

**HUMAN RESOURCE DEVELOPMENT AND PLANNING
IN THE PACIFIC ISLANDS
FISHERIES SECTOR**

A REPORT PREPARED

for

THE SOUTH PACIFIC COMMISSION

by

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1. INTRODUCTION

A. Background

1. The management and development of the fisheries sector of Pacific Island countries depend to a very large extent on the leadership and skills of the very limited qualified human resource base available to government fisheries organisations. The private sector, in most countries, is not well developed for several reasons, including; geographic location, economic capability, and the state of the resource itself. Accordingly, the private sector contributes very little to the labour pool upon which fisheries organisations can draw. Indeed, the situation is such that government employees, in many countries, are called on to manage a private business resulting from direct government intervention.

2. During the last decade, staff in relatively small fishery organisations have undertaken, with considerable assistance from aid donors, a large amount of education and training to meet the growing demands placed upon them both by government and private sector initiatives. Great progress has been made, but lingering concerns continue to exist with respect to the effectiveness of the education and training received.

3. A survey of the existing education and training being undertaken and the education and training needs of the region's fisheries organisations was completed in 1985/86 by the Regional Fisheries Training Project of the South Pacific Commission. The survey illustrated a diversity of problems associated with training. Most countries at that time identified lack of skilled manpower as the principal constraint to effective fisheries development.

4. In August of 1988, a working paper "Can Fisheries Training be Made More Effective", was presented to SPC's Twentieth Regional Technical Meeting on Fisheries (RTMF 20/WP.12). The paper summarised several of the problems that the 1985/86 survey identified and which continued to exist. These problems included the following:

- a) A large and diverse amount of training is easily available to Pacific Island fisheries personnel, yet skilled manpower remains in short supply.
- b) For a variety of reasons, course participants are often poorly selected and therefore fisheries organisations do not obtain full benefit from courses attended.
- c) Few countries have developed staff training plans and so training is often undertaken on an *ad hoc*, "whatever-is-available" basis.
- d) Trainees are frequently not putting into practice the skills acquired on training courses.
- e) There is a need for better communication between training establishments, both inside and outside the region, and government fisheries organisations.

5. The working paper indicated that, unfortunately, little had changed in the two years from 1986 to 1988.

6. These same issues were again discussed during the 22nd RTMF in August 1990. The discussions led to the recommendation by the meeting that the SPC should conduct a study which would assess, with consideration given to the existing economic constraints of each member country, future personnel needs of fisheries organisations in regard to numbers, qualification and skill requirements, and the education and training required to meet the growing demands placed on fisheries staff.

7. Human resource development issues have not been discussed only at gatherings organised by the South Pacific Commission. Meetings of the Forum Fisheries Agency (FFA) focussed on the same subject and regional fisheries staff were actively involved in the review of the Diploma in Tropical Fisheries programme of the University of the South Pacific (Clift Report, 1989).

8. As a result of this widely expressed concern over issues related to training and human resource development, SPC obtained funding from the International Centre for Ocean Development (ICOD) Canada, to support the present study.

B. Objectives

The objectives of the study were stated in the Terms of Reference as follows:

1. *Update the existing information already collated by SPC on fisheries personnel in island fisheries administrations, regional organisations, and elsewhere.*

Comment

9. Educational institutions and regional organisations have made it clear that a personnel database covering all regional fishery workers is needed. Such a database, if updated on a regular basis and developed to include the educational and training needs identified in national human resource development plans, would become an extremely valuable tool in developing educational and training programmes to predict and meet national and regional needs. The SPC's Regional Fisheries Training Project currently maintains an electronic database on regional staff who have taken SPC-sponsored courses. This database holds records on approximately 331 regional workers.

10. Prior to this study, each country visited was requested to provide personnel information on each established employee. An appropriate format was distributed before the team's visit, with the hope that the completed forms could be collected on site. Unfortunately, due to communication difficulties and the absence of key fisheries staff attending to other priorities, the forms were not completed for many countries. The short time in each country did not permit the team to collect these necessary data; a task which for many reasons (i.e. distances, staff absences, jurisdictional boundaries [federal vs provincial]), is very difficult and time consuming. In any event, the team managed to collect data on a total of 252 employees, about 30% of the total estimated 849 fishery workers in the countries visited. Time did not permit the collection of similar data for regional or private-sector organisations.

