuro working through a base station in Arno which will include wharf, workshop, refrigeration and fish transportation facilities. The project is managed by a Japanese team leader who supervises two Japanese experts and an Arno Base staff of four Marshall Islanders. There are approximately 150 semi commercial fishermen fishing into the Arno base. The project works under the auspices of MIMRA who have two counterpart staff for the Japanese experts and employ the boat driver for the transportation vessel. The project includes the training of Arno and fisheries counterparts at courses run in Japan. This project is operating very successfully and will be used as a model for further sites in outer islands.
4. The Kwajalein Atoll Development Authority (KADA) is involved in fisheries-related development on Ebeye Island. Plans include the development of infrastructure (wharf and holding facilities) to support pole and line vessels. The plans parallel those of the successful development of the Arno fisheries.
5. The Private Sector has been supported in efforts to expand the aquaculture industry. Efforts to date have concentrated on the production of the Giant Clam.
6. The Foreign Affairs ministry has negotiated agreements with nations with distant water fleets fishing within the Marshall Islands EEZ (mainly Japan and the US). These fleets are limited to the use of pole and line and longline vessels and are charged a registration fee (fixed amount) and a permit fee (variable depending on tonnage and catch). The total revenue from foreign vessels licensing in 1989 was US\$1,344,000.

The Government is depending on the fisheries sector as a major future source for

employment opportunities. It plans to invest over US\$31 million over the next five years with the expectation that some 1454 new employment opportunities will be created during the planning period (an average of 219 per year).

The new Development Plan will call for an expansion of the purse seine joint venture fleet; increasing the longline fleet to 50 vessels and eventually building and crewing an additional 50 Marshall Island owned long line vessels. Plans also call for the establishment of a tuna transshipment facility with capability of canning as well as providing tuna for the chilled fish market. Efforts will be expanded to establish small scale commercial fisheries in the outer islands following the Arno model and the introduction of aquaculture for other invertebrates, e.g. Trochus, black lip oysters. During the new planning period the Asian Development Bank will finance a study of the nation's marine resources which will include an assessment of stocks.

B THE FISHERIES ORGANIZATION:

Prior to 1986 the responsibility for the protection, management and development of Marine resources was divided amongst several agencies: the Office of Marine Resources was responsible for the development of the local fishing industry while the Ministry of Foreign Affairs was responsible for the conclusion of foreign fisheries agreements. Interior and Outer Island Affairs was in charge of advising local councils on the control and development of fishing in the outer Islands.

In 1986 the Marshall Island Maritime Authority (MIMA) was established in an effort to streamline all of these activities under one umbrella. MIMA was established as a statutory body functioning under a board of directors responsible to the Minister of Resource and Development. At this time the staff consisted of one expatriate and one Marshall Island employee and they were joined later that year by four Marshall Island employees. This increased to 7 in 1987 but was again reduced to 6 with the departure of the expatriate Chief Fisheries Officer.

In 1988 MIMA was renamed the Marshall Island Marine Resource Authority (MIMRA), headed by a Director and directly responsible to the Minister of Resource and Development. Two extra staff were added to MIMRA in 1988 and the present numbers are 14 staff and 16 patrol boat crew. As mentioned earlier in this report, MIMRA has not yet been made fully operational.

An organization chart for MIMRA is shown in **Appendix xxx**.

Staff Training requirements for MIMRA

Unlike Fisheries Departments in some other countries, MIMRA has not adopted a policy of sending persons for long academic courses before recruiting them into the authority. Rather, it has recruited persons already working in the government or private sector and increased their skills by sending them to appropriate short courses. If development proceeds as rapidly as it is hoped for in the new 5 year plan, some staff, especially those involved in stock assessment and fisheries management, will require academic qualifications at least at the BSc. level. Planning for this requirement as well as improved administrative qualifications, should be identified and

started now. In addition, staff members indicated they had some need for upgrading or learning new skills (computer operation, how to asses and develop joint venture agreements, research methodology at an assistant level and support to licensing and surveillance staff). Such training should be relatively easily obtained through existing agencies, (SPC, FFA, JICA and OFCF) but it is important that courses which exactly fit the persons need are identified. If assistance is obtained by MIMRA to prepare a Manpower Development Plan, such assistance could be extended to exactly identify appropriate short courses for individual staff members.

As the various projects identified in the new 5 year Development Plan plan are implemented; such as, the further growth of stations in the outer islands, there will be a parallel need for an increase in extension/management capability within MIMRA. This and appropriate training/staff development may be identified through the preparation of the staff development plan already mentioned. However, it important that existing staff who are engaged in extension duties within MIMRA have the opportunity to upgrade their communication and extension skills.

With all of the joint ventures scheduled to employ Marshallese and the possibility of manning up to 50 mini longliners, there will be a need for training of fishermen at all levels. MIMRA should make some effort to ensure this training is coordinated and is not ad hoc. It is suggested there is merit in conferring with the Government of FSM, which is initiating similar training.

C THE EDUCATIONAL SYSTEM

Education in the Marshall Islands is under the jurisdiction of the Ministry of Education, which is responsible for primary and secondary public schools, for the College of the Marshall Islands (incorporating the Marjuro campus of the College of Micronesia) and the Private Industry Council. In 1991, it is estimated that there will be approximately 14,200 children attending school in the Marshall Islands (12,100 in Elementary School; 2,100 in Secondary School).

The Marshall Islands are facing some major difficulties with the educational system; these include:

- inadequate schools and infrastructure at all levels
- large numbers of drop outs
- a less than satisfactory participation level
- a lack of community involvement in schools
- inadequate curriculum control over private schools
- an urgent need for the development of vocational training for drop out students seeking to enter the job market.
- inadequate instruction in the English language.

- an annual population growth-rate of 4%, an average age of less than 15 years, and a concentration of more than 60% of the Marshall's population on the Marjuro atoll.

From our discussions with Ministry of Education officials it is evident that major efforts are being made by the Government to deal with many of these difficulties, but we also sensed that, in some areas, the problems were so overwhelming that there seemed to be no simple solution.

Elementary Education:

Attendance at Elementary School is compulsory for all children between grades 1 and 8, although participation is currently at about the 80% level. Many of the students are in church-run (private) schools. About 75% of students will complete grade 8. While the Government is concerned both by the participation rate and drop out rate, it is also grateful that more children do not attend, since there are inadequate facilities to accommodate even those that do attend public schools.

Secondary Education:

Only two thirds of the children completing grade 8 continue on to public and private secondary schools. The system just cannot accommodate the bottom 1/3 of the class who may wish to continue their education. Statistics indicate that about 54% of those starting grade 9 do not reach graduation from grade 12.

The Private Industry Council:

The Private Industry Council (PIC) is a joint venture between the private sector and the government. It was especially set up to provide programmes for school drop-outs under the Job Training Partnership Act. There are several programmes operated by PIC through contract with the College of the Marshall Islands.

1- Youth Option: Currently about 150 students are enrolled, taking basic skills training leading to a Diploma.

2- Probationary Skills Programme: About 60 students are enrolled in programmes; such as, restaurant trainee, carpentry, mechanical, and electrical. Shortage of teaching staff limits the skills taught to the beginning level.

3- On the Job Training: A 50/50 shared cost industry/government programme for up to 1,000 hours of work, with a suitable guarantee at termination for more training, or employment opportunities.

The following programmes were indicated as being under development: an Apprenticeship Training Programme (involves sending 10-students to Guam Community College, with 10 different areas of study); a local apprenticeship training programme similar to that being developed with Guam.

College of the Marshall Islands:

The College of the Marshall Islands (CMI) is a branch of the College of Micronesia. Training programmes specific to the College are nursing and teacher training. Currently the College has an average enrollment of 250-280 students/semester. Entry requires Grade 12 graduation. There is a grant programme that covers the total cost for students living at home (PEL), but for those living in residence, some supplementation is needed. Other programmes include:

business; accounting; science; in-service programme for teachers.

New initiatives being taken by the CMI include the following:

- Introduction of a two-year programme in Marine Science (equivalent to Preliminary and Foundation levels at USP).
- Joining the University of the South Pacific with consequent possibilities of:
 - collaborating in the development of the new course proposed under the USP Marine Science Programme "Introduction to Marine Science"
 - participation in the proposed new certificate and diploma programmes in Ocean Resources Management.

The Marshall Island Scholarship, Grants and Loan Board

Members of the Board are cabinet-selected; it is chaired by the Chief Planning Officer, and membership includes politicians, members of the business community and a representative from the Ministry of Education.

Qualification criteria for scholarships are very rigid, and require a GPA of 3.0, and a TOEFL score of 500 or higher. Intending students make their own enquiries for entry to institutions of higher education in the United States (ranging from colleges to full-scale universities) and are not considered for scholarships until they have been advised that they qualify for admission to the institution of their choice.

It was stated that the scholarship qualification criteria were so rigid because most grade 12 leavers were too immature socially and insufficiently qualified in English Language for them to make a smooth transition to a US institution. Education Officials consider it preferable that students spend two years at the College of the Marshall Islands, enabling them to mature socially and academically, before going elsewhere.

D MANPOWER PLANNING

Personnel Policies:

National Personnel Policy development responsibility rests with the Public Service Commission (PSC). The PSC is composed of a Chairman and two Commissioners, one responsible for Training and Administration, the other for Personnel. The Chairman and Commissioners are nominated by cabinet and their appointments approved by Parliament. The PSC is supported by a staff of public servants. In addition to overseeing personnel policy, the PSC administers recruitment, and approves appointments and requests for staff training for a public service of approximately 2,700 employees.

All positions in the public service are required to have a job description which is classified for salary purposes using the United States Public Service classification system. The Manager (Director, MIMRA) submits a proposed level for a new position or for the upgrading of an existing position through his Minister to the PSC. Discussion between the Minister and the PSC may take place but the final decision on job level rests with the Commissioner for Personnel, using the US classification system standards. It is understood that this classification system works well for most government positions but is currently being reviewed, as some difficulty is being experienced for positions in semi-autonomous organizations not normally found within the public sector in the United States.

Public servants are appraised on their performance on an annual basis (appraisal form attached). The appraisal system is audited on a random basis to ensure managers are complying with the policy of discussing performance with staff. Copies of all appraisals are held by the PSC. This appraisal system has been in place since 1984 and is viewed as a valuable instrument for effective personnel management by both the PSC and the Director, MIMRA.

The personnel policies and procedures noted above are considered very progressive for a developing country only in its fourth year of independence. Minor changes to the current procedures would considerably enhance the implementation of improved manpower planning. Suggestions include the following:

- Staff of the MIMRA had little knowledge about the standards used to classify positions in the public service. If the standards and methodology were communicated to senior managers in the line Ministries, the number of requests for position upgrading may drop and the substantiating documentation may be improved. One way of communicating this information might be to include senior managers with the PSC staff on classification committees.
- The current appraisal form should be modified to include the training and development needs of the employees. If this change were made, the PSC would be in a position to capture this information on an annual basis to update national manpower development plans for the public service and, therefore, be in a better position to direct the approximate \$500,000 per annum spent on in-service training.
- Selection criteria for in-service training should be developed and communicated to line managers. Once criteria are established (i.e. experience requirements, performance level, relevance of training, age restrictions, etc.) an appropriate form could be developed to reduce the paper burden on the managers.
- Criteria for promotion to more senior levels which recognize shorter-term progressive training courses, experience and skills level testing, as well as academic qualifications should be considered. Mr Abdulla Zaubi, Interregional Adviser, Management Development and Training Division, UNDP, was in the Marshall Islands at the time of our visit to assist in the development of such criteria.

Future Plans

The Industries Development Act calls on the Government to form a Manpower Training Council to design and implement a National Manpower Training System. In 1990, the

Government established the Task Force on Manpower Training, as a sub-committee of Cabinet, to act as a steering committee to establish the objectives for the Council. The Council will be a tripartite body (employers, workers groups, and government) and will initially concentrate its efforts on addressing the vocational training needs for the country. As no national manpower development/training strategy or sectoral plans currently exist, the Council will, over time, develop systems which will address the longer term human resource development needs for both the private and public sectors. The Government has recently hired someone from overseas to head the Council and its work will begin in February 1991. The UNDP has provided US\$500,000 as "seed money" to assist the Council in the early stage of its development.

E ISSUES AND RECOMMENDATIONS

1. The personnel policies and procedures currently in effect will offer a favourable environment in which to introduce the planned national manpower initiatives. However, minor improvements to these procedures will greatly assist in the implementation of these initiatives.

a) Changes in personnel procedures should be made to include training needs data in the annual appraisal form.

b) Selection criteria for in-service training should be established and communicated to managers.

c) The methodology for classifying government positions should be explained to managers.

d) Promotion criteria which recognize experience, skills testing and training programmes completed, as well as academic qualifications, should be established.

2. Government policy exists which requires those returning from training to complete an assessment of the training received and for supervisors to complete a report after 30 days on how the training had affected the employee's performance. Our discussion with the staff of the MIMRA confirmed that this policy is not being followed.

The Director, MIMRA should ensure that the current Government policy for training evaluation is followed. Forms may be designed for this purpose with outside assistance from appropriate Regional Organizations if desired.

3. The Director, MIMRA appreciated the value of producing a longer term plan (5 years) for the development of his staff. Such a plan will become critically important almost immediately as the Manpower Training Council will shortly be in operation and will require the public sector to input into the development of a national plan. The plan should take into account the intended ambitious expansion of the fisheries sector, which will be contained in the new Development Plan, and establish its training priorities accordingly. The plan should incorporate consistent and progressive training schemes so that the lower level staff with appropriate academic qualifications, will gain the practical skills necessary to advance to more responsible positions.

The Director, MIMRA, should request regional assistance in developing a manpower development plan which supports the objectives of the new 5 year Development Plan and the needs of the Manpower Training Council.

4. Including Arno-based staff employed in the Outer Island Fisheries Development Project there are 10 persons in the Marine Resource Section of MIMRA actively engaged in fisheries extension activities who would benefit from training in Communication and Extension skills. The Fisheries Extension and Training Officer has had training in imparting these skills through attending a four week workshop for teachers of Fisheries Extension and Communication, and in acting as a tutor in a two-week Extension and Communication Skills workshop held in FSM. He will attend a three-week refresher course for teachers of Fisheries Extension and Communication Skills in February 1991.

MIMRA should seek funding to run a two-week in-country Fisheries Extension and Training course for its 10 Extension staff. Such a course should be developed, organized and largely taught by the Fisheries Extension and Training Officer, assisted by such external tutors as he considers appropriate.

SOUTH PACIFIC COMMISSION
FISHERIES HUMAN RESOURCE DEVELOPMENT STUDY
KIRIBATI
REPORT

A THE FISHERY

1. General

The Republic of Kiribati with its thirty three islands consisting of the Gilberts, the Phoenix and the Line Islands covers a total land area of 810.7 square kilometers scattered over an ocean area of 3 million square kilometers. The population in 1985 was estimated at around 63,883. The Republic intends to expend about A\$22 million on its Recurrent government operations in 1991, of which about A\$0.4 million will be directed to the Fisheries sector.

The sea has been the traditional source of livelihood for the people of Kiribati which, in most of the outer islands, has been predominantly at a subsistence level. Where the cash economy exists, such as in Tarawa, artisanal/commercial fisheries have evolved to the point where surplus catches are either sold locally or are processed for export.

With the proclamation of the nations EEZ in 1982 and the pursuit for socio-economic development and self-reliance, Government has proceeded to evolve policies and programmes to effectively manage and develop its fisheries resources. The Fisheries Division of the Ministry of Natural Resources Development been assigned this task since its formation in 1976.

The following projects have been executed by the Fisheries Division during the Development Plan Six period (1987-91).

- .milkfish bait and food fish farming
- .seaweed farming
- .recreational fishing
- .te bun transplant
- .artisanal fish processing, marketing and extension
- .boat building
- .statistics and research
- .training fisheries assistants
- .fishing gear revolving fund
- .fishing group formation

Despite the problems and constraints that beset the many facets of the industry, the Republic is still able to generate about 10% of the country's foreign income per year from license fees (US, Japanese, Korean and Taiwanese vessels) and average around A\$3-4 million worth of exports per year.

Constraints to future development of the fisheries include the following:-

- .lack of adequate transport
- .inadequate communication systems
- .shortage of trained staff
- .increasing freight costs
- .long distances to markets and lack of direct sea/air routes
- .inadequate storage, distribution and marketing facilities for artisanal sector production.

The Fisheries Division intends to improve performance through revised sector plans whose objectives and strategies hopefully would be both practical and achievable.

2. Industrial Fishery - The National Fishing Company, Te Mautari Ltd.

Development of the fisheries sector has been the responsibility of both the public and private sectors, notable in the latter are Te Mautari Ltd., the Marine Export Division of the Ministry of Line and Phoenix Group, the Kiribati Wholesale Cooperative Society and the Aia Maea Ainen Kiribati, the National Women's Group.

Little written information on Te Mautari was available to the team and the information in this section is mainly anecdotal. The company was incorporated in 1981 with initial working capital provided by the U.K., with its functions identified as:

- a) a tuna catching and marketing operation predominantly for export;
- b) purchase of fish from small boat fishermen;
- c) local fish retailing operations.

Te Mautari was initially staffed by fisheries personnel using one pole and line vessel originally run by the Fisheries Division as a training vessel. Initially Te Mautari had one boat and a 50 ton cold store, a staff of five shore personnel and a boat crew of around 25 including a Japanese fishing master and engineer. Over the following years the company expanded as follows:-

- 1981 Another pole and line vessel was added to the fleet.
- 1982 A 100 ton cold store and workshop was built on the ground leading to the new wharf.
- 1983 Another two pole and line vessels were added to the fleet.
- 1985 A mother ship was added to the fleet.
- 1987 The wharf was completed and the cold store was expanded to a capacity of 250 tons.
- 1988 The addition of two new pole and line vessels built in Fiji and funded by EEC.

The personnel in 1990 numbered 29 shore staff and approximately 125 sea going staff.

Except for the years 1988 and 1989, Te Mautari has not made a profit mainly due to the depreciation factor. In view of the accumulated losses and following a very poor year in 1990 where there were no fish and the two new boats had considerable mechanical trouble, the government was no longer prepared to further support the company. With the exception of the

mother ship, which is profitably chartered to A US company in the Southern Albacore fishery, Te Mautari closed on January 1st 1991.

The future of Te Mautari Ltd is presently uncertain. It is generally considered the company must follow a more commercial operation and in May 1990, following a report from MacAlister and Elliot, the company entered into a management contract with a commercial fishing company. It was originally proposed that the pole and line fishing be developed through a joint venture agreement with an established tuna catching/processing company, and this is seen as essential should the company reopen.