2. *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, and mixes of skills and levels of competence required for the effective conduct of such programmes.*

Comment

11. The team reviewed a total of 68 documents related to its task. This report incorporates much information gathered by others, not all of which has been directly credited in the body of the text. However, a full list of the documents reviewed is contained in the bibliography (Appendix B). For each country visited, the team has provided a brief overview of the fishery, current objectives, future development plans where available, and a description of the country's fishery organisation. The task of identifying staff members, mixes of skills, and levels of competence required for the effective conduct of future development programmes could only be

accomplished in a very preliminary fashion. Most countries have in place fiscal and staffing restraint programmes which will remain in effect for the foreseeable future. In addition, many countries were visited at the end of their national planning cycles and new development plans (sectoral and national) were in the early stages of development.

3. *Review existing plans for staff development and, where appropriate, provide advice on updating such plans.*

Comment

12. The team reviewed whatever plans were available. Unfortunately, no country visited had a government-approved human resource plan which listed future training and education requirement priorities in the fisheries sector, or how and when development will take place in a planned way to meet established fishery goals and objectives. In countries where education and training requirements were documented in submissions to national development planners or public service reviews, advice has been provided in the report for those countries.

4. *Draw conclusions on future requirements for training in both qualitative and quantitative terms at all levels (both academic and vocational).*

Comment

13. As mentioned previously, quantitative data were not available to the team in most cases and the study was structured in such a way that time in-country was insufficient to complete this complex task. Only preliminary qualitative conclusions could be drawn. These are contained in this report.

5. *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.*

Comment

14. The team took the opportunity of visiting most of the educational and training institutions in the countries visited. The visits sensitised staff of these institutions to the needs of the fisheries sector and the purpose of the study. In all cases, the staff expressed the need for improved communications between educational institutions, national governments, regional organisations and aid donors.

15. Most institutions demonstrated a helpful attitude and a willingness to be flexible in curriculum development to meet the specific collective needs of longer-term human resource development plans.

C. Methods

16. The consulting team conducted its study in two parts, with one set of countries being visited in January - March, 1991, and the other in April - May, 1991. The following table summarises the country visits.

Table 1

COUNTRY (in order of visit)	DATES in-country	OFFICIALS CONSULTED*	RECOMMEN- DATIONS
Tuvalu	23-26 January	16	10
Kiribati	26-30 January	13	8
Marshall Islands	30 Jan. - 2 Feb.	21	7
FSM	2-6 February	16	10
Palau	7-9 February	14	6
CNMI	10-13 February	15	3
Guam	12-16 February	11	3
Papua New Guinea	16-24 February	21	15
Solomon Islands	24 Feb. - 1 March	28	9
Vanuatu	24-28 February	11	10
USA (Hawaii)	17-19 April	7	0
Cook Islands	24-27 April	14	9
Western Samoa	28 April-1 May	15	6
American Samoa	2-5 May	5	0
Tonga	7-10 May	10	4
Fiji	10-15 May	19	9

* A complete list of the 236 officials consulted is attached as Appendix C.

17. As can be seen from Appendix C, in addition to fisheries sector staff (both public and private), discussions took place with staff of Public Service Commissions or their equivalent, Planning Offices, and Education Departments.

18. A great deal of information in this report relates to the personnel policies and practices of the countries visited. While it is perhaps not in the power of fisheries organisations to change national personnel policies, they may be in a position to influence future changes, or make minor changes of their own that assist in human resource development planning. There is no doubt that personnel policies (or the lack of policies noted in several countries) present major obstacles to effective career planning.

19. One of the team members (G.R. South) spent considerable time and effort with education officials to enable the team to describe the educational system of each country. Most of the information gathered by Dr South has been included in this report as the team believes that the status of the primary and secondary school systems in most Pacific Island countries presents a major constraint on the future development of national fishery organisations. It is hoped that this information will also prove useful to future studies and/or initiatives in the development of curricula related to marine resources and needed public awareness programmes.

20. For each of the 16 countries of the region that were visited the team has produced individual reports which together contain more than 100 national recommendations. Copies of these reports were sent to the heads of fisheries organisations of each country for comment and correction and, where we have received a response, these corrections have been incorporated. The team attempted to make national recommendations in keeping with the practicalities of country circumstances.

21. Following the completion of the first round of country visits, the team prepared a discussion paper for consideration at the Forum Fisheries Committee's Workshop on Education and Training (Sutherland *et al.*, 1991). The paper was discussed extensively at the Workshop, and a paper outlining the FFC's response to the issues raised resulted (FFC 20th Meeting, 5th Technical Sub-Committee Meeting 22-25 April 1991, Record of Proceedings). The issues raised in the FFC Discussion paper, together with the FFC response, have been incorporated into this report.

22. Although it was regrettably not possible to visit all countries of the region, the team hopes that the overview and recommendations contained in this report will be of assistance to all SPC member countries and territories in the development of their fishery-related human resources.

2. RESTRAINTS TO HUMAN RESOURCE DEVELOPMENT PLANNING

23. This section of the report attempts to outline some of the restraints which exist in Pacific island countries in the formulation of human resource development plans, and provides a series of related recommendations. It has been most difficult to generalise, as each country has different development priorities, labour pools, customs and economic status. Therefore, a reader of this report from Fiji or Papua New Guinea may feel that certain restraints do not necessarily apply; whereas, the reader from Tuvalu or Palau may relate to most and, indeed, identify others that the team has missed.

24. These countries are only used as examples to illustrate that the degree to which any one restraint impacts on the ability to develop staff in a planned way varies from country to country. Regional organisations, donors, and educational institutions must, however, serve most, if not all, of the countries involved in this survey, and therefore, must recognise that these restraints exist to varying degrees. They must also design programmes to meet the challenges to planning which these restraints present.

2A. National educational systems

25. The capacity of school systems and educational standards vary widely throughout the Pacific. Some countries do not have compulsory education as the school facilities could not handle all the potential students. For the small number of students who qualify for university entrance, comprehensive scholarships are necessary because, with the exception of three countries visited, such education must be obtained overseas.

26. In general, there are poor communication links between resource managers and educators in terms of both curriculum development and future employment opportunities. It is interesting to note that there is a trend away from the use of old curricula primarily inherited from metropolitan countries. Curricula, in most countries now include national elements. However, it was felt by the team that these positive changes have yet to include sufficient material on marine resources.

27. Most countries continue to experience a shortage of teachers and school supplies, particularly at the secondary school level. Because of curricula and these two shortcomings, science literacy is low, resulting in a high failure rate for students seeking to meet the relatively high recruitment standards required for fishery sector employment.

28. Most countries have a bonding system for students proceeding overseas for tertiary education. These systems normally require the student to return home to work for a period equivalent to the time spent overseas. In general, these systems are not fully effective and, indeed, could probably be successfully challenged in court. Perhaps bonding could be accompanied by some incentive, such as assistance to purchase housing on forgivable loans, to ensure larger numbers return to serve their country. At the moment, donors play no role in assisting with this problem.

Recommendations

- 1. The primary focus of regional and national attention should be on the overall improvement of educational standards, with a specific goal to improve science literacy in the population at large.**
- 2. A regionally coordinated mechanism to develop and share curriculum and educational materials should be established, focusing on marine and ocean studies at the primary and secondary school levels. An associated goal should be to develop cooperative, regional programmes for appropriate teacher training, while recognising individual national goals, curricula, and cultural differences.**
- 3. Improved liaison between education and fisheries departments must be developed.**
- 4. Possible incentive schemes should be investigated by national governments to encourage returnee graduates to work at home. Wherever possible and appropriate, donors should support such initiatives.**

2B. Economic capabilities:

29. Most countries do not have the capability to fund human resource development internally and must rely heavily on outside aid. Such aid is often tied to specific educational opportunities which do not always fit the country's needs precisely.

30. The public service is, in the majority of countries visited, either the largest or the only major employer. The private sector cannot play a role in developing needed staff skills for the public service as it does in developed countries.