From a manpower development perspective the closing of Te Mautari which, over the last three years, has successfully overcome most of its manpower and training difficulties, will pose many problems. It has already been evidenced that their qualified staff will seek employment both within and outside of Kiribati and it is possible that key staff will not be available to the company when it restarts.

B THE FISHERIES ORGANIZATION

The Fisheries Division, which is headed by a Chief Fisheries Officer, is one of four Divisions of the Ministry of Natural Resources Development. In 1991 it has a staff of 94, with 13 positions vacant.

The Division started in 1974 as part of the Ministry of Commerce and Industry Development, with its main activities being fish resource identification. In 1976 the Division became part of the newly created Ministry of Natural Resource Development.

Early records for the Department were lost in a fire, but records for 1979 show the Division was well established, having a staff of 66 persons, 11 of whom were expatriate, 17 were I-Kiribati fisheries staff and 38 were labourers/fishermen. A positive and aggressive policy to recruit and train staff meant that by 1985 the total established staff had increased to 57 and the unestablished staff numbered 40, 26 of whom were labourers/ fishermen (total staff 97). The largest increase in this period was through the recruitment of Fisheries Assistants (19) who, through an enlightened in-country training programme, were given appropriate skills. The position of Chief Fisheries Officer was localized in 19xx.

There has been little change in overall staff numbers from 1985 until the present but all expatriate positions have been localized. The dedicated position of Fisheries Training Officer ceased to exist in 198x, when it was considered the training project had fulfilled its function.

An Organizational Chart which illustrates the proposed staff structure of the Fisheries Division is included as Appendix XXX.

Using personal profiles of fisheries staff supplied by the Chief Fisheries Officer and taking into account the current long term vacancies (13), and anticipated turn over, a very broad estimate of the need for training over the next several years may be estimated. Please note that these figures are not meant to be used as a guide to the Kiribati Fisheries Division, but are for the use of this report when estimating overall regional needs. They also cannot account for Fisheries Staff being transferred to other government sectors, or the reverse.

Except for the replacement of expatriate personnel, the staff of the Fisheries Division has

been relatively stable for the last five years. Apart from two vacant positions, all persons at the AFO level and above have either BSc degrees (4,) MSc (1), or Diplomas, so that there is no immediate need for more Graduates. It should, however, be noted that degree qualifications lean heavily towards Marine Science and these persons are concentrated in the research, statistics and licensing areas. There are no Commerce or Management degrees, and other work areas, including extension, which account for the activities of by far the largest proportion of staff are currently headed by persons with lesser academic qualifications.

Possible education and Training requirements for the Division might include:-

- | | |
|------------|---|
| 1 person | BSC Aquaculture (Although this could be filled by transfer within the Division) |
| 4 persons | one year certificate course in practical Aquaculture. |
| 1 person | To head the extension section with a diploma or degree which includes Administration, and people (Psychology) skills. This position may be filled by the officer currently undertaking a degree in Fisheries Technology in Australia. This position should be FO level. |
| 11 persons | For the SPC/Nelson course or an expanded Certificate of Fisheries Technology. |
| Various | Short management courses for senior staff of FO level and above |
| In-Country | Short seaweed course for FA who will be supervising these operations in the extension mode. |
| In-Country | Two week extension and communication skills courses for all staff, not just FAs but everyone who has to conduct field work of any sort (see Recommendation 8). |

C KIRIBATI EDUCATIONAL SYSTEM

Elementary, Secondary and Tertiary Education in Kiribati comes under the administration of the Ministry of Education, with the exception of the Marine Training School, which comes under the Ministry of Trade, Industry and Labour.

Elementary Education:

All elementary schools are government run, and attendance is compulsory. Children attend Classes 1 - 7 (ages 6 - 12). English is introduced in Class 4. More than 13,000 students are

enrolled in Elementary schools, which are located throughout the country. Teachers are encouraged to take up posts in their home districts; the current student/teacher ratio in Elementary schools is 1:27.

The Government has made significant progress in improving the qualifications of Elementary School Teachers. Elementary Teacher training is provided in-country through the Tarawa Teachers' College, which currently has an enrolment of 30. The Government also provides support through a Curriculum Development Unit, and a Schools Broadcasting Unit.

Secondary Education:

Completion of Secondary Education to Form 7 is possible only through the Government-run George V Secondary School, based in South Tarawa. Other secondary schools are operated by the Churches, where the teachers are mostly nuns and volunteers; these schools normally operate up to Form 5, with a comparable curriculum to that of King George V. Students in all Secondary Schools take qualifying examinations in Forms 3 and 5; Church School students may transfer to King George V school for Forms 6 and 7, and there is an annual graduation from Form 7 of about 20 students. There is no government-sponsored out of country secondary education. Those not qualifying for King George V may take Form 6 through the USP Extension Service for University Entrance. Other students enter clerical positions, or other Tertiary Institutions.

Most secondary teachers in the government school are University graduates. At present, the secondary curriculum has a strong national emphasis. The Ministry of Education has recently made a proposal to expand the Curriculum Development Unit to include secondary level curriculum development and support, which will involve the USP Institute of Education.

Tertiary Education:

The principal tertiary institute in Kiribati is the Tarawa Technical Institute (TTI) which runs apprenticeship training in a variety of trades including motor mechanics and building construction. TTI also runs a course in accounting (ATT), mostly for government employees, and several short courses in computer studies and English language (speech and written). It also operates a Rural Development Center which runs projects to assist outer islands (Construction of desks, water tanks, low cost houses and class rooms).

Training for the industrial fisheries sector is conducted at the Marine Training Centre (MMC). MMC has run 6 month induction courses for new entrants to Te Mautari as well as some in-service training courses. There is currently little demand for such courses from Te Mautari but the Center is running G5 Mate and G5 Engineer courses for a small number of people. The main role of MMC is to train general purpose ratings for overseas (mainly German) merchant ships. It turns out an average of eighty a year and 1,200 I-Kiribati seaman are currently employed on German ships earning Kiribati approximately seven million dollars in remittances annually.

In 1988, following discussions between the Governments of Kiribati and Japan, MMC started a six month course for deck hands on Japanese pole and line fishing vessels. This course is run by three Japanese staff and accommodates 36 students usually selected from forms 2 to 6 (17 to 23 years). This will, in the longer term positively affect the manpower development of Te

Mautari.

Scholarships

Each year about 15 scholarships are awarded for tertiary education overseas, where successful students are supported in programmes in Technical Institutes and Universities. The preferred University is USP. Including the Form 7 qualifying students, a total of up to 100 students may apply for the 15 scholarships in any one year; the upper age limit is 36 years.

Scholarship Selection Process:

Scholarships are awarded on the recommendation of the Scholarship Committee. There is an established set of selection criteria, and the number and type of scholarships depends on the projected training requirements of the Manpower Planning Office. Projections are generally made on the basis of anticipated vacancies or staff changes during the time-frame of the scholarship. Preference is given to 7th form leavers, and not all candidates can be accommodated.

The Scholarship Selection Committee is made up of representatives from:

- Manpower Planning Unit
- Tarawa Technical Institute
- Marine Training Centre
- Ministry of Health
- USP Kiribati Centre
- Public Service Commission
- Ministry of Foreign Affairs
- the Catholic Church
- the Protestant Church
- the Ministry of Education

The Committee is Chaired by the Senior Education Officer.

While there is no bonding system as such, returning graduates are expected to serve their country. Changes in the prescribed programme of study may only be made with the permission of the Government.

There are some problems associated with the scholarship programme that were expressed to us, including:

- students were not aware of the government priority areas for awarding scholarships and some of the better students applied for scholarships in areas of low or nil priority thereby losing the chance of a scholarship. Because of this, there is the need for a system of counseling for secondary school students which will match students abilities to the jobs available.
- a currently high failure rate at University.

The high failure rate may be attributable to difficulties with language, and mathematics skills.

There are various efforts being made (e.g. Peace Corps, TTI, etc.) to assist in the teaching of English.

General constraints of the educational system:

-There is an attrition of qualified teachers from the secondary school system, this is largely because of better opportunities for advancement, and better salaries, in other Government sectors. Currently the Government has placed a moratorium on applications from teachers for Government positions. It has completed a review of Elementary School salaries, and is currently initiating a review of Secondary School salaries.

-The Government has difficulties exercising quality control on non-government Secondary schools.

D MANPOWER PLANNING

1) Developing a Plan:

The need to develop a human resource development plan which covers all government sectors has been recognized by the Government of Kiribati. It is intended that such a plan would indicate critical shortages and form a basis for formulating future manpower policy, education and training strategies. This in turn, would provide funding agencies an opportunity to better address the country's priorities. As a first step, a Joint Human Resources and Training Review was held in Tarawa from April 23 to May 3, 1990. During this session, all of the Divisions of the Ministries identified their future training needs for the next three years for the donors who attended. More importantly, the record of proceedings contains a listing of some of the major issues concerning future training and the views expressed by both donor and country representatives.

Kiribati representatives' concerns and views included the following:

-losses of staff to overseas positions is being experienced. As a result, a system of bonding has been introduced for in-service training. Legal and constitutional issues must be resolved before bonding of pre-service trainees can take place;

-localization of government positions is a government priority, but there is not a written policy in this regard;

-the Government will continue with the policy of restraint on the growth of the public service (it has grown by about 100 positions in 10 years);

-donors have not spread their support evenly between sectors in the past and frequently tended to overlap each other.

Donor comments included the following:

-there is not a sufficient number of secondary school leavers;

-training undertaken must be relevant to the situation in Kiribati. Often material in courses taken outside the region is not of benefit to students when they return;

-there is a disproportionate amount of training requested out of country compared with in-country. It would be more cost effective to do more training in country;

-the Government needs to provide sufficiently attractive conditions of service to retain people in positions relevant to their expertise;

-there is a high failure rate in overseas training;

-there is a need to further strengthen the Human Resources Planning function, which should be fully integrated with the budgetary process.

The Human Resources Planning Unit of the Personnel Division has been tasked with addressing these concerns, and many others in its development of a National Manpower Development Plan to be completed by January 1st, 1992.

2) Personnel Policies:

If the Manpower Development Plan is to be effective, it must be supported within a system which places high value on: establishing clear and achievable objectives for the work to be performed; organizing work in the most efficient manner where staff are employed in areas directly related to their educational and experience background; accountability through work and personnel evaluations. All of these areas require attention when developing appropriate personnel policies which will support Manpower Development Planning.

The Team spent some time in examining the current personnel policy area as it relates to the Fisheries Division, and learned that:

-only a few job descriptions exist, and those that do bear little resemblance to the duties currently carried out by the incumbent;

-work objectives are not discussed with staff;

-staff performance is not assessed on a regular basis. Any assessments completed in support of training or salary increments are kept confidential from the staff member being assessed;

-experience and shorter training courses are not given appropriate value when assessing applicants for appointment to a higher position;

-the current job classification system does not adequately recognize the specialty areas within Fisheries Management and, therefore, limits promotional opportunities for those without a degree to higher level positions which, in reality, may have no degree requirement;

-no evaluation is done on project success or failure to determine areas of improvement needed and/or skills and knowledge gained.

The Team believes that the Public Service Division should in parallel with the work needed to develop an effective Manpower Development Plan:

-re-examine and update its job classification system to identify needed specialty areas for compensation purposes. This implies an updating of all job descriptions.

-introduce an annual appraisal programme which would assess performance and identify staff development needs.

E ISSUES AND RECOMMENDATIONS

- 1) The Human Resources Planning Unit has a staff of only two people plus an adviser. It is obvious that they do not have the resources to develop a government-wide Plan on their own, but will have to depend on each Ministry/Division to develop its own input into the National Plan. It is vital that the Fisheries Division makes its best effort in developing this input as its future effectiveness may depend on its ability to compete with other Divisions for limited resources.

The Chief Fisheries Officer should seek the assistance of the appropriate regional bodies or funding agencies to assist in the development of a long range Manpower Development Plan for the Division.

- 2) It is apparent from discussion with the staff of the Human Resource Planning Unit and an examination of the report of the Joint Human Resources and Training Review that the expectations for future training of the Fisheries Division staff are too high. The report states "The Division is required to come back with a priority list of their training. It was noted that the requirement as presented would mean that virtually all staff of the Division would be receiving training/education during the next 2-3 years". The Human Resources Planning staff informed the Team that about one half of the identified needs for all departments have already been removed from the report. As the report now stands, the Fisheries Division identified a need for seven short courses, nine degree or diploma educational programmes, and three post-graduate programmes. If the first recommendation noted above is implemented, the manpower plan may present a better balance between higher academic qualifications and more specific short term training and work experience.

A greater emphasis should be placed in the training plan on shorter more specifically related courses and work placements to gain valuable experience. It is important these types of development opportunities should officially be recognized for purposes of career advancement.

- 3) Government officials acknowledged that public service job descriptions were not up to date and that the current job classification system was in need of review. As stated earlier, such action is desirable, if not absolutely necessary is a healthy environment for effective manpower planning is to become a reality. The task is onerous and will require much time and probably outside assistance. However, it must happen, so the Fisheries Division, as part of its manpower development plan, should consider updating all of its job descriptions.

The Chief Fisheries Officer, in anticipation of a general Government requirement in the not too distant future, should have all the Division's job descriptions updated during the

preparation of the Division's Manpower Development Plan.

- 4) Government personnel policy requires that a confidential annual appraisal be completed on established staff. In practice this is not happening. Assessments are completed when staff are nominated for training or salary increments. Written criteria exist against which these staff proposals are judged (see **Appendix xxx**); however, these assessments remain confidential and provide no feedback on work performance or the future training needs which might be captured for manpower planning purposes. Currently, the Government is considering the introduction of an annual appraisal programme which would address the above noted shortcomings of the current assessment procedures.

The Chief Fisheries Officer should encourage his superiors to introduce the appraisal programme now being considered by Government, and suggest that training in its application be provided to the management staff of the Fisheries Division.

- 5) Currently, there is no mechanism which allows the Chief Fisheries Officer to evaluate the value of a particular academic programme or work related shorter course. Such assessment is vital if funding agencies and/or academic/training institutions are to provide courses which meet the specific needs of the Division.

Any person attending training should prepare a report (a form may be prepared with expert advice) and the Chief Fisheries Officer should submit an assessment of the value of any training course based on the changed performance and skills level of the trainee, six months after course completion (a form may be prepared with expert advice)

- 6) Concern was expressed by the Human Resource Development Unit staff that funding agents offering scholarship opportunities directly to possible recipients without consulting Government can prove very disruptive to effective manpower planning.

The disruptive nature of such initiatives is illustrated in a case study found in Appendix of this report. Staff of the Unit intend to discuss this issue directly with the scholarship donors; in this case the Australian "Merit and Equity Scholarship Fund".

Appropriate regional bodies should lend their voice to that of the Kiribati officials in expressing concern about the disruptive nature of offering scholarships without discussion with national personnel staff.

- 7) The Joint Human Resources and Training Review (1990) indicated that donors would prefer, where possible, to fund in-country training as it is viewed to be more cost-effective and can be designed to better meet the specific needs of the country. Our discussions would suggest that Government officials share this view. The Team also noted that the Fisheries Division has conducted very successful introductory courses in the past.

The Fisheries Division should carefully examine the possibility of running training in country before sending persons to overseas training. In so doing, Fisheries may consider designating one of its Senior Fisheries Officers as Training /Staff Development Officer with the responsibility for coordinating all staff training and development. Duties should include advising the CFO on staff development issues, development of in-country training, liaising with government departments (manpower planning), local institutes, regional organizations and funding agencies.

- 8) As previously noted in the section of this report covering future training needs, the extension section of the Fisheries Division has a very significant role to play in the overall operation of the Division. It is essential that officers working in isolation have a supportive infrastructure and that their communication and extension skills are fully developed. Appropriate courses in addition to developing extension and communication skills, will help to consolidate extension activities and encourage extension staff.

The Fisheries Division continue the in-country two week extension and communication skills courses so that they are attended by all staff who are required to perform any part of their work activities in the extension mode (not just FAs designated extension officers). When all staff have attended the initial course, it should then be upgraded to a one or two week refresher course, and continue to operate until all appropriate staff have attended.

SOUTH PACIFIC COMMISSION
FISHERIES HUMAN RESOURCES PLANNING STUDY
FEDERATED STATES OF MICRONESIA
REPORT

A THE FISHERY

1) General:

The Federated States of Micronesia (FSM) is a democratic constitutional federation of the four states of Kosrae, Pohnpei, Chuuk and Yap whose total population is estimated at 98,000 (1988). The FSM group lies in an exclusive economic zone of an area nearly a million square kilometers in size.

Marine resources constitute FSM's largest natural resource. These include inshore and pelagic (open ocean) species of which tuna stocks and the full exploitation of the same constitute FSM's greatest long term potential. Average annual catches of over 190,000 metric tons of tuna are taken by foreign boats in FSM waters. Some development will occur based upon harvests of bottom, reef and inshore resources and the extent of these has already been seen to vary State to State eg. Chuuk State currently leads the FSM in fisheries development due to a growing local-market demand and active private and government fisheries projects. Generally the inshore marine resources of the reefs and lagoon are harvested mainly by small-scale fishermen to meet subsistence needs. However, small but increasing cash markets for these resources are developing particularly in population centers while increasing amounts are also exported.

Responsibility for resources management and foreign fishing activities in FSM waters from 12 to 200 miles beyond the reefs and for coordination among the States and with foreign entities is vested in the National Government. Each State however, is responsible for control of fisheries within its 12-mile territorial waters.

Efforts are on-going to produce the Second National Development Plan (DP2; 1991 - 1995). These efforts in the fisheries sector have involved extensive input at both the National and State level. Representatives from both levels have been brought together at a major conference to establish combined State and National objectives for the 1991-1995 period. These objectives are only draft form but, if all are approved for DP2, will be as follows:

a) Commercial Fisheries:

- to obtain substantial domestic involvement in the tuna fishery within 10 years;
- to invest capital into tuna-related on-shore facilities, including processing, in each State;
- to manage the tuna resources for long-term sustained yield;
- to establish improved liaison between States and the national fisheries agencies.

b) Artisanal Fisheries:

- to increase the artisanal harvest and local consumption of marine products;
- to manage the marine resources for long-term benefits;
- to enhance marketing, including export sales of inshore catches where appropriate;

c) Aquaculture:

- to develop or import viable aquaculture technologies;
- to transfer technology to the private sector at either the subsistence or commercial level;
- to use aquaculture technologies to introduce species of re-stock depleted areas;

The constraints to achieving the objectives for the 1991-1995 period are stated as follows:

- there are no resource management plans in any State. A common format for data collection and analysis is first required between the States and National governments;
- on-shore infrastructure is required for both the tuna and artisanal fisheries;
- high fuel costs in comparison to competing ports in the region;
- the lack of an appropriate financial loan structure to assist fishermen to acquire more efficient vessels;
- no commercial facility or agent to handle the marketing of the inshore catch.
- communication and coordination difficulties between State and National fisheries bodies.