31. The team did not visit any country where some form of government spending restraint was not in place. These restraint programmes include staffing freezes, public service cutbacks, elevated approval levels for any personnel action which has a cost attached, reduced working hours, and a reluctance to release key staff for development opportunities. This understandable reaction to current economic conditions may in time result in reliance on lesser-paid high school leavers. Such a trend will widen the skills gap within fisheries organisations, resulting in a requirement for even more training and education of staff as the economy improves. Current economic conditions make it even more important that human resource development priorities be established without delay.

Recommendations

- 5. National governments should develop employment schemes similar to Fiji's *Youth Employment Options* for students during school holidays and for school leavers. Such schemes may assist in the development of relevant experience in the labour market, public awareness, and encouragement for more students to seek careers in fields such as marine sciences.**

6. **During periods of fiscal and staffing restraint, donors should give more consideration to providing temporary staff to replace key employees who are upgrading their education.**

2C. Competition for scarce human resources

32. A university graduate is a valuable commodity in most developing countries. Professional positions in all Pacific island fisheries departments require such a qualification or a diploma in a related field e.g. Tropical Fisheries. Competition between government departments for graduates can be strong, resulting in inter-departmental movements and perhaps rapid advancement.

33. Unfortunately, it would appear that fisheries departments suffer from an outward migration, making it difficult to maintain continuity of adequate skill levels. To meet national priorities, B.Sc. graduates are often encouraged to enter a field other than fisheries. For example, in Fiji the pay for teachers has been elevated to meet severe staff shortages. The Fisheries Division cannot compete for a B.Sc. graduate, as the pay differential is large (approximately \$F2,000).

34. In the past, fisheries departments have concentrated their efforts in developing scientific and technical expertise to meet fisheries development needs. Such expertise is indeed required but the Survey Team noted that many of the staff returning to the departments with a BSc or a diploma in Tropical Fisheries (for example) are being employed in work areas within the department for which they were not educated. Many are employed in general project management, administration, financial management, etc. Others have had to assume responsibility for overseeing the privatisation of fishery activities which requires skills and education in such areas as small business management, marketing and post harvest fish handling. Technical areas such as stock assessment are receiving less than adequate attention as a result of qualified staff being reassigned to meet other priorities.

35. In addition to this in-country competition, wage disparities between adjacent countries, and the attractive salaries associated with positions in regional agencies often attract the better qualified fishery workers. For island countries closely associated with metropolitan nations the problem is worse. These countries have suffered a major 'brain drain' as their citizens may constitutionally remain overseas in the United States or New Zealand, and do so for better career and salary opportunities.

Recommendations

7. Every attempt should be made within public services to redress the differences in classification and pay scales and so avoid unwarranted shifts from disciplines for which officers have been trained.
8. Understandings should be sought between member countries which inhibit the recruitment of staff sent overseas for experiential education through attachments.
9. Regional organisations should formalise a regional 'interchange' programme which would provide reciprocal exchanges of staff (not necessarily concurrent) for periods of one or two years, between countries and between countries and regional organisations. These exchanges may involve aid donor salary subsidisation, should not require an established position to facilitate, and should guarantee the return of the employees to their former positions at the termination of the agreed interchange assignment.

2D. Personnel management systems and practices

36. Most countries still depend on personnel policy systems and practices inherited from the colonial past. Some have been modified slightly to meet local needs, but most have not. Such systems were designed for much larger bureaucracies and human resource pools, and present many barriers to appropriate career progression in developing countries.

37. For example, most job classification systems do not recognise specialisation in fisheries, e.g. research, extension, enforcement, licensing. Selection standards, for the most part, demand a university degree or a diploma in order for an individual to be recruited as a fishery officer, regardless of the specific area of work. Such barriers to upward mobility often lead to lateral movement at the lower levels, frustrations, low morale, low productivity, and the neglect of some hard-working, talented, dedicated but unqualified staff in selection for higher-level positions.

38. Job evaluation processes rarely measure performance against agreed work objectives an arrangement which, if used, can act as an accountability accord between a superior and a subordinate. Most evaluations use very subjective performance indicators. The training and/or educational needs of an individual were identified in the annual performance evaluation process of only two countries visited. It appeared to the team that, if a commitment is made by the fisheries organisation to institute human resource development plans, then some modification to job evaluation forms would ensure that such plans can be updated annually, and that development opportunities are approved in a fair and equitable manner. The team has collected the performance evaluation forms used by most countries visited and copies are available from the SPC's Regional Fisheries Training Project.