2. The Commercial Fishery:

National Fisheries Corporation (NFC)

NFC is a public corporation established by the FSM government in 1984. It did not become operational, however, until 1987, when it started with a staff of 2. The aim of the corporation is to develop and promote a profitable and long term commercial fishery within FSM. In addition to the NFCs own industry development programmes, the corporation works closely with the individual states in joint fisheries projects.

The President of NFC is responsible to a Board of 7 Directors, which includes representatives from each state, Micronesian Maritime Authority (MMA), the Secretary of Resources and Development, and the President's Office. Although NFC is required to submit an annual report to the President/Congress it is the Board of Directors who have the control of NFC and decide its operating procedures and budget.

The operational funds of NFC are obtained solely from FSM congress while funds for the various projects are obtained from external sources. Approval for projects and funding is through the Board to the President (who does not have the right of veto as with other

departmental funds) to Congress. It is understood that within two years operational funding for NFC will be from the various projects it has initiated and will not be from Congress.

The long term plans for NFC are very ambitious and include:

- a. The development of a longline industry within FSM. This project includes the building locally or purchasing overseas of 40 mini longliners (50 to 60 ft length) over the next 5 years and the establishment of a shore facility to service both the local and overseas longliners in each state. Each shore side facility will have the capacity of servicing 50-100 vessels and consist of

- . a 90 meter dock
- . a 50 ton ice plant
- . 300-500 ton freezer storage (bait only)
- . 50 ton chill store
- . desalination plant
- . diesel generating plant.

In addition to servicing the 40 local boats it is intended that these facilities would be developed to service foreign longliners (diesel, ice, bait and provisioning) and act as transshipment points for air freighting their catch to Japan. It is proposed that these facilities will ultimately (5 years) service 200 foreign longliners.

It is estimated that each base will cost 4.5 million and be funded 1/2 million NFC, 1/2 million state government and the balance 3 1/2 million through low interest loans from US sources (5% interest)

- b. Working through joint ventures, develop the capacity in each state to process, by canning or loining, up to 10,000 tons of tuna caught annually, by joint venture purse seiners. Progress to date with implementing this national plan is as follows:

(a) Kosrae plans to build a 10,000 ton cannery and service this through the purchase of fish from various sources.

(b) Pohnpei currently has three US joint venture purse seiners operating which presently transfer at sea. Pohnpei has plans and has already purchased the land to build a 200,000/3000,000 cold store. It will ultimately build a 10,000 ton cannery or loining facility.

(c) Yap has negotiated a joint venture with US interests for 3 purse seiners which will shortly commence fishing in FSM waters. It will ultimately build a 10,000 ton cannery or loining facility.

(d) Chuuk is presently only at the joint venture negotiation stage.

It is obvious that these developments will have a very significant effect on the labour pool. With the longline project, apart from the boat crews, where training may be done at the Micronesian Maritime and Fishing Academy (MMFA) there has not been an assessment made of other manpower requirements and how they will be met. When questioned on this issue is

was stated that each proponent of a joint venture will also be required to prepare a manpower development plan.

NFC presently has a staff of 7 with an additional 2 expatriate advisers. One adviser may be localized in 2 to 3 years; the other, who is due to leave shortly, will not be replaced. It is possible, over the next two years, additional staff (project officers) will be employed. This is by no means certain as additional staff will be dependent upon the terms of specific future projects.

B THE FISHERIES ORGANIZATION:

As has been previously stated, the fisheries jurisdiction within the FSM's exclusive economic zone is shared between four states and the national government. At the national level four public bodies exist, each with its own role to play in the future development and management of the fisheries. The role of the National Fisheries Corporation (NFC), its structure and future plans have already been described in the Commercial Fisheries section of this report. The other federal bodies are:

- Micronesia Maritime Authority (MMA)
- Marine Resources Division, Dept. Resources & Development (MRD)
- Division of Marine Surveillance, Office of the Attorney General (DMS)

At the State level there are a number of agencies involved. On Chuuk, Pohnpei and Yap, two state agencies are responsible in each state. Yap has the Yap Fishing Authority and the Marine Resources Management Division. An identical situation exists in Chuuk. Pohnpei has the Economic Development Authority and the Marine Resources Division. In Kosrae there is only one government fisheries agency, the Marine Resources Division of the Department of Conservation and Development.

Further study of the State agencies to define organizational structures, staff profiles of approximately 100 employees and future development plans and needs is ongoing and will be included in this report at a later date. In the meantime, details with respect to federal agencies follow.

The Government Structure and Organization

a) Micronesia Maritime Authority (MMA)

The MMA is a semi-autonomous government body headed by an Executive Director reporting to a Board of Directors comprised of five members (one from each of the four states, and one appointed by the President). The responsibilities of the MMA are to:

- negotiate and conclude foreign fishing agreements;
- administer the terms of all foreign fishing agreements;
- license and collect fees from foreign nations fishing in the EEZ;
- monitor foreign fishing activities by placing observers on the foreign vessels;
- collect and compile catch data on the foreign fishing fleets and coordinate this effort with regional authorities.

The MMA was established in 1979 and then consisted of a staff of four (one expatriate). Workload of the Authority has increased steadily over the years to the point where approximately 500 licenses are issued each year returning earnings in 1990 of \$12 million (60% of foreign income). This workload will continue to grow if the NFC plans for substantially increasing joint venture fisheries are realized. A domestic licensing scheme is being considered now to deal with this growing fleet sector. Staff numbers have grown to 10 and they work in administration, statistics or research (includes observers). An organization chart is included in Appendix xxx.

b) Marine Resources Division (MRD)

MRD was established in 1983 with the appointment of an Administrator (Expatriate who is now the advisor to the current Administrator) and a Secretary. Staff numbers remained at that level for four years and the main preoccupation was the organization of training for State officers. In 1987, a Fisheries Development Specialist was added to the staff, and with the opening of a new FSM Aquaculture Centre in Kosrae in 1989, four new staff positions were added. The responsibilities of the MRD are to:

- assist and support fisheries development and management at the State level. This takes the form of coordinating staff development opportunities with funding agencies which deal only at the national level, work on the development of FADs, convening meetings and coordinating between states, etc.;
- aquaculture development and technology transfer;
- marine minerals and energy.

The MRD has an annual budget of just under \$100,000 with additional monies (up to \$250,000 per year) coming from funding agencies via the Congress. Work in aquaculture is just starting but plans will start with the giant clam production then expand to Trochus, Green Snail, sponges, mullet and rabbit fish. The aquaculture programme contains a teaching component to help[the private sector to enter into the field on a business-like basis.

An organization chart for the MRD can be found in Appendix xxx.

c) Division of Marine Surveillance (DMS), Office of the Attorney General (OAG).

Surveillance and enforcement of the FSM's exclusive economic zone was originally the responsibility of the Micronesian Maritime Authority, which chartered vessels and had police officers assigned to these vessels from the Division of Security and Investigation (OAG) when on patrol. In 1988 government decided to shift the responsibility to the newly formed Division of Marine Surveillance within the OAG. The Division currently has a staff of 42 consisting of a Chief of Marine Resources, a Secretary and two vessel crews of 20 each. The vessels are new (Palakir and Micronesia) and were provided by the Australian government Pacific Island Patrol Boat Project. Each crew consists of a Commander, an Executive Officer, Navigation, Coxwain, Buffer, Radio Operator, Charge Engineer, 2nd Engineer, electronics technician, electrician, 3 deck hands and 5 trainees. All staff of the Division except the Secretary are sworn in as police officers. The staff are assisted by 3 Australian Navy members (1 LCD, 1 CPO-Electrician/Electronics and 1 CPO Mechanical).

All officers undergo a 2 year naval training programme in Australia, while the technical crew members receive an 8 month course. The deck officers (Commander, Executive Officer and Navigator) receive further training at the Australian Maritime College in a 3 month course in fisheries (gear, vessel types, fish identification, etc.) All staff receive in-country training (4 weeks) on basic law enforcement, fire arms (hand guns and rifles) and basic unarmed self defense.

It is obvious that the training needs of the Division are being more than adequately met; however, greater liaison and briefing sessions between the Division and MMI, MFD and the NFC would prove useful in keeping the surveillance staff abreast of new fishing developments, concerns, methods, etc.

C EDUCATION IN THE FEDERATED STATES OF MICRONESIA

Education in the FSM falls under the jurisdiction of the Federal Division of Education, one of two Divisions in the Department of Social Services. State governments have control on the delivery of education, and there is a Department of Education in each State headed by a Director, who is a member of the State Cabinet. General policies are overseen by the FSM Board of Education, which comprises 5 members, one from each State, and the FSM Chief of Education.

The Division of Education and the State Departments of Education oversee Elementary (Grades K-8), Secondary (Grades 9-12) and Post-Secondary (College of Micronesia) programmes. Currently, the Micronesian Maritime and Fisheries Academy is not under the Division of Education.

Public expenditures on schools are in the range of 35% of the GNP, one of the highest ratios in the world.

Elementary Education:

School attendance in FSM is compulsory for grades 1 - 8 (until age 15), and participation is currently at the level of 97-98%. There are more than 32,000 children at school (K-12), with 28,600 of them at Public School, the remainder at Private School; of these, 24,600 are in grades K-8, the remainder in Grades 9-12. The student:teacher ratio varies from 1:10 (Yap) to 1:26 (Pohnpei).

Students take an examination at the end of Grade 8, and if successful receive a Diploma.

Secondary Education:

There are insufficient school places to accommodate all students who qualify for admission to Secondary School; this varies by State. For example, in Kosrae all eligible students can be accommodated, in Chuuk and Pohnpei, only about 40% continue on, the remainder drop out.

In order to meet the increased demand for vocational skills for school-leavers, two of the Secondary Schools have developed special programmes. One is the Pohnpei Agriculture and Trade School, which offers a variety of vocational programmes, including new two-year post-secondary programmes in architecture, furniture making, machine technology, and electrical and plumbing maintenance. The other is the Chuuk Learning Centre, which offers remedial instruction to assist students enter regular school programmes. There is also a programme called the Alternative Secondary Education Development programme, which offers a 3 month remedial programme and then a qualifying examination for admission to the freshman year.

Post-Secondary Education:

Community College of Micronesia:

The Community College of Micronesia was founded in 1970, primarily as a two-year pre-service elementary teacher education institution. In 1977, the Community College of Micronesia (CCM) became a constituent of the College of Micronesia (COM) system, and included the School of Nursing in Majuro (transferred from Saipan in 1987), the College of Micronesia in Pohnpei, and the Micronesia Occupational College in Palau.

In response to the increasing demands for developing and conserving local marine resources, a two-year degree programme in Marine Science was added to the curriculum in late 1986. In 1987 a Fulbright scholar was assigned to implement the A.S. degree programme. To date 6-8 students have graduated from the programme. Our follow-up indicated that only one of these graduates has continued on in a related field and works in the Pohnpei State Government Fisheries. The intention was that students completing the two-year Marine Science Programme would continue on to the University of Guam, but since the University of Guam does not have an undergraduate marine programme, this has not happened. Staff at the CCM stated that there has been no collaboration with the College of the Marshall Islands, where a marine programme is currently being developed. It would seem a valuable exercise for the College of the Marshall Islands to review the curriculum of the Pohnpei CCM, in developing their programme.

Since 1978 CCM has been a member of the Western Association of Schools and Colleges, thus allowing course credits to be transferred to other institutions. Since the beginning of the 1980s the college has progressed to include eight programmes.

High school graduates, secondary school seniors, or applicants who pass the General Education Development (GED) test are eligible to apply for admission to the CCM. To matriculate into the CCM degree programme, the following are required:

- To have graduated, or to expect to graduate from a high school at the end of the current school year, or have a GED certificate;
- Have an academic high school GPA of 2.00 or higher, measured on a 4.00 scale;
- Pass the CCM entrance examination;

- Be accepted by the CCM Admissions Board.

Information provided by staff at CCM indicated that there is a very uneven success rate state by state for entry into the College, with virtually none coming from Chuuk because of the standards of the secondary schools, but a high success rate from Kosrae. For Micronesian students in general, the best success rate was from Palau.

Micronesian Maritime and Fisheries Academy

This Academy is situated in the state of Yap at a site which was formally a US Coast Guard station. The site, buildings and equipment were donated to Pacific Missionary Aviation (PMA) in 1987. Using donations mainly from the church and following a feasibility study prepared by Recraa International Ltd. of the Philippines, PMA has developed the complex into a Maritime and Fisheries Academy.

The original concept of the academy was exceedingly ambitious. Plans included education in almost all areas of fishing, research and aquaculture to the diploma and degree level as well as merchant service officer training and vocational/ apprentice training in a variety of subjects. It is doubtful that the manpower resource available for training/education, or the employment infrastructure existed to support this ambitious but now discarded concept.

The present approach is to service the existing needs of the fishing sector through the operation of skipper, deck hand and engineer courses. The second class, consisting of 9 skippers, 1 able body seaman and 8 engineers, graduated in January 1991 after a five month training course. The academy staff presently number seven including 3 Filipino navigation and seamanship tutors.

The Academy is well equipped to run residential courses and if it follows its present pragmatic principles will be of great assistance to FSM in helping with the development of the proposed longline and purse seine joint ventures through the supply of trained ratings, skippers and engineers. In this area, the school deserves support from all sectors within FSM, and efforts should be made to communicate and coordinate this new training initiative with other Pacific countries so that duplication of facilities and programmes can be avoided.

If the academy fully develops its capabilities to service this area, and obtains a steady throughput, it will then be in the position to further develop courses to meet specific needs should these be identified.

Constraints within the educational system:

Some of the constraints mentioned for the educational system (Overview, 1990) are:

- full access is not possible for the 14-18 year old group.
- many teachers and administrators are not well trained in their fields.
- there is still a strong dependency on off-island especially US mainland institutions that are expensive and insufficient for FSM needs.
- the FSM Community College System is under utilized and not structured to meet current planned business and industry needs.

-the system is widely scattered (65 inhabited islands)

-there is a need to cope with 14 different local language, while the national policy is to stress English as a second language.

The Ohio University Team that investigated the FSM educational system in 1989 included the following observations among their findings:

-there is an insufficient pool of well-trained manpower needed for the economic growth hoped to be realized by the FSM.

-the post-secondary education system does not have capacity or expansion plans to meet its short and long-term needs.

-little is known about the status, success or problems of CCM graduates.

-large numbers of FSM students leaving for post-secondary training could be effectively be trained at home at great savings.

-youth and adult basic and vocational skills are below the acceptable level of current and projected private sector employers.

-job training is limited by lack of labour of market projection data.

-lack of articulation between high schools, post secondary institutions and other training providers promotes duplication and voids in delivery.

-there will be a need for a senior college system with sufficient enrollments by the year 2,000

-strategic educational planning related to the nation's economic development is lacking.

D HUMAN RESOURCE DEVELOPMENT

1) Personnel Policies:

A personnel policy for the 550-strong federal public service exists in the FSM to support the implementation of effective human resource planning, although some minor changes could improve the chances for success. Currently each government position has a written job description which is classified for salary purposes using a slightly modified Trust Territory Classification Standard. The Standard consists of 42 grade levels, with seven salary steps within each grade. The factors considered in evaluating the salary level include the economic impact, supervision received and exercised, educational requirements (determined in consultation with departmental officials) and the volume of work. The final decision on the level of the position rests with the Director, Office of Administrative Services. It should be noted that the classification system recognizes appropriate experience as a substitute for academic qualifications for certain positions where it is deemed not absolutely necessary for such qualifications (example - Fishery Officers in extension, or similar work). Such decisions are made during the recruitment process if a successful candidate cannot be found with the appropriate academic qualifications. In such instances the flexibility exists to substitute

experience or downgrade the position to permit staffing at a lower level. Once the staff member has gained the applicable academic and/or experience necessary, the flexibility in the system allows promotion provided performance has been satisfactory.

All employees of the government are evaluated on their performance on an annual basis (form attached). As can be noted from the form, performance evaluations are discussed with the employees. The form is probably in need of revision as we were informed that most managers note the employees as "satisfactory", as no written substantiation needs to be provided for this performance rating. In addition, the current form does not document annual objectives for the reporting period, against which employees can be appraised, or the development needs of the individual employee. If such changes were made, the annual performance evaluation could be used as a valuable tool for manpower planning.

The current process for the identification of staff for in-service training is somewhat complicated, as State nominations must be passed through the National Government for development opportunities, in most instances, as funding agencies normally deal bilaterally at that level. In the case of the Marine Fisheries Division, the Administrator must communicate the opportunities to the States and coordinate the responses through the system. Such nominations, as well as Federal employee nominations, are forwarded from the department to the Office of Administrative Services, where the Personnel Division acts as a secretariat to the President's Committee on Training. This committee consists of the 9 government department Secretaries, as well as one member each from the Legislative and Judiciary Branches of the Government. Our discussions revealed that no selection criteria exist (except those imposed by sponsoring agencies) for the identification of trainees at the State level, within the Department of Resources and Development, within the Office of Administrative Services, or at the President's Committee level. While it is obvious that some judgement must be expressed with respect to priorities, localization needs, and a balance between States, and between the State and Federal levels, there is no overall manpower development plan to provide a framework or guide for these decisions.

While on training, especially overseas longer term training/educational programmes, staff are evaluated by the institutions and reports are returned to Government. In addition, most staff submit their own report on the course. We were informed that such reports should be forwarded to the supervisors concerned, but it would appear that this system does not work effectively. In addition, supervisors are not required to report on any notable work improvements at an appropriate time after the return of the employee; such a procedure is, however, being considered by the Office of Administrative Services.

2) The Future:

An Asian Development Bank (ADB) team was in the FSM during our visit to Pohnpei. The ADB team will visit all of the States to assist in the identification of future opportunities for fisheries development. As part of its work, the ADB team will be examining the human resources development needs over the longer term and will recommend government initiatives necessary to develop an effective manpower development plan to meet the fisheries objectives. The report should be available in the not too distant future.

The draft of the 2nd National Development Plan clearly states that during the 1991-1995 planning period "A needs assessment analysis for fisheries training at all levels of the industry

will be undertaken". Clearly, the work of the ADB team will prove crucial in completing such an assessment.

E ISSUES AND RECOMMENDATIONS

1. While the personnel policies and practices at the federal level in the FSM provide a supportive framework for effective human resource planning, minor improvements in two areas would prove of additional assistance. Such changes would provide for an evaluation of performance measured against agreed upon objectives, a methodology for updating organizational and individual training needs on an annual basis, which can then be reviewed and actioned within stated federal criteria for training.

The current annual performance evaluation form should be revised to expand the measurement criteria and include annual objectives and development needs. In addition, state and federal training criteria for in-service, in-country and overseas training should be developed.

2. Current practice requires that those attending overseas training be evaluated during their training by the training institution (for housing and subsistence purposes). In addition, most course attendees on shorter courses complete an evaluation of the training received. In theory these reports should go to the supervisor for review. In practice, this does not always happen. There is no requirement for the supervisor to evaluate improved performance (other than annual appraisal) as a direct result of the training received. It is understood that the Office of Administrative Services hopes to institute procedures to improve training evaluation in the future.

Any person attending training should prepare a report (a form may be prepared with expert advice) and the Administrator, MRD, should submit an assessment of the value of any training course based on the changed performance and skills level of the trainee, six months after course completion (a form may be prepared with expert advice).

3. Two-year Marine Science programmes are in operation, in Majuro (Marshall Islands) and Pohnpei (FSM), on campuses of the College of Micronesia. The programme in Pohnpei has been in operation since 1987, with 6-8 graduates, while in Majuro (College of the Marshall Islands) it is in the development stage. These courses are intended as preparatory to entry to degree courses at overseas universities. There is apparently little dialogue between the staff of the two colleges, and no coordination of the curriculum, even though it is intended to draw students from a wide region (students at Pohnpei currently come from FSM, the Philippines and the Marshall Islands). It would be an advantage for the staff of the two colleges to enter into dialogue with respect to curriculum development.

Staff involved in the two-year programme in Marine Science at the Community College of Micronesia (Pohnpei) should initiate dialogue with the staff at the College of the Marshall Islands, in the area of curriculum development.

4. Two persons from the Federated States of Micronesia (1 from the Department of Resources and Development and one from the Community College of Micronesia) have attended a series of courses and workshops run by SPC for teachers of communication and extension skills for fisheries staff, and another from CCM will attend a similar three week workshop in

February 1991. Through the auspices of MRD, a two-week workshop in fisheries communication and extension skills was run in Pohnpei in 1989. This workshop was run by the above mentioned persons and attended by 15 persons from state fisheries organizations. Persons who attended this course have confirmed that the skills they learned were very useful to them in better understanding their role as extension workers and in the daily implementation of their extension programme and every day duties.

There still exists a need in the States of FSM for a continuation of this training until all fisheries extensions officers have undertaken at least the two week introductory course. Following the principal that such training is more effective when conducted in-country by tutors speaking the local language, it is believed that a two week course should be run in each state. The series of courses should be organized and administered through MRD, Department of Resources and Development, and be taught by the three trained FSM staff. If numbers of fisheries staff do not amount to a minimum of 12, this should be made up by extension workers from other areas (agriculture and health). Other extension teachers from within the Pacific region may assist if required by MRD.

Further courses in Extension and Communication Skills for fisheries personnel should be organized in-country in each state, and be conducted by already trained FSM staff (external assistance can be provided if desired).

5. A general concern expressed, not just in FSM, is the need for improved management skills for senior fisheries officers. Many senior fisheries officers who have organizational management duties as part of their job have been educated or trained in specialist disciplines which do not have management training as part of that discipline. Discussions with fisheries personnel in FSM have indicated that the SPC/UNDP/FAO two week workshop in organizational management skills for senior fisheries personnel conducted in Fiji in November 1990 was useful and should be repeated in-country.

This training could be organized by the MRD using overseas tutors who not only have an understanding of the subject but an understanding of the Pacific Island circumstance. It should be structured in two separate but complementary two-week modules and be open to senior fisheries personnel from all States. It would be beneficial if one of the overseas tutors, who will teach the course, visit FSM to work with MRD on course development and structure.

MRD should organize a course of study in organizational management practices for senior fisheries personnel from all states, using overseas assistance.

6. Knowledge in post harvest procedures is seen as a constraint to the development of the fisheries of FSM and there is an urgent need for experience and training in this area in all States. While it is recognized that the SPC is developing a post-harvest research and training centre which will ultimately run a course specifically designed to meet the needs of Pacific Island Countries, in the short term FSM has pressing needs to address the distinct requirements of each state.

SPC should make every effort to accept an officer from each State to the six-week course in Post Harvest Techniques it will conduct in September 1991.

7. The Micronesian Maritime and Fisheries Academy at Yap is well placed to service the manpower requirements of the proposed joint commercial fishing ventures. The development of the capabilities of the academy to run vocational courses for all sectors of the fishing industry should be supported by industry government and donors. For a school to function requires a steady throughput of students as well as effective staff, equipment and premises. In this regard consideration should be given to the possibility accepting students from outside of FSM.

The Micronesian Maritime and Fisheries Academy should be officially recognized as the National establishment responsible for vocational training for the fisheries sector and steps should be taken to broaden this to encompass other Pacific Island Countries in the North Pacific.

8. At present, the Academy is not integrated with the educational system and it is desirable that this be done when the Academy has become completely established.

Steps should be taken to open dialogue which will effect the integration of the Academy with the educational system at an appropriate time in the future.

9. Accreditation of courses at the Academy is seen as a problem but this is probably due to difficulties in the education system. If the Academy is seen as being effective and the qualifications it issues are valued by industry they need not necessarily fit into an accreditation system which perhaps has no place for a fisheries school. One way of achieving accreditation is to teach courses which fit into the South Pacific Maritime code for G5 Mates and G5 engineers. To do this, it would be necessary to satisfy the examiner in Fiji that the course, examination and seetime requirements followed the requirements of the code and perhaps, initially at least, have the examiner come from Fiji to examine the participants.

The Academy should research the possibility of developing the infrastructure to advance students to the standard where they can sit the G5 Mate and G5 engineer certificate courses which satisfy the requirements of the South Pacific Maritime Code.

10. At the present, there is no statutory requirements for manning fishing vessels within FSM waters. If appropriate legislation were introduced it would ensure a higher standard of safety and provide a recognized career path for boat crews. This might be structured as follows: 6 month pre-sea fishing cadet course followed by six months to one year sea service before sitting deckhand then another two years sea service before sitting Skipper. For engineers developing a progression would not be necessary as a well recognized programme for G5 engineers currently exists.

If such legislation were introduced, it is absolutely essential that it reflects the reality of the requirements and does not act as a barrier to the development of the fishery.

Consideration should be given to implementing statutory certificates for Deck hands, Skippers and Engineers for fishing vessels registered in FSM and operating in FSM waters. These certificates should directly reflect the minimum safety skills required by the size and fishing circumstances of the vessel.

SOUTH PACIFIC COMMISSION
FISHERIES HUMAN RESOURCES SURVEY

PALAU

REPORT

The Republic of Palau is one of the smallest nations in the Western Pacific, and consists mainly of a central archipelago with a barrier reef 246 miles long enclosing a 560 sq. mile lagoon. The land area comprises about 340 islands, with an approximate total land area of 500 sq. miles. The 1991 population is approximately 15,000, with about 2,000 of this total made up of non-Palauans (primarily Filipinos). (Modified from Douglas, Norman and Ngaire, 1989).

A. THE FISHERY

1) General:

The Islands of Palau offer excellent habitats for marine species and accordingly very promising prospects for both commercial and recreational fisheries development. The inshore fishery to date, has supported a growing number of fishermen who either fish for subsistence or commercially. Overall catches have increased as new fishing grounds are exploited. The fact that the local markets can absorb and offer lucrative prices for catches coupled with the readily-available markets in Guam for any excess production, has enhanced commercial activities in Palau. The recreational fisheries offers another avenue for economic development through tourism. Attention will have to be paid in the future to the collection and analysis of catch and other biological data in support of basic stock assessment as some inshore resources are believed to be already over stressed.

There appears to be ample room for further development of the tuna fisheries. The direct economic benefits at the present time are derived through license fees. The possibility of increasing fees, attracting more vessels, and encouraging local interest in this fishery exists.

Available habitat has enabled Palau to venture into aquaculture and in particular mariculture-related activities. Noteworthy is the culture of giant clams, the farming of which will be a commercial possibility in the near future through technology transfer from the **Micronesian Mariculture Development Centre (MMDC)**.

2) The Commercial Fishery (ref. Forum Fisheries Committee, Fourth Technical Sub Committee Meeting, "Country Statement Palau")

A single pole and line vessel is being operated in Palau by private enterprise. The catch provides a source of fresh tuna for the domestic market and the vessel limits fishing activities according to demand.

Palau International Traders Incorporated (PITI), is a joint venture between Singapore-based investors and local entrepreneurs. The company is locally operated using the renovated Van Camp cold storage facilities. PITI uses up to 70 longline vessels and fishermen from Taiwan and the Peoples Republic of China to fish for Yellowfin and Bigeye tuna for the Japanese sashimi

market. Sashimi grade fish is air freighted to Japan in a dedicated aircraft and reject fish is sent to Taiwan for canning.

Palau Marine Industry Company (PMIC), is a joint venture between Taiwanese financiers and local citizens. It has been licensed to fish with up to 243 longline vessels manned by Taiwanese or mainland Chinese. These vessels initially transferred at sea but the company erected a block ice plant and cold storage facility and now lands locally.

There are also some smaller joint ventures including a vessel catching live cod for the Hong Kong restaurant trade and a pearl farm.

Commercial activities in the inshore fishery are undertaken by the **Palau Fisheries Authority (PFA)**. At the present time the PFA has a staff of 7 whose activities are almost exclusively centered on a fish receiving and marketing operation and support to local fishing groups through the sale of fishing equipment, fuel, bait, ice and the maintenance of vessels. Fish is purchased mainly from local fishing groups but some reject export tuna is also purchased from the joint venture longline operation. Most fish is sold locally except for the months of February to April when there is a significant export of fish to Guam and Saipan associated with Lent. PFA supplies the schools and hospitals with fish.

The PFA operation is centered around the fish receiving facility at Koror which consists of a wharf, fuel facilities, 4 ton ice machine, 2 operational cold stores (1 used for fish storage, the other rented to a local hotel), workshop, two disused cold stores which are used as storerooms, a retail shop and offices.

This complex was run by the **Palau Federation of Fisheries Associations (PFFA)** until 1985/86 when it went into receivership and the government appointed PFA to manage it with a view of ultimately returning it to PFFA when it became profitable. PFFA is a federation of several groups of artisanal and semi commercial fishermen who fish from their home location and transport the fish to Koror. At the time of receivership, the PFFA had a staff of 12 which has been reduced to a current figure of 8. The supply of fish varies. Three groups regularly supply fish using three 32 ft fiberglass boats supplied by Japanese aid. About 20 additional small boats land fish each week. ie 5/6 landings per day, and a brisk market exists for all fish caught.

As well as the PFA facility, fish is also sold and exported in five local markets. In 1975 PFA sold 70 % of the fish caught locally; this figure has now been reduced to 39%. There are plans to build another three centers in other parts of Palau and it is possible these centres will market their own fish, rather than transporting it to Koror.

The Marine Mariculture Development Centre has progressed its research and technology of raising Giant Clams to the point where commercial operations can be established in Palau and other countries of the South Pacific. In the past year, US\$150,000 was earned in the sale of Giant Clam stocks and this money has been used to support staff, for maintenance, and further development of the Infrastructure. When current markets are further developed, a sound business plan is written to address the separation of ongoing hatchery production from the

commercial operations, and the complicated process in obtaining CITES export permits is simplified, privatization of the commercial operations will occur. This will probably take place in 1992.

B THE FISHERIES ORGANIZATION:

Prior to 1981, the Palau fisheries were managed by a **District Marine Resources Division** which reported to the **Micronesian Trust Territory Administration** located in Saipan. The Trust Territory was established in 1947 by the United Nations. Included in the Trust Territory were the Marianas, Yap, Chuuk (Truk), Pohnpei, the Marshalls and Palau.

In 1976 the Trust Territory established the **Micronesian Mariculture Development Centre** (MMDC) in Palau, with the objective of providing a centre of expertise for the development of the mariculture industry in Micronesia. Much of what is now known about the science and technology of rearing appropriate species for aquaculture/enhancement purposes has been discovered at the MMDC and transferred throughout the region. MMDC was managed by the Chief Fishery Officer who headed the District Marine Resources Division.

Palau established its own constitution and elected its first national constitutional government in 1981, and separated from the Trust Territory. At that time the District staff numbered 30 with one half of the staff involved with the operation of the MMDC. All of the staff transferred to the newly formed **Marine Resources Division** (MRD) of the Ministry of Resources and Development, Executive Branch of the new government (current organizational chart attached). In 1981 the new government faced several major issues in the fisheries, e.g. the Law of the Sea negotiations, jurisdictional deliberations with the 16 states within Palau, international disputes over the management of migratory species (tuna), the future of MMDC, and the division of responsibilities within the national government for the fisheries sector.

To cope with these emerging issues the government created two new semi-autonomous agencies, namely:

1. **Palau Maritime Authority (PMA)** - Responsible for the negotiation of foreign fishing arrangements to allow tuna fishing within the EEZ and for the management and regulation of all living marine resources within the zone. The authority was given annual funds to operate which have varied between US\$40-50,000 since its formation. The Authority reports to a Board of 7 Directors appointed by the President and, because of the small funding level has always had a staff of only one person (administration/statistics). A "lump sum" fisheries agreement exists with Japan which permits up to 291 vessels to fish in the EEZ annually, but in reality less than 100 do so on a regular basis. The Japanese pay US\$500,000 per year for this privilege with the catch statistics being provided by the Japanese fishing fleet through the appropriate Japanese authorities in Japan. There is no capability within the PMA to monitor or verify these catches.

In addition, the PMA has arrangements with joint venture companies which number two at the moment. These joint ventures involve Taiwanese and mainland China vessels (up to 313 in total) which pay a fee per vessel of either US\$900 or \$1,000 depending on gross tonnage. Other than the indirect benefits to the local economy, the government does not receive any direct benefits other than the license fees, which are distributed 85% and 15% to the (16) States and National Government, respectively. There is no wish, on the part of government, to create sea going employment for Palauans within these fishing fleets.

2. **Palau Fishing Authority (PFA).** Responsible for the development and management of the inshore fishery (reef fishing). As is the case with the PMA, this semi-autonomous authority has limited funding (US\$40-50,000) and currently has a staff of 7 employees. When the Palau Federation of Fishing Association (a federation of fishing co-operatives) went bankrupt the PFA was designated by government to assume its responsibilities. With its small budget and staff size PFA has not been able to fulfil its mandate and currently confines its efforts to post harvest fish handling and marketing. As is the case with the PMA, the PFA reports to a similar Board of Directors.

As can be noted from the mandates of these two authorities, the MRD within the Ministry structure of government was left with no official mandate. This fact was further complicated by the separate constitutions of each of the 16 States which grants the States fisheries jurisdiction out to 12 miles. None of the States has the human or financial resources to yet manage their fisheries so this function is still performed by the national government.

Without a mandate, in the early years, the MDF did little work yet had just about all of the staff (30). As time passed, MMDC was merged with MRD and the Division took on more and more responsibilities associated with the mandates of PMA and PFA. Since 1988 the three government organizations have worked very closely together, at the official level, with MRD providing essential support to the Authorities. Indeed, if not officially, at least in practice, the PFA now looks to the Director of MRD for direction and guidance.

These organizational and mandate issues have been addressed in the past with the assistance of regional organizations. The Forum Fisheries Agency in its 1988 report (Kunatuba, 1988) made its recommendations. Only recently, Crossland (1990) examined the same issues and developed similar recommendations to those of FFA. Even though the two Authorities and the MRD officials unanimously agree with these past recommendations to rationalize the organization into a single agency focus, they have been unsuccessful in obtaining Congressional approval for their implementation. Much time was spent by the Team on these issues as the officials from these 3 bodies are urgently pressing for some form of assistance (strategy development) which will realize their much needed rationalization to improve efficiency and effectiveness. It is obvious that, while a team reviewing human resource development needs, has no mandate to recommend organizational changes, it is also obvious that, whatever decision is ultimately made, it will have a major impact on further manpower needs.

Staff organizational charts for MRD/MMDC and PFA/PFFA are attached as Appendix...

C. EDUCATION IN PALAU

The National Government is charged with the responsibility to provide free and compulsory education (Art. VI of the Constitution of the Republic of Palau). Most of the functions of the Office of Education at the Trust Territory Headquarters in Saipan were transferred to the Republic of Palau on January 1, 1981. Federal programmes remained at the Trust Territory Headquarters until August 1987, when the Trust Territory Office of Education was finally closed down and all the functions of the federal programmes were transferred to the Republic of Palau Government (42nd Annual Report, 1989: Trust Territory of the Pacific Islands).

The administration of education in Palau comes under the Minister of Social Services, and falls under the Bureau of Education Administration, which has three divisions: Division of Elementary Education, Division of Secondary Education, and Division of Curriculum

Development. Each Division is headed by a Division Chief, and the operation of the Bureau is carried out by the Director, who is responsible to the Minister of Social Services.

The Bureau provides administrative services and logistic support to all divisions in the areas of budget preparation, personnel, supplies, maintenance of facilities and equipment, teacher and staff development, higher education, student services and teacher training.

Elementary Education:

School attendance is compulsory for children aged 6-14 (Grades 1-8). In 1988-1989 2,258 children were in attendance at the 24 public elementary schools under the supervision of the Chief of Elementary Division. It is estimated that there is a 98% participation rate. The number of elementary students has been declining for the past 8 years, this attributable to out-migration of the population, and family planning. There is a very low student-teacher ratio (1:12). Attendance at private schools in 1989 exceeded that in public schools (2,873 in grades 1-8).

Secondary Education:

In 1989, just over one thousand students were attending high school (Grades 9-12), either the single public school (630), or one of four private, church-run secondary schools (415). Other students may elect to attend schools outside Palau. Each year Palau High School administers entrance tests in English, Math, Science and Social Studies to all students who completed elementary education. In the 1988-1989 school year, 60% passed and were placed in the regular Palau High School Programme. A further 60 students (18%) were placed in the high school remedial programme; the remaining 22% of the students failed the test.