39. Perhaps it is unreasonable to expect rapid major changes in these established systems. However, a better understanding of how these systems work would prove helpful. In general, there appears to be poor communication between central agencies and specialised government departments, as well as between subordinates and superiors. For example, in few countries did senior fisheries staff know how job classification standards are applied. In no country does a line manager participate in classifying a job except for the writing of appropriate documentation (basic job description and required qualifications). Many fishery departments do not have up-to-date job descriptions nor do they follow national policy with respect to the completion of job evaluations. In several of the countries visited, staff may be appraised on their performance but no discussion takes place between superior and subordinate, as the evaluation remains confidential.

40. Donors, educational institutions and regional organisations must deal with a wide range of differing centralised or decentralised systems to coordinate and approve training, in some cases even requiring the approval of the Head of State. Other countries allow such training and education to take place on a bilateral basis between departments and outside funding agencies. By prior agreement, some regional agencies must deal exclusively with Foreign Affairs Departments even though circumstances have changed in-country and alternate central agency bodies have been established to coordinate aid-funded training (e.g. PNG). It is easy to understand the frustrations experienced by both sides as overseas agencies must adjust their lines of communication to meet differing national systems.

41. Despite attempts by most of the countries visited to devise organisations and systems to protect the merit principle (Public Service Commission and/or Personnel Division reporting independently to government), the team was made aware on many occasions that political influence remains a dominant feature of training selection and staff promotion. Few countries have written criteria upon which to base objective decisions.

42. In summary, it would appear that personnel management systems have not kept pace with the development of fisheries and the organisations which have been established to manage them.

Recommendations

10. Heads of fisheries organisations should make minor adjustments to national performance evaluation forms for use in their organisations. Changes should include a section on work objectives for the next reporting period, and a section on training needs, to ensure that human resource development plans are kept up-to-date.
11. Heads of fisheries organisations should take every opportunity to promote changes to national personnel policies and systems, where such changes will promote more effective and equitable career development and advancement.
12. Heads of fisheries organisations should encourage appropriate central government agencies to communicate more effectively the way in which job classification standards are applied, so that staff at all levels have a better understanding of the qualifications necessary for career advancement.
13. While systems and policies with respect to official contact with donors and outside institutions differ and are the prerogative of each state, donors and regional organisations should review their current practices and protocols to ensure that those central government agencies responsible for human resource development are communicated with directly, where protocols permit, or indirectly by correspondence copies, to ensure more prompt action.

2E. Lack of effective regional coordination

43. National governments must know what they want when it comes to regional coordination and assistance. They must feel free to express their opinions and give direction to organisations established to serve their national needs. All too often, in the opinion of this team, direction of this type is not being received by regional organisations, donors or educational institutions. This will be efficiently achieved only if those regional organisations whose mandate includes fishery management, research and training, work in close harmony with one another. While there has been good progress towards this goal in recent years, the team is of the opinion that a much greater effort should be made by FFA, SPC, SOPAC and SPREP to better coordinate their human resource development activities in the interest of the countries they serve.

44. In 1985, the SPC established the Regional Fisheries Training Project, which has so far focused primarily on the development and/or delivery of much needed courses (e.g. extension and technical training). Little time is presently available to provide services which would, for example:

- actively encourage the implementation of certain agreed recommendations of this and similar reports related to human resource development;
- provide a focus of communication between countries, donors and educational institutions;
- provide a channel for feedback and evaluation of those courses currently available (no evaluation presently exists);

- act as a 'middle man' to arrange attachments and individualised training programmes;
- encourage and assist in the development of educational and training programmes to be delivered in-country or within the region, and;
- maintain a regional personnel database.

45. Even if each country chooses to develop its own long-term human resource development plan, without regional coordination, educational institutions will lack sufficient lead time to plan the required educational programmes because they must address the collective needs of the region if they are to be cost-effective.

Recommendations

14. A Regional Fisheries Education and Training Coordinator position should be established preferably within an existing regional institution or programme. The duties of the Coordinator would be to:

- a) provide advice and assistance in national human resource development planning;
- b) provide educational and training programme information;
- c) undertake evaluations and follow-up on training activities;
- d) act as a liaison between national administrations, educational and donor communities, and;
- e) maintain a regional personnel database.