While high school attendance is currently not mandatory, with the Five-Year Education Plan which took effect in 1988, it should eventually become mandatory.

Private Schools are chartered every three years, and in order to maintain their charter they must offer the four basic courses of the public system (English, Mathematics, Science and Social Studies).

Post Secondary Education:

For the past eleven years it has been estimated that about 75% of the students graduating from Palau secondary schools go on to post-secondary education. Approximately 100 students graduate annually from Secondary School.

The Palau National Scholarship Program

Grade 12 graduates may apply for scholarships to post-secondary institutions overseas. Students must have a GPA of 3.0 or higher to qualify for a scholarship, and in any year between 6 to 12 students qualify. Their applications for scholarships are evaluated by the Palau National Scholarship Board, which is currently chaired by the President of the Micronesian Occupational College in Koror, Francis Matustaro. Members of the Board are appointed by the President of Palau, and approved by the National Congress and Senate. The current membership comprises 7 members.

The current annual scholarship fund is \$200,000, and between 75 and 100 students are supported in any year. The value of the scholarship is proportional to the number of students being supported at any one time. Usually all students that qualify can be awarded a scholarship, but the scholarship does not cover all costs. When applying for scholarships, students must provide proof of acceptance at a tertiary institution. Areas of study are determined by the National Scholarship Board on the basis of identified national priorities, which at present are:

Vocational Training
Business
Management

In 1990, 5 students successfully graduated from University, 4 with a BA degree, and one with a Masters Degree. The staff stated that there is a high loss of successful Palauan university graduates to the mainland US, since they are attracted to stay there for higher salaries and better employment opportunities.

There is no bonding system for scholarship awardees, and there is no guarantee of employment when they return to Palau after completing their post-secondary education.

Micronesian Occupational College

The Micronesian Occupational College (MOC) was established in 1979. The MOC offers vocational training to school leavers, and various remedial programmes in basic subjects, for students wishing to obtain a Grade 12 certificate. MOC also plays a significant role in teacher in-service training and up-grading.

In January 1991, the MOC established a Science Centre, and appointed a Coordinator and a Science Curriculum Specialist. The Science Centre will address some important deficiencies in the Palauan educational system, and will initiate a science programme that will be integrated in the MOC curriculum. The goals and mission of the Science Centre are:

- to develop a Science Programme in recognition of the neglect of science in elementary, and especially secondary schools, and the overall weakness of the science curriculum in grades 1-12 (which in turn lead to post-secondary difficulties).
- to assist Palau in the development of Palauan scientists, since these are recognized as important to the future economy and development of the country.

In order to have the greatest impact on schools, the Science Centre will be a joint venture between MOC and the Bureau of Education Curriculum Division. The Coordinator and Science Curriculum Specialist also recognize the importance of Marine Science to Palau, and hope to incorporate some Marine Science units in the curriculum. In this regard, they expressed a desire to collaborate with the Marine Resources Division with a view to obtaining advice on future training needs of the Government.

D. HUMAN RESOURCES DEVELOPMENT

1) Personnel policies:

The "Rules and Regulations for the Public Service System" were promulgated by the National Civil Service Board in 1984. The Board consists of five Presidential appointees and a staff of two public servants. The law under which these regulations were made (Palau Public Law No. 1-33: - the National Public Service System Act) assigns to the Board the responsibility of formulating policies including, but not limited to, recruitment, hiring, placement, promotions, qualifications for employment, termination, reduction in force, classification and compensation plans. It would appear from our discussion that the Board does not involve itself in overseeing the day to day implementation of these policies, but relies instead on the 5 staff member Bureau of Public Service System in the Ministry of Administration for this task. The Board currently restricts itself to irregular meetings to address grievances from the approximately 1400 employees in the Palau Public Service.

The regulations noted above require that each position have a job description which is rated for salary purpose against a classification standard developed in 1987 by Micronesian Management Services of Honolulu for the Palau government. The standard contains 15 occupational categories with 30 pay levels each consisting of ten salary increments (steps).

A new position would be written by the departmental manager and forwarded to the Personnel Division where the final level decision is made by the Director of the Bureau. While the personnel staff have received training in the application of the Standard our discussion revealed that line managers have little or no knowledge of how it works. As no guidelines are given to line managers on the key factors used to rate a position, much time and effort can be wasted in describing a new position.

For many of the positions in the fisheries sector, the classification standard does not indicate that a degree or diploma is required. For positions which do, flexibility and judgement can be exercised with respect to experience. In addition, we were informed that shorter certificate training courses are considered in lieu of experience and/or formal academic qualifications, although the written standards do not reflect this fact. Having examined the standards and after discussing the flexibility allowed with the personnel staff, it is difficult to understand the perception held by fisheries staff, that degree or diploma qualifications are the only "ticket" to promotion. Perhaps the problem is not the standard itself, but it is the fact that the standard is applied by only one individual charged with this responsibility.

Employees are evaluated on their performance for the purposes only of receiving a step salary increase (copy of form attached). These step increases are awarded annually for the first 4 years of employment. Steps 4 to 7 are awarded bi-annually and from the 7th to 10th step employees are awarded increases every three years. Under this system an employee with 19 years of service would have his performance evaluated only 9 times. The national appraisal process is not viewed by personnel staff or line managers as an effective personnel management tool. As can be noted, the form is designed in such a way that only a few rating factors are considered and managers need expend little effort on its completion. Annual objectives and human resource development needs are not included in the appraisal process. Some ministries, including the Ministry of Resources and Development, have designed their own forms (copy attached) which considerably improve the information exchange between employees and their supervisors. Unfortunately, past attempts by the Ministries of Public Works and Resource and

Development to have their process recognized nationally have failed.

Currently there is no attempt to coordinate, control or evaluate human resource development programmes at the national level. Each Department negotiates on a bilateral basis, with funding agencies, and once funding is found and participants approved the Personnel Division "rubber stamps" the approval. This was not always the case. At one time the National Civil Service Board attempted to intervene in departmental training; however, the resulting dispute with the funding agency at the time resulted in a legal decision which gives the donor the final say in choosing training nominees. Since that time, the only criteria used for selecting trainees rests with the donor, and departmental managers. As with training nominations, the Personnel Division plays no role in the evaluation of training and development programmes conducted by line ministries, although they are interested in the results, especially for the future of staff development.

2) The Future:

As is the case in other developing Pacific Nations visited, Palau will shortly be starting the process of developing a new 5 year National Development Plan. This will be done with the assistance of the United States, and will take an estimated two years to complete. It is expected then, that it will not be until some time in 1993 before the National Government has approved the plan, which will identify objectives, priorities and the national human resource development needs to meet them. There is little question that the renewable resource section will play a prominent role in the country's future development. A "window of opportunity" exists in the next 18 months for the fisheries organizations to prepare and present a progressive and professional development plan which will address the current organizational deficiencies and longer-term manpower development needs.

E. ISSUES AND RECOMMENDATIONS

1. At the present time, Palauan high school graduates are having difficulty in competing with students from other Pacific Islands in tertiary institutions, because of deficiencies in Mathematics, Science (Chemistry, Physics, Life Sciences) and language skills. This is exemplified by the cases of four students currently attending the Diploma in Tropical Fisheries (DTF) programme at the University of the South Pacific. In order for the Palauan DTF students to graduate, they must pass the required USP courses in Mathematics, Chemistry, Physics and Language. Arrangements should be made to assist these students to complete their DTF requirements, by finding appropriate equivalent courses available through "summer school", such as at the USP Vanuatu Centre, the University of Papua New Guinea, or elsewhere. These efforts can be coordinated through the Micronesian Occupational College Science Centre in Koror, which can provide intensive remedial assistance in cooperation with USP.

Diploma in Tropical Fisheries students should seek assistance from the Micronesian Occupational College Science Centre staff, and from the University of the South Pacific, for remedial studies required for completion of their programme.

3. Difficulties are being experienced by both Palauan and FSM students who are attending the

current Diploma in Tropical Fisheries at the University of the South Pacific (now in its final year; see Case Study No. ..., Main Appendix). There is no comprehensive programme within the region currently available to these students at the sub-degree level (a certificate in Fisheries Technology has been proposed in the University of the South Pacific Marine Studies Programme 5-year Plan). It is the belief of the Team that such a qualification would complement the Diploma courses which USP proposes to introduce (see 5-year Plan) and would allow persons with a lesser academic ability to gain relevant education and skills training. While this may lead on to a diploma course, it is not considered that the two courses of study need be inter-related through credits.

Such a course of study could be completed in about one year and as well as including technical skills necessary for the "technician" level would include basic writing, science and mathematical skills to an appropriate level. Other topics covered should include extension, and administration skills as well as awareness of departmental procedures.

The results of this survey will generate approximate numbers for such training, and it is anticipated that such a course may not need to be run every year, but only when numbers are sufficient.

The South Pacific Commission, through the auspices of the Regional Fisheries Training Project, should develop a curriculum which addresses the needs for training Pacific Island Fisheries Officers at the technician level, and should seek a means of implementing such training as a matter of some urgency.

3. The need to upgrade the science curriculum at all levels within the Palauan public school system (especially in grades 9-12) is recognized as a national priority by the Bureau of Education, and by the Micronesian Occupational College. Parallel with this, is the need to upgrade teacher qualifications, and to improve the overall science literacy of the Palauan population, as a means of allowing rational decision making on the country's resources and environment. Finally, there is a recognized need for the educational authorities and the Division of Marine Resources to work together towards the common goal of preparing Palauan students for identified future national needs in Marine Resources, both in the public and private sectors.

Mechanisms should be found for collaboration between the Bureau of Education, Curriculum Development Division, the Micronesian Occupational College (Science Centre) and the Marine Resources Division, in the development of an improved school science curriculum and the upgrading of teachers along lines consistent with future national needs.

4. As has previously been noted, the PMA, FMA and the MRD operate as separate entities yet have worked cooperatively since 1988 to address shared objectives. Their human resource needs have been clearly identified by the Kunatuba (1988) and Crossland (1990) reports. This Team found no reason to quarrel with these recommendations and, indeed, add its voice in support of their conclusions. Despite the fact that the reports have not resulted in the needed organizational changes, the senior fisheries staff have a common vision of the future and are progressing with a longer-term plan of developing staff who will eventually meet the future fishery development needs. Programmes are currently in effect to obtain the foundation training needed (4 Diplomates) as well as shorter-term training (extension and post harvest) upon which to build an effective team to implement a scientifically based fishery

management regime. The success of their plan will depend, in large measure, on convincing the national Government to take the needed action to re-organize its fishery sector.

Staff of the PMA, FMA and MRD stated their desire to obtain assistance in approaching the national Government with a professional, rationally based proposal to consolidate efforts into a single government body. The strategy document, which would be produced, should recognize the financial and human resource limitation of the country, the value and potential of a more fully developed fishery (both inshore and offshore), savings to be made in consolidating staff, the future privatization business plan for the MMDC, clear objectives with "milestones" upon which to measure progress, and the human resource development plan to meet objectives.

-The South Pacific Commission should assist the PMA, FMA and MRD by funding a person for a period of 6 months to work with in-country staff on the development of an appropriate strategy for the successful national implementation of previously documented recommendations for the fishery sector. The three bodies should have some say in the final choice of the person to be selected.

5. There is little likelihood that, in the near term, personnel policies will be changed at the national level to complement the introduction of effective national manpower planning. There are two areas, however, where the Director, MRD, may wish to take action.

1) The Director, MRD, together with his colleagues from other Ministries, should attempt to "open up" the classification process by suggesting that briefings be given on the Standard, and that committees of senior officials be used to classify positions, rather than leave that responsibility to one individual in government. In the meantime, a close and healthy working relationship at the personal level between the concerned departments should be encouraged.

2) Change the current appraisal form used by the Ministry of Resources and Development to include a section on future development needs for individual staff members so that the manpower development plan can be updated on a regular basis to recognize changes in staff composition and changing priorities.

SOUTH PACIFIC COMMISSION
FISHERIES HUMAN RESOURCES SURVEY
SOLOMON ISLANDS
REPORT

A. THE FISHERY

1) General:

The Solomon Islands is a scattered archipelago lying between latitude 5 and 12 degrees South, and longitude 155 to 176 degrees E. The main islands are rugged and mountainous, while many of the smaller islands are coral islands and raised coral reefs. The total land area is 29,785 sq. km, and the EEZ is approximately 1.3 million sq. km. The 1986 census gave a population of 285,796, and the annual rate of population growth at that time was 3.2 % (Douglas & Naire, 1989).

The fisheries in the Solomons now generate the largest source of foreign exchange and the fisheries sector is seen as the most promising area for further development. The total commercial catch, which was approximately 17,000 mt in 1975, rose to approximately 52,000 mt (includes approximately 8,000 mt caught by foreign flag vessels fishing under license) in 1988. Of the total, some 37,842 mt valued at SI\$84,615,174 (Diake, 1989) were exported. This represented 49.8% of the country's total export earnings. Total foreign revenue earnings in 1988 from tuna and related products alone was SI\$78,401,832, thus indicating the importance of the tuna resource to the social and economic well being of the country. As the annual sustainable yield of the tuna stocks is estimated to be 75,000 mt, there is still room for expansion of the total allowable catch (Fisheries Department Annual Report, 1988).

The production of marketable fish from the inshore fishery, despite potentially large and diverse stocks, has contributed relatively little to the economy. Government continues to give assistance to the small-scale artisanal fishery, in order to create employment and income earning opportunities (Diake, 1989). Under the Devolution Act, powers and services from the Fisheries Division are being devolved to Provincial authorities. Fishing in the provinces is largely subsistence or small scale artisanal. Rural populations harvest a wide range of lagoon and reef fish and other shell fish, mainly for food, but there are some enterprises set up for cash generation (beche de mer, trochus and other shell products).

In 1988 there were 11 provincial fishing centers actively engaged in purchasing fish from rural fishermen and selling to urban population centres. 9 of these fishing centres were set up under a Japanese aid project and include a block ice machine, chill room, fish handling area, classroom, gear store office, accommodation facilities and support equipment. The staff of these centers are a mixture of seconded Government staff and provincial employees. There are concerns over the sustainability of the inshore resources, and some developmental research has been carried out in collaboration with other regional countries and institutions.

The document entitled "The Ministry of Natural Resources Programme of Action from 1990 to 1993" lists the government objectives for the Fisheries Division as follows:

- a) continue and expand deep sea fishing project;
- b) build more shore bases;
- c) provide more assistance in the form of fishing equipment to the 12 mile limit local fishing industry;
- d) study the marketing system and provide a computerized data base;
- e) continue fish farming and breeding programmes;
- f) commence processing of some marine products;
- g) continue the licensing of foreign fishing vessels operating in the EEZ;
- h) commence commercial projects on crab meat exports, pearl farming, deep-sea coral and seaweed extraction, and marine shell jewelry processing and marketing.

Additional information concerning the Solomon Islands fishery can be found in the Joint Fisheries Strategy Mission (1988), Fakahau and Shepard (1986), Waugh (1986), Diake (1989), Forum Fisheries Committee (1989), Gibson (1985) and in the Government of the Solomon Islands Policy Paper: Fisheries Sector Development Programme, 1985-1990.

2) The Commercial Fishery

The commercial fishery in the Solomon Islands is dominated by the Solomon Taiyo Ltd. (STL) joint venture. This company was formed in 1973 following extensive surveys to quantify the resource and the economic feasibility of establishing a large scale tuna industry. Taiyo, a Japanese company, funded the establishment of the new company, providing the capital necessary to build a cannery, shore facilities and the fishing fleet.

Initially, Taiyo gifted 22.5% of the shares to the Solomon Island Government (SIG). In 1979, the SIG purchased a further 24% of the shares; this was increased to a 50 % SIG share holding in 1981, and a final 1% was gifted to the SIG in 1987 making the SIG the majority shareholder.

The initial operations of Solomon Taiyo were based around cannery and smoking facilities at Talagi. This was later supplemented by a headquarters facility at Honiara and a further cannery and smoking facility at Noro. In early 1989, a larger cannery was opened in Noro with the total fleet operation being transferred there. The cannery and shore base at Talagi was gifted to the Solomon Island Government at this time.

The objectives of the Company are to:-

catch tuna on a sustainable basis in the Solomon Islands EEZ;

add value to the catch by processing in the EEZ;

earn foreign exchange income for the economy;

make a profit and pay taxes;

provide a stable domestic source of protein food; and,

train Solomon Islanders as fishermen, technicians and managers.

STL currently operates a number of its own pole and line vessels as well as a number of Okinawan pole and line vessels under charter. It also owns a group purse seine operation (four vessels) which fish using the Japanese group seine system and payoe rafts.

In 1977, a second commercial tuna operation, National Fisheries Developments (NFD), was established as a joint venture between STL and SIG with the purpose of building a national fishing fleet manned by Solomon Islanders. This company built 12 ferro cement boats in the Solomons and obtained a further two (steel and fiberglass) from Japan. NFD also operated two purse seine vessels owned by the Solomon Island Government. This company was bought out by a Canadian company, B.C. Packers, in 1990. BC Packers also purchased one of the government purse seine vessels and the shore facility at Talagi.

As these two companies contribute close to 50% of the export earnings of the Solomons and employ around 2,500 persons, they can be regarded as a successful way of introducing commercial fishing enterprises to a developing country.

Apart from the tuna fishery, small scale commercial and artisanal fisheries operate throughout the country. Fin fish is bought from up to 19 provincial fishing centers and sold in urban population centres. A total of 75.8 m.t was purchased from these centers in 1988. There is a wide variety of non fin fish marine products being exported, of these beche de mer contributes 23.5% of the export value (SI\$1,469,117. The other products (total value in 1988 SI\$2,345,421) are mainly trochus but also include several other shell varieties, turtle shell and shark fin.

B. THE FISHERIES ORGANIZATION

The Fisheries Division of the Ministry of Natural Resources was established in 1973 to promote rural Fisheries, to monitor and control commercial fishing, and to undertake research into national fish resources management. Commencing around 1975, increasing attention was given to the rural sector and in 1982, following the national policy of devolution, a Provincial Fisheries Development Division was established within the Ministry of Home Affairs and National Development while Fisheries Research Management and Industrial Development remained under the auspices of Natural Resources.

In late 1984, all of the fisheries functions were moved to the Fisheries Division of the Ministry of Natural Resources. In addition to Fisheries, the Ministry has other divisions responsible for Forestry, Energy, Geology, and the Environment and Conservation. The Fisheries Division is subdivided into three Sections; Fisheries Research & Resource

Development, Licensing and Project Evaluation, and Provincial Fisheries Development. Currently, the Division has a staff of 70 (including those seconded to provinces). Approximately 26 other fisheries staff work directly for provincial authorities. An organization chart for the Fisheries Division is attached.

Present staff numbers (1991) are 70 Headquarters staff (including staff seconded to the provinces) and approximately 26 persons employed by directly provincial governments.

Regional and International Agencies:

The Forum Fisheries Agency (FFA) has its headquarters in Honiara. While the agency has a regional mandate, it employs a number of Pacific Island staff; administrative support staff are drawn from the local labour market. A variety of on the job training opportunities are provided through short term placements at the FFA, and the Agency organizes workshops in response to requests from its member countries (e.g. computing; legal, etc.). The FFA intends to increase its involvement in the training sector, and has organized an important workshop on education and training in the fisheries, to be held in Wellington, New Zealand in April, 1991. Through interacting with FFA staff, Solomon Island Fisheries Division staff gain an insight into regional issues in the fisheries; at the same time benefitting from the proximity of fisheries experts based at FFA. With the planned move of the USP Institute of Marine Resources to Honiara, new opportunities for cooperation between the University, the FFA and the Solomon Islands Fisheries Division will become available in the areas of education, training and research.

Coastal Aquaculture Centre (CAC), International Centre for Living Aquatic Resources Management (ICLARM):

The CAC, ICLARM, is located some 25 km west of Honiara, Guadalcanal. It has concentrated on the development of technology for the culture of Giant Clams; a programme first launched in 1983 (ICLARM, 1989; 1990). The site of the CAC was selected in 1986, and began operations in 1987. The CAC receives funding from a wide range of international agencies, and its programme is focussed on the development of techniques for the culture of Tridacna gigas (Giant Clam), and includes research, technology development, and the dissemination of information to the fisheries sector, and the general public (Munro, 1991). The CAC cooperates with Pacific Island countries that want to become involved in Giant Clam Culture, and with regional agencies such as the SPC, through the Inshore Fisheries Research Project. In addition, there is an on-going cooperative programme between the CAC and the Fisheries Division, Solomon Islands Ministry of Natural Resources.

While the CAC is currently not directly engaged in training, there are plans to construct additional living quarters to accommodate visitors. Currently, a USP post-graduate student is carrying out his research project under the supervision of the CAC Director, and taking a post-graduate course, through an arrangement with the University of the South Pacific.

With the proposed move of the USP Institute of Marine Resources to Honiara, there will be enhanced opportunities for collaboration in aquaculture education and research. A mechanism should be developed to allow ICLARM involvement in programme planning for the relocated IMR.

C. EDUCATION IN SOLOMON ISLANDS

Education at the primary, secondary and tertiary level in the Solomon Islands falls under the general aegis of the Ministry of Education and Training, which oversees curriculum development, examinations and teacher training. The Provincial Governments are responsible for the delivery of primary and secondary education. The Ministry of Education and Training has direct responsibility for national Secondary schools, the School of Education and Cultural Studies, the National Archives, the National Library and the National Museum, as well as the Solomon Islands College of Higher Education.

National policy requires compulsory attendance at school to the completion of Primary education (Class 1 - 6; ages 6 - 13). Following Class 6, successful children may progress to the Secondary system (Forms 1 - 5, and to form 6 in some schools). The Curriculum Development Division produces all school materials for primary and secondary schools. The curriculum has a strong national focus, although school text books from Australia, New Zealand and the United Kingdom still form a strong element of materials used. The language of instruction is English throughout the school system, although this is phased in (with pidgin) during the early primary years.

Primary Education

Primary Education is from Class 1 - 6. In some districts, a Kindergarten programme has been introduced, with children admitted from age 4. Details on the percentage participation by children at the elementary level was not available, but officials indicated that there are insufficient schools and teachers to accommodate all eligible students in the Class 1-6 age group, especially in the more remote rural areas. The 1990 cohort of students completing Class 6 in 1990 was 6,972.

Secondary Education

Secondary Education is provided by National, Provincial and Church-run Secondary Schools. There are eight National Secondary Schools. two of which offer Forms 1 to 6, the remaining four of which offer Forms 1 to 5 only. There are also eight Church-run Secondary Schools. In addition, there are 14 Provincial Secondary Schools. The Church schools offer precisely the same curriculum as the National and Provincial Schools, and the children attending them take the same nationally organized examinations.

Entry to Secondary School is on the basis of performance in the Secondary School Entrance Examination taken at the end of Class 6. Of the 6,972 students who took the examination in 1990, 596 qualified for admission to National Secondary Schools, and 2,147 qualified for admission to Provincial Secondary schools (just under 40% success rate). As there are insufficient places to accommodate all of the successful students, a National Rank Order is established, with the top students being selected for the available places. In 1990, only 196 successfully qualified to proceed to Form 6.

Tertiary Education

At the end of Form 6, students sit national examinations for University entrance, and the Pacific Schools Certificate. Students wishing to go to University must apply to the national Overseas Training Unit, which makes the selection of successful candidates for recommendation to the Public Service Commission. Awards are made for students electing to study in areas identified as national priorities according to the National Corporate Plan.

Solomon Islands College of Higher Education (SICHE)

The Solomon Islands College of Higher Education (SICHE) was formed in 1984, having evolved from the former Honiara Technical Institute. SICHE offers a broad range of programmes in vocational, technical and professional disciplines. The focus for fisheries and marine programmes is in the School of Marine and Fisheries Studies (see below). Approximately 1,500 students are currently in attendance at SICHE (54 in Marine and Fisheries Studies), with the highest numbers in Business. SICHE has a policy to continue to upgrade its programmes, staff and resources, to improve the country's self-sufficiency in tertiary education and training.

School of Marine and Fisheries Studies (SICHE)

The School of Marine and Fisheries Studies (T.S. Ranadai) was founded in 1960 as part of the Solomon Island Marine Division to service the requirements for manning the government vessels. It became a section of the Solomon Island College of Higher Education in 1984 when that institution was formed, and fisheries training was added.

The Ranadai campus has accommodation for 56 persons either in 10 person dormitories or 2 person cabins. The facilities include a radar and navigation simulator and a number of small craft for practical exercises.

There is a staff of 9 lecturers teaching a variety of subjects which include all of the statutory certificates required to man Solomon Islands vessels up to Master Pacific Islands. Their fishing related courses include a 9 weeks basic Fishing Techniques course, a 9 week Advanced Fishing Techniques course, and a 9 week Restricted Fisherman's License course. The school has also run courses for rural fishermen and hopes to be able to continue with these as funds are made available.

In addition, the School has cooperated with the Fisheries Division in running an annual 20 week course to upgrade the skills of Provincial Fisheries Officers. This course has now been attended by all appropriate fisheries staff and consideration is being given to replacing it with a course of a higher standard. Every support should be given to this initiative.

The proposed move of the USP Institute of Marine Resources (IMR) to Honiara has important implications for the School of Marine and Fisheries Studies, and for SICHE as a whole. This collaboration could be to the mutual advantage of IMR and SICHE, and should be pursued.

D. HUMAN RESOURCE DEVELOPMENT

1) Personnel Policies and Practices:

The Public Service in the Solomons has 5077 (1990) established and unestablished employees. All recruitment to the Service must be approved by the 6 constitutionally appointed Commissioners of the Public Service Commission who, through regulations, ensure adherence

to the merit principle. Other personnel policies are established and implemented by the Public Service Division, which forms a part of the Prime Minister's Office. There is currently a staffing freeze on the Public Service and a major restructuring was announced by the government during the Team's visit.

All established positions within the public service have a job description which, for salary purposes, is ranked against a simple classification standard of eleven levels. Initial appointment to any level depends strictly on the academic qualification possessed by the appointee. Appointments to unestablished positions are classified at level one or two. Those who have completed the form 5/6 level of education are appointed to level three, those possessing a post-secondary certificate are appointed at the fourth level, Diplomates at level five and degree holders at level six. Once appointed, experienced employees may be appointed to vacant positions at higher levels, even though they do not possess the academic qualifications identified with the level for initial appointment. For example, the Principal Fishery Officer within the Fisheries Division is currently classified at the eight level, even though he possesses a Diploma in Tropical Fisheries. The Chief Fishery Officer position is currently classified at level 9, but efforts are being made to move the incumbent to the next level. As can be noted, the ranking system cannot be considered as a true job classification system. Appointments and progression up the system are based on qualifications, work experience and satisfactory performance, rather than on criteria related to the work itself.

Staff performance is evaluated on an annual basis; however, this evaluation, once completed, is kept confidential and only in exceptional cases is it discussed with the employee (copy of Public Service Staff Report is attached). As can be noted from this form, details on training courses taken over the past year are recorded; however, further developmental needs of the employees are not identified. This form is also utilized to facilitate requests to the Public Service Commission for promotion. Due to inefficiencies in the system, and uncertainty over the staffing freeze and the public service restructuring, such recent requests from the Fisheries Division have not been acted upon. Indeed, examples were cited where staff have been acting in more senior positions or have been on probation for up to six years, when regulations stipulate that action must take place within 12 months. In addition, there is little incentive within the Public Service to perform, as promotions appear blocked and annual salary increments are not granted for satisfactory or superior performance. These factors have created a severe morale problem within the Fisheries Division, if not in the whole of the Public Service.

The training nomination process in the Solomons Islands is highly centralized, as schematically illustrated in Figure 1, below.

The process begins with the Fisheries Division completing the necessary documentation for appropriate development programmes which have been identified by the National Training Committee, Foreign Affairs, or through direct contact with funding agencies (documentation attached). All nominations for in-service training must be assessed by staff of the Personnel Services Division. For courses over six months, or courses leading to promotion nominations, must be passed to the Public Service Commission for their approval. Once processed through the Personnel Services Division or the Public Service Commission, all nominations are

forwarded to the National Training Committee (approximately 15 members) which has final approval authority.

In its assessment of a particular training proposal, the Public Service Division considers various criteria including: age, length of service (5 years minimum for certain long term programmes), educational level, competency in English, employment history, and the relevancy of the proposed programme to the work area. Staff of the Division pass their advice to the National Training Committee for its consideration. This advice, along with a consideration of national priorities, is taken into account before final approval is granted. It is interesting to note that, while criteria exist to judge the merits of a particular nomination, the Principal Fishery Officers in the Fisheries Division who is responsible for the nomination documentation, has no knowledge that such criteria exist.

The development of provincial fisheries staff is somewhat more complex than depicted in Figure 1. The Provinces have responsibility for the training of their own staff; however, much of this training is coordinated by the Principal Fishery Officer, Provincial Fisheries Development Section, Fisheries Division. This officer does all of the work required by the training process, but must also work closely with staff of the Ministry of Provincial Governments in gaining appropriate approvals. The Team feels that human resource development plays a major role in the overall development of the provincial fisheries and, therefore; clear lines of authority should be established at the National level, which designates the Fisheries Division to be totally responsible for such training. If this is done, the work load would be reduced and human resource development would become an integral component of provincial fisheries development.

2) Public Service Manpower Planning:

As previously mentioned, criteria do exist both within the Prime Minister's Office and the National Training Committee against which human resource development proposals are judged. No such criteria were seen to exist within the Fisheries Division or within the Ministry of Natural Resources. Training is proposed in response to announced programmes from funding agencies or in-country programmes designed specifically for the fisheries sector and conducted by the Solomon Islands College of Higher Education (SICHE). Training tends to be ad hoc, and certain programmes are judged to have served their purpose in the past but no longer meet the current needs of the fishery sector. A specific example given was the JICA course conducted in Japan. Staff felt that there were similar, if not more appropriate courses, now available in the region. Money being contributed by Japan for this course could serve a better purpose if it could be re-directed to support such regional courses.

The Ministry of Natural Resources has established its 1990-1993 work plans based on the National Plan proposed in the election manifesto of the current government. These work plans provide an excellent basis upon which to develop a departmental human resource development plan. The Undersecretary of the Ministry informed the Team that he has started work on the development of such a plan, but was awaiting input from all of the technical divisions. In addition, the Team was advised by a member of the National Training Committee that recently, requests for training were being deferred by the Committee because of the absence of an overall human resource development plan, as part of the nomination documentation. It would appear that the Fisheries Division will shortly be requested to respond to both the demands of the

Undersecretary and its National Training Committee in this regard if it is to obtain required training in the future.

3) Commercial Fisheries Sector Manpower Planning:

While human resources planning is not a developed practice in the Public Sector, such is not the case within the major fishing companies of the Solomons. Indeed, the manpower planning practices of Solomon Taiyo may be taken as an example for other commercial enterprises in the Pacific to follow. Although some criticism has been expressed about the slowness of localizing some of the key positions, the move towards having an educated Solomon Island fisheries work force has been progressive and well organized. Part of this success can be attributed to Solomon Taiyo having a dedicated Personnel Training Manager as part of its senior management team since 1982.

Each year ten school leavers (forms 3/6) are taken in as deck and engine room trainees. They spend one year at sea with 6 to 8 remaining after one year. Engineers then undergo a 5 year structured apprenticeship with time at SICHE, at sea, and in the Solomon Taiyo workshop. None of the persons who have completed their apprenticeship (started 8 years ago) have left the company. Deck trainees do the three month basic fishing course at the SICHE School of Marine and Fisheries Studies, followed by two years at sea before doing 2nd class coxswain and the advanced fishing course at SICHE. A further period of sea training is required before sitting first class coxswain. A successful person could be bosun on one of the pole and line vessels in three years.

Potential shore supervisors are selected from form 5/6 and undergo two years of work experience with rotation about every six months, through the following areas; administration, accounting, operations, and the cannery. At the end of the two years, the more successful trainees are posted to supervisory positions. There is no reason why these supervisors should not ultimately become managers within the company. Solomon Taiyo has more recently adopted a policy of recruiting graduates with the intention of filling managerial positions. Four were recruited last year and an additional two will be recruited this year.

Although the turnover of fishing crews in any one year may reach 60%, the turnover of senior staff and senior seagoing personnel is minimal and a cadre of trained professionals is being formed. All positions on the pole and line boats except Fishing Master and Sky master have been localized and Solomon Taiyo's manpower plan will lead to the ultimate localization of these posts.

Due to the recent purchase of The National Fisheries Development company by BC Packers, the manpower policies of NFD are not currently well developed; however, following the initial policy of localizing all crew positions, NFD already has one boat completely crewed by Solomon Islanders, while the others still have Okinawans in senior positions.

E. ISSUES AND RECOMMENDATIONS

1. Training within the Fisheries sector of the Solomon Islands through Ranadai is well developed; however, nominations for overseas training and in-country staff development programmes is ad hoc. This situation can be readily changed with minor organizational changes in the Fisheries Division, some attention to longer term planning, and a streamlining of the training nomination process at the national level.

At one time, the Fisheries Division had, within its organization, a position responsible for Staff Development. This position was subsequently abolished by the Public Service Division. Currently, the Principal Fishery Officer, Provincial Fisheries Development, coordinates much of the training for provincial fishery officers (some programmes administered directly by the Ministry of Provincial Governments). The position is not responsible for the staff development of national fishery officers, even though, in practice, such responsibility falls on the current incumbent, who receives no official recognition for the work performed. The split in the responsibility for the coordination of provincial officer training further complicates the issue, adding additional workload and duplication of effort, and making effective and integrated human resource development planning most difficult, if not impossible to achieve. This latter issue must be addressed in the very near future to meet the emerging requirements of the National Training Committee.

- a) **Appropriate officials of the Ministries of Natural Resources and the Provincial Governments should meet to resolve the duplication of effort associated with the development of provincial fishery officers. This responsibility should rest with the Fisheries Division to ensure full integration of national and provincial development needs.**
 - b) **The Chief Fisheries Officer should appoint a senior staff member as Staff Development Officer (re-establish the abolished position, or integrate with a currently existing position), with the responsibility to coordinate all human resource development within the Division.**
 - c) **The Staff Development Officer should immediately undertake the development of a long range staff development plan, which integrates the needs of both national and provincial fishery officers. Assistance in the completion of this task should be provided, if desired, from appropriate regional agencies.**
2. It was considered by senior staff of the Fisheries Division that the coastal Fisheries Extension courses offered in Japan through JICA, no longer were as relevant, as in the past, to the staff training needs of their officers. Although very appreciative of the support offered by the Government of Japan in this area, there was a general belief that the funds associated with sending persons to these course would be better spent on courses within the Pacific (such as the three week JICA course run in PNG for regional fisheries staff) or through support to in-country courses or country supported regional courses. This view has been expressed in some other countries visited.

The issue of the relevancy of the JICA course should be discussed at a regional forum such as FFC or the RTMF and, following country input, a collective message, if necessary, be given to JICA regarding the region's needs for this type of training.
 3. It was considered that some of the funds (SI\$17 million in 1990) issued under the "Goods and Services" agreement with Japan might , within the conditions of funding, to be channelled into the training sector. In this regard, the School of Marine and Fisheries Studies has some pressing needs for equipment (e.g. a functional radar) which would assist in the training of fisheries personnel.

The Chief Fisheries Officer should confer with the appropriate authorities and in collaboration with the Head of the School of Marine and Fisheries Studies identify, if possible, areas where the goods and service funding might be used to support in-country fisheries training.

4. The current 20 week course run at Ranadai for provincial fisheries officers has come to an end with the training of all appropriate staff. This course has been very useful in upgrading the skills of these officers at an introductory level. It is now appropriate to further develop staff skills through running a course at a higher level. In developing this course, it is essential that the subject matter exactly reflects the needs and level of operations of the students; therefore, considerable effort must go into developing the curriculum.

It should be noted that the course need not be as long as the previous introductory course, but could be run for a shorter time or even modularized i.e. several short blocks, if funds are available. It is also possible, when the subject areas have been identified, that much of the teaching could be done from staff outside of the School. In this respect, while it is obvious that staff from SICHE will be the obvious first choice, consideration should be given to seeking assistance to obtain lecturers from SPC, FFA and USP if appropriate.

When the syllabus for the new course is complete; it may be appropriate to advertise the operation of the course through the Training Project of SPC with the view of ascertaining if any other regional fisheries staff might benefit from attending this course.

The Staff Development Officer of the Fisheries Division should confer with the head of the School of Marine and Fisheries Studies and help develop a course of study appropriate to a middle level fisheries officer in the Solomon Islands.