15. The Regional Fisheries Education and Training Coordinator should convene and chair an annual meeting of donors, educational institutions and national government representatives to discuss human resource development issues. The meeting should be held in conjunction with a regular meeting of an appropriate regional organisation.

2F. Colonial histories

46. There are many good and bad points associated with the colonial histories of Pacific island countries. On the good side, expatriates are made available on a subsidised basis and citizens of former colonial states enjoy access to educational aid packages in preference to those from other countries. For some countries a constitutional right exists to employment and citizenship in metropolitan countries.

47. From the negative perspective, previous sections of this report have already referred to the 'brain drain' that is taking place, and the inherited school curricula and personnel systems that are still in place. In addition, many officials interviewed criticised the fact that most educational aid demanded that training only take place in the country providing the aid and that such education was not always relevant to Pacific island needs. There remains a perception that in the short term, very little can be done to change this situation so as to allow more aid to flow to in-country and regional institutions.

Recommendation

- 16. Donors should provide more support for in-country and regional education and training.**

2G. Lack of personnel data

48. As previously noted, in the introduction to this report, very few data on fisheries staff exist in-country. For this reason the team was unsuccessful in obtaining all of the necessary data for a regional personnel database to be used by donors, educational and regional institutions. With the information that was already computerised by the SPC Regional Fisheries Training Project, and the information collected by this survey, it is estimated that about one-third of the data required to effectively plan for courses and other development programmes are now available.

49. In any planning exercise there must be a commitment made by those who benefit to ensure processes are followed to provide up-to-date information, so that others may get on with their own planning e.g. donors and educational institutions. If senior fisheries staff do not see a regional database as beneficial, this commitment will not be there and the lack of personnel data, with training needs added at a later date, will continue to be a serious restraint to effective human resource development.

Recommendation

- 17. The completion and regular maintenance of an up-to-date fisheries personnel database should be a regional priority task assigned to the proposed Regional Fisheries Education and Training Coordinator.**

2H. Lack of flexibility to meet changing priorities

50. The long time-frames involved in managing sustainable fisheries are often in conflict with shorter national three or five-year plans, and the even shorter planning time-frames associated with changing country priorities and donor-inspired programme shifts. Both national plans and donor-inspired projects are normally associated with the economic development of particular fisheries and little or no flexibility exists to shift attention rapidly to longer-range issues; e.g. the decline of an important subsistence fishery.

51. Most countries are also very vulnerable to staff shifts, sometimes resulting in a complete inability to address identified objectives. Because most departments do not have a depth of staff skills, even small shifts can be dramatic. For example, the team has witnessed the near collapse of aquaculture development in Western Samoa through three key staff members going overseas on assignment or for higher education. A similar blow to the privatisation of fish processing in Tuvalu occurred when the only two localised staff in the processing plant obtained, at the same time, Equity and Merit Awards directly from the Australian government.

Recommendations

- 18. Aid donors should focus more funding on the development of data collection and its analysis to meet long-term sustainable fisheries development objectives.**

- 19. Regional organisations should lend their voices to those of several countries who wish to express their concern to the Australian government about the serious negative impact that the awarding of scholarships directly to recipients, without government consultation, has on national programmes.**

2I. Low visibility of marine resources management

52. It was a surprise to the team to note that, in most countries, marine resource management does not enjoy high visibility with the general public and government central agencies. Despite the fact that the newly extended EEZs in the region present a potential (sometimes the only real potential) for economic growth, fishery organisations, by and large, remain relatively small and receive little priority from scholarship committees. This was particularly noticeable in the FSM and Solomon Islands, where the economic impact is large, yet national organisations are relatively small.

53. Until such time as the economic value of a fishery is clearly documented and presented to government, and the public gains awareness of this value and the need for effective conservation and management initiatives, little will change. It is encouraging to note the initiatives which have been taken in the Commonwealth of the Northern Marianas, and those which are planned by the Ministry of Education in the Kingdom of Tonga, to promote fishery awareness in schools (models worth investigation by other interested countries). Also encouraging was the emphasis placed on this subject during the discussions of the Workshop on Education and Training of the Fifth Technical Sub-Committee meeting of the FFC held in Wellington, April 22-26, 1991.