5. Staff training within the School of Marine and Fisheries Studies is progressive and on-going; however, lack of breadth of experience for some staff members is considered a constraint to the overall personal development of staff. One way of assisting with this is through attachment or exchange training where the staff member gets experience in an institute (which teaches a similar discipline) outside of the country. In this respect a teacher exchange with the School of Fishing in Nelson, New Zealand, for example, would be appropriate at a time when the SPC / Nelson Polytechnic Pacific Island Fisheries Course was operational. This would allow the person being attached to teach these students as well as New Zealand Fishing Cadets and Fishermen.

The Head of the School of Marine and Fisheries Studies should liaise with SPC to determine if appropriate exchange of personnel could be arranged for appropriate staff of the Solomon Island School of Marine and Fisheries Studies.

6. Currently two staff members of the School of Marine and Fisheries Studies are attending a three week course for teachers of extension and communications skills being held in Vanuatu and organized by SPC. An additional staff member has also attended a previous course. Skills acquired at these courses have been passed on to fisheries staff in the Solomon Islands through a two week communication and extension section being made part of the 20 week Provincial Fisheries Officers course. As it is likely that this course will

be terminated, it is important that another avenue for teaching these skills be examined in the Solomons.

Communication and extension skills are important for all officers who operate in any part of their work with fishermen or the public. It has been found that most officers who have undertaken the two week extension skills course in-country, not only feel better about their job but also have an improved performance reported by their superiors. It is appropriate that these in-country courses continue until all appropriate officers, including senior personnel, have attended. Following this, consideration should be given to introducing a shorter one week course in the same subject but at a higher level.

The Fisheries Division, through the School of Marine and Fisheries Studies, should initiate a series of two week Extension and Communication Skills courses for all appropriate staff and, when this has been completed, upgrade the course to be attended again by all appropriate staff. Assistance, by way of outside of country lecturers, can be obtained through SPC, if desired.

7. The proposed move of the USP Institute of Marine Resources (IMR) to Honiara offers significant opportunities for cooperation between the Fisheries Division, SICHE, ICLARM, FFA and USP in the areas of fisheries education, training and research. This cooperation will be of potential benefit to the marine and fisheries sector within the Solomon Islands, and in other Pacific Island countries. Plans are underway between the Government of the Solomon Islands and the University of the South Pacific for the appointment of an EEC consultant, who will be charged with the task of reviewing the feasibility of the IMR move, and making recommendations concerning the programme, facilities and funding for the project.

A Planning Committee should be appointed by the University of the South Pacific and the Government of the Solomon Islands, for the new USP Institute of Marine Resources, to be established in Honiara. The Committee should be charged with responsibility for developing cooperative education, training and research programmes that will be of benefit to the Solomon Islands and other Pacific Island Countries. The Committee should include representatives from the University of the South Pacific, the Government of the Solomon Islands (including the Fisheries Division), the Solomon Island College of Higher Education, the Forum Fisheries Agency, the International Centre for Aquatic Living Resources Management (ICLARM), the University of Papua New Guinea, and the European Economic Community.

SOUTH PACIFIC COMMISSION
FISHERIES HUMAN RESOURCES SURVEY
COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
REPORT

A. THE FISHERY

1) General:

The Commonwealth of the Northern Mariana Islands (CNMI) is situated north of Guam, and comprises a chain of 15 major islands 675 km long. Four of the islands are inhabited, with the principal centres being Saipan, Tinian and Rota. Currently the endemic population is estimated at 24,000, with a non-endemic population of about the same size. The total land area is about 184 square miles. The island of Saipan is a peak of a submerged mountain 36,000 feet above the ocean floor of the Marianas Trench. The CNMI have declared a 200 mile EEZ, but it remains the subject of continuing negotiations with the United States.

The CNMI has experienced rapid growth since it established political union with the United States in 1976 (South Pacific Commission, 1988). Tourism is the most rapidly growing industry, with Japanese tourists comprising 75% of the estimated 190,000 tourists in 1987. Paralleled with the economic boom has been a changing pace in the development of the local and federal governments perception of the need to develop the commercial fishing industry.

2) The Commercial Fishery:

Fishing by local commercial craft is basically carried out in areas that are within a fifteen mile radius of the three most populated islands, Saipan, Tinian and Rota. Occasionally fishing trips to the northern Islands are carried out by three or four of the larger vessels. The commercial fleet is comprised mainly of recreational vessels which most often fish part time, although there are some who fish full time. Presently in Saipan there are 41 full time, 70 part time and 95 subsistence vessels used for fishing purposes. All of the vessels, with the exception of two, are constructed of fiberglass, aluminum or plywood, between five and eight meters with high powered outboard gasoline engines. The other two are approximately 19 meters and have inboard diesels.

Pelagic species are the main target for all commercial fishing boats, which are caught by trolling, although other methods (ika shibi and longline) have recently been introduced. The pelagic landings in 1989 were 45.3% of the total landings.

Bottom fishing is done by only a relatively small number of the commercial fleet with only four boats fishing full time. Bottom fish made up only 3.9 % of the total catch while reef fish, which are mostly taken by handlining and spearfishing was 49.9% of the total landings.

A total of around 500,000 lbs of fish were landed for sale in 1989 with an estimated value of around US\$760,000.00. Fish is sold through Fish markets, fish mobiles, hotels, retail stores and restaurants as well as roadside vendors.

CNMI also has a tuna transshipment industry situated in the port of Tinian. Tuna are landed by foreign fleets fishing outside CNMI waters. Landings are transferred to larger vessels for shipment to canneries in other countries. In 1989 a total of 58,554.7 short tons of fish were transhipped. The team was not given the exact income figures or fleet size of this operation, but was advised that the return to the CNMI was "nominal" and based on a rate of US\$10.00 per vessel tonne.

Regulations to manage the fishery from 12 to 200 nm are currently being drafted. If the required resources are committed to the implementation of these regulations, CNMI will be in a position to monitor and enforce various distant water fleets believed to be poaching within the CNMI EEZ. The fisheries information base to better manage the fishery, and improved income will be realized.

B. THE FISHERY ORGANIZATION

Division of Fish and Wildlife (DFW):

The Northern Marianas was administratively separated from the balance of the Trust Territory in 1978, when it became the Commonwealth of the Northern Marianas. It was not until the promulgation of Law 2-51 of CNMI in 1981 that the Division of Fish and Wildlife, as it is now known, came into being under the Department of Natural Resources (DNR). The same law gave the Director the right to regulate the fisheries within the 12 mile limit of the CNMI. A corresponding Act (Marine Sovereignty Act) enacted in 1980 is still not supported by regulations which give the Department of Commerce and Labor, the right to manage the fisheries and non-living resources beyond the 12 mile limit.

From a staff of 14 in 1981, DFW has been reduced to a current staff of seven, three of whom are contract staff. An organization chart highlighting the structure of the Division, it's various sections and it's relationship with related institutions, is attached.

DFW has a number of funding sources from which its operations are financed. The CNMI Federal Government has been funding some annual operations, but this support has been gradually reduced over the years, some years more substantially than others (e.g. \$100,000 in 1990 to \$12,000 in 1991). Independent sources have also contributed to specific research and development projects; notable of these are the Dingle Johnson Act which, in 1991 has designated \$120,000 as a development fund; the Inter-Jurisdictional Fisheries Act (IFA), which has designated about \$28,000, for fisheries research. Both the National Oceanographic and Atmospheric Administration (NOAA), and the National Marine Fisheries Service (NMFS) play a role in managing these funds and in the implementation of projects funded under IFA. Specific long term project plans must be submitted to gain support from these funds. The Western Pacific Fisheries Information Network (Westpacfin) also in 1991 will contribute \$24,000 to DFW specifically for data collection as DFW attempts to improve it's understanding of the inshore and bottom fish species. Other funding agencies include the Pacific Fisheries Development Foundation, Wallace Breau for research activities, and a share of the Stallson-Kennedy Fund which has set aside \$200,000 to be managed by NOAA for research.

Coastal Resources Management:

Coastal Resource Management (CRM) is a body established through Public Law 3-47 under the Office of the Governor which coordinates with DFW as well as other appropriate government departments in the promotion of the conservation and wise development of coastal resources. CRM has a staff of 15, organized into three sections, namely: Planning, Enforcement and Permit. A Fisheries Biologist will shortly be recruited to examine development proposals and liaise closely with his counterparts in the DFW. CRM is basically federally funded but a portion of the fees for project development permits also assist in CRM administration. In addition, fines for any violations of the provisions of a permit are placed in a general conservation fund.

Department of Commerce and Labor:

The Department of Commerce and Labor (DCL) is mandated to manage the fisheries beyond 12 miles. This includes the licensing of fishing vessels, both foreign and local, as well as related fisheries activities within the 200 mile limit, and in home ports. Regulations pursuant to the Marine Sovereignty Act (1980) to administer these activities are still in draft form; hopefully, to be finalized and adopted within 6 months. A part of the reason for the delay in promulgating these regulations has been the continuing negotiations with the United States on the status of the EEZ, and conflicting views on the management of tuna as a migratory species. The local Government is, however, keen and committed to press on in its attempts to finalize the regulations and, hopefully, reap whatever benefits that may accrue from the rational exploitation of the tuna resources within CNMI's EEZ.

DCL has a staff complement of only 4 including the present Chief. With the enormous task of finalizing the draft regulations, little time will be available for the development of an appropriate implementation plan which should identify the financial and human resources required to effectively manage the fisheries within the EEZ.

C. EDUCATION IN THE CNMI

Education at the Elementary and Secondary school levels falls under the jurisdiction of the Public Schools System, and is administered by the Commissioner of Education. Education is compulsory for all students from grades 1-9 (age 16), and includes Elementary (Grades 1-6), Junior High (Grades 7-8). High School includes (Grades 9-12). Per pupil expenditures in CNMI averaged US\$2,331 in 1989, second highest in Micronesia next to Guam. The average student:teacher ratio was 1:20. Career opportunities identified by the Public Schools System as priorities for CNMI were: Technology; Computing; Mass Communication; and Health.

Elementary Education: (Elementary and Junior High)

Attendance at Elementary and Junior High Schools (Grades 1-8) in 1989 totalled 5,187 (1,142 of these in Private Schools). A science curriculum was introduced into the Elementary Schools (Grades 1-6) in 1987, and is expected to be reviewed soon. Through the services of Coastal Resources Management (Marine Education Specialist) an innovative and imaginative series of books, curriculum materials and teacher aides have been developed and will be introduced into the schools in 1991. Teacher workshops and in-service programmes are also being developed to upgrade teachers. The science programme has been developed in recognition of the need to improve the science literacy of the population of the CNMI, and is long-term and wide in scope.

Secondary Education: (High School)

Attendance in High Schools numbered 1,471 in 1989 (1,302 in Public School, and 169 in Private School). The attrition rate by grade 12 graduation is in the range of 30% for students who entered grade 9. While precise information was unavailable, there are indications that less than 1% of CNMI Public School graduates go on to University, whereas approximately 30% of the Private School students gain entry to University.

A concerted effort is underway to improve the science curriculum in the High Schools, in recognition of the need to greatly improve the teaching of science and to stimulate students towards the potential of a science career. The Public Schools have science teaching laboratories and can do "hands on" practical exercises. Fish and Wildlife staff give regular presentations at School Career Days, and similar presentations by faculty of the Northern Marianas College form part in these activities. A programme of Science Fairs and Science competitions is on-going through CNMI as a means of attempting to improve the image of science.

Northern Marianas College:

The Northern Marianas College (NMC), the only tertiary institute in the Commonwealth, falls under the Office of the Governor. College programmes are overseen by the Academic Council of the College. The College received its initial mandate in 1972, and was primarily established for Teacher Training. The present site, previously a hospital, was occupied in 1983 and has been substantially renovated. During the past year major grants have been received to upgrade and equip the college, including development of new science laboratories.

The present student enrollment is about 1,000, and the main programme is the award of a two-year AA degree, which includes some required science courses (including Marine Biology and Environmental Biology). Graduates from the AA degree can progress to university, and the preferred institutions are the University of Guam, the University of Hawaii, and San Jose State University. The College is aware of the University of the South Pacific, and a number of CNMI students have attended USP. Other programmes offered by the College include Registered Nursing, a new programme (introduced in September 1990) for Gifted and Talented Students from the High School System (through this programme the students obtain College credits which will enable them to accelerate their University programme later on), Adult Basic Education (especially language) and an Upward Bound Programme.

Attendance at NMC is heavily skewed towards non-CNMI indigenous students, with the majority coming from Micronesia (Yap, Chuuk) and Korea. Currently only about 35% of the student population is indigenous.

Although the NMC was identified as a potential site for the development of aquaculture training and the creation of an aquaculture demonstration centre (Nelson *et al.*, 1990), there are no plans at present at the college to act on these recommendations. Staff at the college indicated any aquaculture programmes initiated in CNMI were more likely to go to the private, rather than the Public sector.

A Marine Education Specialist, Larry Lee, works in collaboration with the Public Schools System, Coastal Resources Management, the Pacific Islands Network (based in Honolulu) and the Division of Fish and Wildlife in the Ministry of Natural Resources. He is charged with the task of assisting schools in the development of improved curriculum and teacher training in the marine field, and in the development of a wide-ranging public marine education programme.

Scholarships and other financial assistance:

School graduates may apply for a variety of scholarships and financial assistance towards completion of post-secondary education. They are eligible for support under the same U.S. Department of Education regulations available to students on the mainland United States. Within CNMI these awards are administered by the Education and Human Resources Committee, which comprises eleven members: 7 from the Senate, and 4 from the House of Representatives.

Students seeking assistance apply simultaneously to the Committee, and to the Institution of their choice. Under the U.S. Department of Education student aid scheme, students may apply for grants, work-study awards, and loans (c.f. The Student Guide. Financial Aid from the U.S. Department of Education: Grants, Loans and Work-Study, 1989-1990)

Approximately 100 awards are made in any one year. An unspecified number of CNMI students study overseas (mostly mainland US, Hawaii or Guam) using their own funds. A number attend High School overseas, in order to more readily gain entry to tertiary institutions in those countries.

D. HUMAN RESOURCE DEVELOPMENT

1) Personnel policies:

There are approximately 3000 employees in the CNMI public services. Terms of employment for these employees depend on whether they form part of the Excepted Service, or the Personnel Service.

Excepted Service employees work under short term contracts in positions for which local employees cannot be found. Typically these would be professional or technical staff and three such employees work in the Fisheries Section of the Fish and Wildlife Division (FWD). Positions are unclassified and salaries are negotiated as the circumstances warrant. The long term objective of government is to eventually replace all Excepted Service employees with Personnel Service Staff.

A job description is prepared for each position to be filled by an employee of the Personnel Service. An examination of job descriptions in the FWD suggests that they require updating as changing priorities and duties have made some descriptions obsolete. Staff of the Personnel Office of the Civil Service Commission confirmed that effort must be made to update these descriptions for all of the public service.

Positions are classified for salary purposes using the Trust Territories Classification Standard which has not been amended. Eight occupational categories are included in the 30 level standard. Each salary level contains 10 salary steps which are granted annually if supported by a satisfactory performance evaluation. Salary steps can be accelerated through the awarding of merit increases for superior performance or for 120 hours of a recognized training or development programme during the reporting period.

The classification standard contains only 3 fishery "bench mark" positions; namely, a Fisheries Technician at pay level 10, a Biologist I at pay level 20 and a Biologist II at level 23. The Biologist positions require a B.Sc. degree and relevant experience, while the technician position requires high school graduation and two years of relevant experience. The standard does not appear to differentiate between specialty areas within fisheries: i.e. extension; data analysis; research; licensing, etc. In addition, the large 10 level gap between the person with a high school qualification versus a University Degree appears to offer little structure for career progression. Personnel Office staff did say; however, that the classification system is very flexible with respect to the recognition of experience in lieu of academic qualifications. All jobs are rated by the staff of the Personnel Office, who have the final say in the pay level. Line management play no role in the level determination other than the provision of the written job description.

In 1988, the Personnel Office introduced a new performance evaluation system (forms attached) which requires supervisors to review the performance of their staff on a quarterly basis. The system is very complex and time consuming and, even though training is being provided, the system does not yet appear to be working as it should. One senior official stated that the process was just too time consuming and was therefore not being used in the Department. In addition, the Employee Action Form, a component of the system used to identify developmental needs and how they can be met, was never seen before by a senior official consulted. The philosophy and objectives are very commendable; however, some streamlining to cut down on the complexity and timing of the system will probably be necessary before it becomes an effective tool for personnel management.

Currently, the Personnel Office is offering two-week supervisory, management in-service workshops for supervisors. The programme is well attended and the personnel staff felt strongly that the principles taught are proving helpful. The courses are offered free to the staff of government departments.

Out of country training is arranged bi-laterally between departments and sponsoring agencies. The Personnel Office gets involved only in longer-term educational programmes where current regulations permit educational leave with or without pay for a period of up to two years. When approved, the employee is bonded to return to the public service for an agreed period after completing the leave.

2) Manpower Planning:

CNMI does not have a long term national manpower development plan in which priorities are identified. Some sectoral plans do exist but this is not the case for Fisheries. Because a great deal of the money used to manage fisheries in the CNMI is obtained through federal programmes; such as the Dingle Johnson; Wallace Breau; and the Interjurisdictional Fisheries Act, long term project proposals are necessary.. These proposals can serve as a most useful basis upon which to build a long term manpower development plan. In addition, recommendations contained in this report, if implemented, will assist in providing for the identification of the skills required to manage the fishery in the EEZ, which the proposed regulatory regime will soon make necessary.

E. ISSUES AND RECOMMENDATIONS

1. The Marine Sovereignty Act, the legislation to permit the management of the CNMI EEZ, was passed in 1980. For various reasons, regulations pursuant to the Act have not yet been promulgated but are currently being drafted with the expectation that they will be in effect some time in late 1991. The Department of Commerce and Labor has been assigned this task and is working closely with the Department of Natural Resources. Work must begin soon on the drafting of an implementation plan which will include the human and financial resources needed to administer and enforce the regulations, data collection and analysis, licensing and biological support. Assistance may be possible from the West Pacific Regional Fishery Management Council with respect to fishery management plans, but other regional organization should assist as necessary and desired in this most important and timely initiative.