Recommendations

20. Priority should be given to the establishment of long-term regional and national programmes aimed at an improvement in public awareness of marine resource issues. Targeted groups should include:

- schools
- the general public
- the media (newspapers, T.V., radio)
- resource owners/custodians
- resource managers and decision makers
- private sector members engaged in resource utilisation and management
- national, regional and local groups with an interest in marine resource issues (environmental groups, natural history clubs, service organisations, scouts and guides, womens' groups, parent-teacher organisations, village councils, etc.)

21. If requested, assistance should be provided to fishery organisations attempting to describe the national economic impact and potential of the fisheries sector for presentation to central agencies.

2J. Project orientation

54. It would appear to the team that much has been achieved in recent years in the development of educational levels and technical skills. Much credit must be given to national governments, regional organisations and donor agencies for the progress which has been made. Unfortunately, a great deal of effort has been aimed directly at economic development in the absence of sound sustainable development policy. Aid is often tied directly to specific economic development projects and cannot be easily shifted, as discussed in section H, above.

55. Unless there is some shift in emphasis on the part of donors, inshore fisheries policy initiatives will not be addressed. The team was advised that it is currently much easier to get

funding for gear, engines, vessels, fishing tutors, etc. than to assist with conservation education, planning, policy and regulatory development, data collection, stock assessment, etc. Donors do not always support what is vital, but what is expeditious. Some country officials have earnestly stated that more attention needs to be paid to areas of assistance and development which relate directly to ensuring sustainable use of inshore resources for the future.

Recommendations

- 22. Human resource development plans should reflect the need to give more support to fisheries policy and regulatory development.**
- 23. Wherever possible and appropriate, donors should shift funding from economic development projects to the vital need to develop long range fishery policy.**

2K. Power of the donors

56. Some comments have already been made about this restraint in earlier sections of this report. There is, indeed, a perception in Pacific island countries that the donor is in control and must not be offended. It is perceived that the donors establish the terms of development, demand training in metropolitan countries, and are not very flexible when negative feedback is given. In one country the team witnessed a staff member being sent on a course already completed in the past because he was the only person available to go and the fisheries manager feared that he would offend the donor if no one was sent.

57. The team's interviews with donor agencies nevertheless revealed an openness to providing more assistance to in-country training, a wish for more national input into course design and more feedback, some flexibility in providing more support for regional educational institutions, and a desire to discuss distortions in the training process caused by widely varying allowances and access opportunities.

Recommendation

- 24. An appointed Fisheries Education and Training Coordinator should encourage consideration by all concerned parties of the perception that donor policies may be distorting the training process.**

2L. Social/cultural differences

58. Social and cultural imperatives vary widely in Pacific island countries, resulting in different human resource development needs. Each country's development plan must recognise demographic patterns. In the Marshall Islands the annual population growth rate is 4%, with an average age of 15 years; the situation is much different in Western Samoa and the Cook Islands, where population are actively decreasing through emigration to New Zealand and elsewhere.

59. A majority of countries remain highly dependent on subsistence fisheries (Tuvalu, Kiribati), while others depend almost totally on the cash economy (Guam, American Samoa, Marshall Islands). For most countries, though, the population depends on fish as a major component of its diet, whether caught or imported.

60. Culture can be viewed as a constraint on human resource development. The division of power between villages, provinces or states, and national governments, is sometimes quite complicated. An extreme example would be PNG with its 781 languages and 19 provinces.

The village-level government in most countries forms a powerful voice in the development of a fishery and how it will be regulated. Add to this the continuing systems of the titled chiefly class who may come to be employed as subordinate employees in some societies, and one can quickly appreciate the complexities of human resource management.

2M. Lack of planning capability

61. Fishery organisations in Pacific island countries do not, as a rule, have any staff with experience or training in the fundamentals of planning. Most rely on the usually very small staff of central government agencies or regional organisations to develop the input for national development plans. This lack of planning capability, which must in part address the complicated jurisdictional and cultural issues noted in Section L above, is a major restraint to the development of human resource plans.