The South Pacific Commission should consult with appropriate officials in the CNMI to determine if the following forms of assistance would be useful:

- a) **Funding of a specialist to assist the CNMI draft an implementation plan which would clearly identify the human and financial resources required to manage the fishery within the EEZ.**
 - b) **Funding appropriate CNMI staff visits to other Pacific countries to gain a first hand view of how other countries are organized to manage their EEZs.**
2. There is no doubt that the new regulatory regime which will, in effect, move fishery jurisdictional responsibilities from the 12 mile to the 200 mile limit will require considerably more staff than are currently employed within the DFW. Once the necessary management team is identified, job descriptions should be produced which describe the various specialities, e.g. data analysis; licensing; research; enforcement, etc. These descriptions should be reviewed in consultation with the Personnel Office, to establish appropriate bench mark position levels which will provide for career progression for staff who do not require university qualifications.

The Chief, Fish and Wildlife Division, should organize the necessary new staff

positions so that specialty fishery areas can be recognized and provide career progression within the CNMI classification system.

SOUTH PACIFIC COMMISSION
FISHERIES HUMAN RESOURCES SURVEY
GUAM
REPORT

A. THE FISHERY

(1) General:

Guam is the western most territory of the United States and the largest and most populated island between Hawaii and the Philippines. The island is 48km long and ranges from 6-18km wide, with a land mass of 549 sq.km. It is the largest island in the Mariana archipelago, and has a population of approximately 150,000. The population is cosmopolitan, and includes military personnel and a significant temporary population of aliens.

Fishing for the Chamorro people of Guam plays an important part in their way of life. They have always depended on the seas for subsistence, but this changed in the late 70's when the potential for commercial gains from their vast marine resources was realized.

In view of the concerns about the rapid growth of the fisheries, a resource assessment exercise by the National Marine Fisheries Services (NMFS) was undertaken recently. The study suggested that bottom fish resources have nearly reached MSY potential, and that future development could be limited unless new stocks or undiscovered sea mounts are found.

(2) The Commercial Fisheries:

Commercial fishing in Guam can be divided into three areas, the inshore fishery, the Guam owned commercial fishery and foreign vessels transshipping at Guam.

The inshore fishery consists almost entirely of part time / recreational fishing where fish is caught for home use and the surplus sold. The average daily participation in this fishery is estimated as 25 boats per week day rising to 56 boats on weekend days and public holidays. Although there is a fishermans cooperative established on Guam it is estimated the number of full time fishermen is small, perhaps less than 12.

Figures for 1988 indicated that trolling for pelagic fish is the main method used (341.7 mt or 90 % of catch) with bottom fishing (24.5 mt or 7% of catch), spear fishing for reef fish, including crustaceans and mollusks (12.2 mt or 3% of catch) and Atulai Night Jigging (c. 3.0 mt or <1% of catch) being the others. A small amount of gill and cast netting is also done with the catch being estimated at less than 1 Mt. The total amount of fish caught in 1988 was estimated as 380.2 mt.

The Guam domestic fishery is confined to two companies. The larger company operates up to 12 purse seine vessels of the US type. Very few if any persons from Guam are employed as crew although there are other micronesians. These vessels fish seasonally in FSM and waters to the south. They currently land their catch in Tinian (CNMI) for transshipment to Japan, Taiwan or Korea. The second locally owned company operates two longline vessels home ported in Guam but transshipping their catch to foreign markets.

The foreign vessels transshipping in Guam do not fish the Guam EEZ. The vessels engaged in this fishery are Japanese and Taiwanese longliners. The annual amount of fish transhipped is around 12,400 mt, being mainly big eye tuna (56%) and yellowfin tuna.(40%). It is considered that transshipment through Guam may decrease as the vessels transfer to Tinian (CNMI).

(3) Aquaculture:

The Guam Aquaculture Training and Development Centre (GATDC) is administered by the Guam Department of Commerce, and is directly overseen by the Chief, Division of Economic Development and Planning. In 1983 the Commerce Department acquired the present GATDC site from a private company, and commenced operations.

At the present time GATDC has a staff of 7, which includes 3 Biologists with a B.Sc. degree, and 4 technical staff. One new staff member, an Extension Officer with training responsibilities, will shortly be joining the staff. The Centre is located on a large site a short distance from the University of Guam, and apart from the hatchery and grow-out facilities, has accommodations for live-in staff, and space for visiting investigators and for holding small classes.

The programme of GATDC is currently focussed on the culture of Macrobrachium, paneid shrimps, rabbit fish, and mullet for a small number of commercial farms, and has a minor involvement with giant clams. The Centre has close ties with the Oceanic Institute, and the Center for Tropical and Subtropical Aquaculture, both in Honolulu, Hawaii, and cooperates with the Micronesian Mariculture Demonstration Centre in Palau. The University of Guam has dedicated facilities at the Centre, which are used for the conduct of research.

Some training has been carried out at the GATDC, and there is considerable potential (and interest) in enhancing this activity, especially through the services of the new Extension Officer. In developing training programmes, the Centre can call on the University of Guam, the Department of the Environment and other government agencies, as well as its associates in Hawaii and in Micronesia, for the necessary expertise and input.

The Centre suffered extensive damage during the December 1990 typhoon. Plans are now underway to rebuild the damaged sections of the hatchery. While the damage was extensive to the buildings, it did not seriously hamper operations.

B. THE FISHERIES ORGANIZATION

Guam is in a somewhat unique situation with respect to the management of its EEZ. Guam is a territory of the United States and, as such, enjoys similar status to that of a State within the U.S. constitutional framework; except that Guam has an elected Senate (21 legislators), and only one federal representative in Washington (Congressman). Its citizens are not permitted to vote for candidates for the office of President.

In March 1980 the government of Guam passed Law 15-114 (1 GCA Section 402) which declared the boundaries of its EEZ and gave the power to the local authorities to manage the fisheries within the EEZ. This, however, has never been recognized by the U.S. Accordingly, the U.S. has a federal presence in the fisheries sector in the form of National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) officials stationed in Guam.

As a result of this jurisdictional dispute, it is not surprising to find considerable overlap in responsibilities between the federal U.S. authorities, and the three primary local government authorities; namely, the Department of Agriculture, the Department of Commerce, and the Bureau of Planning. Their roles, as we understand them, are as follows:

a) U.S. Federal Agencies:

i. **NMFS** - under U.S. federal law, manages all aspects of the fishery from 12 to 200 miles. Guam's legislation gives these same responsibilities to either the Department of Agriculture and/or Commerce as delegated by the Governor.

ii. **USFWS** - under U.S. federal law is responsible for the management of all activities in the EEZ except commercial fishing (e.g. mining). As noted in i (above), the local Guam legislation gives the same responsibility to local authorities.

b) Guam Authorities:

i. **Bureau of Planning** - has been delegated overall responsibility for natural resources by the current governor. The Bureau can sub-delegate this responsibility as it sees fit to other government departments.

ii. **Department of Commerce** - has responsibility for the collection and publication of commercial fisheries data, fish imports and exports, economic planning for the fisheries sector and aquaculture.

iii. **Department of Agriculture** - is organized into five divisions: Plant Industries; Agriculture Development; Forestry; Plant and Poultry Quarantine; and, Aquatic and Wildlife Resources (DAWR) It is one of Guam's oldest departments, and had its beginning some 40 years ago. As a Division, however, DAWR was only formally established in 1972 with four staff members assigned to fisheries science and management tasks. In 1985 there were 5 professionals and one technician, and in 1991 another technician was added. This small staff is supported by an administration unit, an information officer and ten conservation officers (enforcement). An organization chart is attached.

As noted above, the authority for the protection and enhanced use of the fisheries resources of Guam's entire waters are shared between the DAWR and the Departments of Commerce and Planning. DAWR is primarily concerned with the understanding and management of the fisheries and related activities within the 3 mile limit. The law establishing Guam's 200 mile limit assigns the DAWR the responsibility of monitoring and enforcing the fishery within the EEZ. Because no regulations have yet been promulgated pursuant to the Act, DAWR is primarily research orientated, with minimal involvement in fisheries development and aquaculture (small Giant Clam project).

Funding for DAWR is largely from federal sources, and depends on the approval of project submissions to the granting agencies. These proposals are submitted on an annual basis, although project plans may be for as long as five years as is required in the case of the Dingle Johnson (DJ) Fund. DJ funding this year amounts to \$0.5 million, with an expected increase to \$1.0 million by the end of the year. The fund is mainly for Recreational and Finfish research, a major project within DAWR. Other funding sources include the Sultansall Kennedy and Wallace Breau funds for specific projects, but managed by NMFS and USFWS. Local funding contributes in some small measure to DAWR's activities (e.g. \$8,000 has been set aside for the Giant Clam project in 1991).

c) Other Organizations:

Other organizations worth mentioning include the **Ports Authority**, which collects port charges from transshipping vessels. Staff of the **Customs Department** of the Bureau of Commerce are deputized by DAWR to enforce regulations at both air and sea ports (e.g. endangered species). The **Guam Coastal Resources Management Programme** under the Division of the Environment and Planning of the Bureau of Planning coordinates, with DAWR, the preparation of impact studies on all developments that may have any impact on marine resources.

The Future:

Before organizational and fishery mandate difficulties between the federal (U.S.) and local (Guam) governments can be resolved, two major issues will need to be addressed, namely; Guam's territorial status, and its right to manage its own EEZ. With respect to its status, Guam's representative in Washington has put before the U.S. Congress a Bill proposing Commonwealth status for Guam. The Bill would provide a similar division of powers as currently exists in the Commonwealth of the Northern Mariana Islands.

The DAWR, in consultation with other Guam departments and agencies, plan in the very near future, to put before local government proposed regulations to effectively manage the fisheries within Guam's EEZ pursuant to the 1980 Public Law 15-114 (1 GCA Sec. 402), which declared the boundaries of the 200 mile limit. There appears to be a determination and commitment to place the control of the EEZ resources in the hands of local government; however, there is also the realization that the matter will probably only be resolved within the U.S. court system.

If these issues are resolved in Guam's favor, more responsibility and hence more human and financial resources will be needed in the DWAR to manage the fisheries.

C. EDUCATION

The administration of Guam's Elementary, Junior High and High School education falls under the jurisdiction of the Department of Education (DOE). The DOE provides support to all aspects of School Education, including a variety of teacher and student services, teacher in-service training, and curriculum development. The Government is charged with the responsibility to provide free and compulsory education to all children to the age of 16.

The average student:teacher ratio in Guam Public Schools was 1:17 in 1989, and the per pupil expenditure was US\$2,621 per annum, the highest in the Micronesian region. According to information from the Department of Education, 99% of teachers have a university degree. While the majority of the estimated (1989) 1,585 teachers acquired their degrees at the University of Guam, there are about 200 contract teachers in the Guam public school system, many whom originate from the Philippines.

Elementary Education (Grades 1-6 (Elementary); 7-8 (Junior High)).

Students attend a total of 30 Public Elementary and Junior High Schools, and 13 Private Schools. In 1989 a total of 18,155 children were in attendance in grades 1-8 in public schools, with an additional 3,598 in Private Schools.

Major attempts are being made to improve the teaching of mathematics and science subjects, and in 1990 "Project Growing Tree" was introduced. This programme involves input from the DOE Curriculum Development Specialists, from the US Environmental Protection Agency (EPA), from the Guam Energy Office, and from the Guam Department of Agriculture (Division of Aquatic and Wildlife Resources). The programme is intended to give a progressive and integrated approach to the teaching of Environmental Science, from grades 1 through 12, and includes teacher training and in-service components. The DOE Science and Math Consultant is playing a major role in the promotion of this programme, and spends a considerable amount of time in actually teaching in the classroom, visiting every Elementary School on Guam at least once a year. 30 teachers interacted with 20 resource people in the first training workshop in 1990, designed as a "Training of the Trainers" project with follow-up workshops to take place in May 1991.

Secondary Education:

In 1989, a total of 6,804 students were in attendance at Public High Schools, and an additional 1,338 at Private Schools. There are 5 High Schools under the jurisdiction of the Department of Education, and an additional 6 High Schools privately operated. While precise figures were unavailable, the DOE indicated that approximately 35% of High School students continue on to further education, and of these about 25% go to University. Preferred institutions are the University of Guam, with US mainland institutions preferred in California and Washington.

Tertiary Education:

As noted above, a high percentage of high school graduates enter the **University of Guam** for four-year programmes of study. Those who do not qualify may enter the **Guam Community College**, which offers two-year AA (Associate in Arts) and AS (Associate in Science) programmes, some of the credits of which may be used towards degree programmes at the University of Guam or other institutions.

The University of Guam offers a Major in Biology and, through its Marine Laboratory, has provided some customized sponsorship programmes for Micronesian students attending the U of G. These programmes (4 students to date) have been designed in cooperation with the Chief Fisheries Officers of the countries of origin (FSM; Palau). The Marine Laboratory concentrates on the offering of masters degrees specializing in Marine Biology, and has produced from 69 graduates since the programme was initiated in 1969.

Scholarship Programmes:

Guam students qualify for all scholarship, financial aid and work-study programmes offered by the United States Department of Education.

Constraints to the educational system:

Constraints identified in the Guam educational system can be summarized as follows:

- While teachers in Guam are more highly qualified than elsewhere in Micronesia, difficulties will continue to be experienced with teacher recruitment and with the need to import contract teachers from elsewhere who come from a very different cultural and training backgrounds, and therefore may be unfamiliar with the Micronesian way of life.

- Educational programmes in Guam (and elsewhere in Micronesia), still largely dependent on imported curriculum materials, which do not take into account the fact that conceptualization in Micronesian students may be delayed by 3-4 years compared with students from North America. This delay is a particularly important problem in the teaching of the sciences, and is the fundamental cause of difficulties being experienced by Micronesian students attending courses in tertiary institutions.

- There is an urgent need to write school science text books that are relevant to Micronesian island countries; and to provide the necessary infrastructure for teacher in-service training and curriculum development, if the projected manpower needs in science (including marine science) are to be met over the next 10-15 years.

- Although the University of Guam is perceived as the major regional university for Micronesians, the university does not appear to offer a Biology Programme at the B.Sc. level that meets the regional manpower training needs identified in this study.

D. HUMAN RESOURCES PLANNING

The Personnel Management Division of the Department of Administration has a relatively large, well qualified personnel staff providing service to approximately 40 government departments and agencies, with a total staff of about 9,500 employees.

Recruitment to classified positions is administered by the personnel staff who pre-screen applicants for the departmental managers, who ultimately select the successful candidates. All classified positions have a job description which is measured against the Government of Guam Job Specifications Classification Standard for pay purposes. The Standard provides for 60 salary levels, each with 10 salary increments (steps). The statutes of the appointed Civil Service Commission includes the requirement to periodically review (every two years) the accuracy of job descriptions and classification levels. The Standard contains five bench mark fishery positions (Biologist I, II and III, and Technician I and II (descriptions attached). Because of the small staff size of the DAWR these position descriptions adequately meet the current organizational needs. The Standard can accommodate additional position levels and specialty areas when and if the Division expands to meet the human resource needs of its fishery in the expanded area of the EEZ.

The performance of employees is periodically evaluated for the receipt of salary increments. This takes place annually for the first seven years of service, every 18 months between the 7th and 10th year of service and every three years thereafter. In addition, employees may receive accelerated step increases through merit awards for superior performance of regular duties, suggestions or initiatives which produce cost savings, or meritorious work achievements. The performance evaluation form identifies work objectives, measurement criteria and training needs (form attached). The Team considered the system to be the best encountered on our country visits and could be used as a model for other countries, with perhaps appropriate amendments, to meet specific in-country needs.

The Personnel Management Division plays only a minor role in the administration of technical and/or academic training. Heads of Departments identify the needs and approve attendance. The Personnel Management Division would only become involved if educational leave with pay is approved in order that an In-service Training Agreement can be drawn up which requires the employee to work two years in the Guam Public Service for every year of such leave.

The Training and Testing Section of the Division offers free to other government departments a testing service as well as training in supervision (basic and advanced), health and safety courses (CPR, First Aid), Computer Software usage and an apprenticeship programme in the skilled trades area.

Within 6 months, the Personnel Management Division will have in place, the computer capability to run a most effective personnel information system. The data base will contain, amongst other things, work histories, qualification levels and training needs. The system will have the capability of predicting future manpower requirements and skills deficiencies as it models expected retirements and the actual turn-over of staff. In addition, those registering for public service employment will be entered into the system in support of the government policy to promote the employment of citizens from the local labour force.

ISSUES AND RECOMMENDATIONS

1. The Guam government has personnel policy and practices in place which are supportive of effective manpower planning and human resource development. The classification system and compensation plan provide the flexibility to establish appropriate career paths for public servants. The appraisal process measures performance against current objectives and permits the collection of national and sectoral human resource development needs. The planned automated personnel information system provides a predictive tool for future recruitment and skills development.

Other countries in the region should examine Guam's performance evaluation and automated personnel information system to determine if they might be an appropriate model to follow in facilitating the establishment of future human resource development plans.

2. While the University of Guam is perceived as the preferred tertiary institution for Micronesian students, evidence was provided from several sources during the course of the Team's visit to suggest that the Biology Programme at the University does not adequately address the marine biology subject areas at the undergraduate level.

The Director DWAR should, in consultation with his colleagues from the Departments of Commerce and Administration and other appropriate agencies, including the University of Guam Marine Laboratory, discuss the possibility of developing an undergraduate biology curriculum that more closely addresses regional manpower training needs in the fisheries sector.

3. Aquaculture has been identified as a development area for government and the private sector throughout Micronesia. Regional institutions have taken significant initiatives in aquaculture training, development and research (Micronesian Mariculture Development Centre, Palau; Guam Aquaculture Training and Development Centre; University of Guam Marine Laboratory), and strong links have been developed with relevant aquaculture institutions outside the region (Oceanographic Institute, Hawaii; Center for Tropical and Subtropical Aquaculture, University of Hawaii; International Centre for Living Aquatic Resource Management, Honiara, Solomon Islands).

All governments in Micronesia accord aquaculture high priority in long-range economic development, and in a number of instances have commissioned specific national aquaculture development plans. Current uncertainties with respect to the privatization of the Palau aquaculture programme, the new initiative in the FSM and the expectations in other Micronesian countries (Saipan and the Marshall Islands) make it crucial that close collaboration be established to ensure that duplication of effort is minimized. The Pacific Aquaculture Association has the potential, if effectively utilized, to ensure that this collaboration occurs. Each country has the potential of specializing in specific species development and Guam, because of its close affiliation with the University of Guam and other institutions and its facilities for multi-species production, offers the best potential for effective regional training.

Micronesian aquaculture authorities should, through the Pacific Aquaculture Association, develop a regional aquaculture research and development program which minimizes duplication and establishes centers of training, research and development excellence, for specific species in Guam, Palau and the FSM.