Recommendations

- 25. In the preparation of fisheries human resource development plans, departments should, where appropriate, seek the assistance of outside agencies and donors for the provision of the necessary expertise and funding.**
- 26. In larger fisheries organisations, human resource development plans should include the acquisition of necessary planning skills.**

2N. Lack of human resource development plans

62. 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, in response to the need for departments to undertake increasing work and responsibilities.

63. 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 development 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 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. Without adequate long-range planning, donors, educational institutions and regional organisations will be restrained in their ability to design specific programmes to meet national needs.

Recommendation

- 27. The preparation of fisheries human resource development plans should be a priority of national governments.**

3. EDUCATION AND TRAINING ISSUES

3A. Technician level training

64. 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 (Clift Report). This review was undertaken to ensure that 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 diplomats, and the intended work which current students would undertake on their return home.

65. All diplomats who were working in fisheries were interviewed, or sent questionnaires; senior fisheries personnel were interviewed or sent questionnaires; and 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 noted in several cases that persons who attended the Diploma course immediately started a B.Sc. programme, afterwards, 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.*

66. The USP has developed a five-year plan (South, 1991) which will satisfy the first recommendation. There is also a proposal incorporated in the five-year plan to introduce a Certificate in Fisheries Studies which will address the second recommendation. It has been proposed that the existing SPC/Nelson Polytechnic Pacific Island Fisheries Officers Course might be redesigned and redesignated to meet this need. In reviewing this proposal (RTMF 22/WP.18) the 22nd RTMF agreed that consideration of this issue should be deferred until the completion of the present study.

67. Our survey has identified this 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, it is not considered that the two courses of study need be inter-related through credits.

68. This Certificate of Fisheries Studies could be completed in about one year and, as well as including 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.

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

Recommendation

- 28. The South Pacific Commission, the University of the South Pacific, and the Nelson Polytechnic should commence planning as soon as possible for the introduction of the proposed Certificate in Fisheries Studies.**

3B. Experiential education

70. The development of personnel is an ongoing and integrated process in 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 institutionalised training and education, leading to a recognised qualification. While such education has a role, recurring comments in most countries were that some people were well trained but lacked experience and, to a lesser extent, that the particular training had not resulted in improved performance.

71. 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 staff 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 fish plant experience in other countries, short training courses, and in-country work experience, rather than being sent overseas for a general educational programme such as a diploma or degree.

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

Recommendations

- 29. Regional agencies should develop short courses coupled with individualised experience opportunities to meet short-term skill shortages in such areas as post-harvest fish handling, enforcement, licensing, catch monitoring, and proposal writing.**
- 30. Short courses and periods of attachment to gain valuable related experience should be formally recognised as qualifications for career advancement.**
- 31. Aid donors should lend as much assistance to work attachments as they do to training and education where such needs have been identified.**

3C. Staff Development Officer

73. In the smaller fisheries departments, the chief executive officer would most likely have a personal knowledge of the abilities, training background and likely 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 Staff Development Officer position.

74. Within larger departments, with more complex structures (e.g. Papua New Guinea, Fiji, Kiribati, Solomon Islands), 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 larger staff development issues and policy decisions.

Recommendations

- 32. Larger fisheries departments should have a designated position for a Staff Development Officer. Smaller departments should have the responsibility for staff development included as part of the duties of an existing senior-level position.**
- 33. The Staff Development Officer should have qualifications appropriate to develop human resource development plans, liaise with senior officials in central government agencies and regional organisations, draft proposals, evaluate training received, and counsel staff.**
- 34. The Staff Development Officer should occupy a relatively senior position in the fisheries organisation, enabling input to personnel policy decisions made by the senior executive officer.**

3D. Management training

75. A recurring theme during the team's country visits was the identification of the need for management training for more senior departmental staff. Specific subject areas identified for inclusion in management training were personnel, finance, organisational development, administrative procedures, delegation, and accountability methodologies. Perhaps such training could be designed in a modular format to ensure that specific skills and knowledge deficiencies were adequately addressed in a cost-efficient manner. In designing a 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 in the long term.

76. It is interesting to note that several key research staff members have been promoted to more senior management positions, or have been assigned programme management duties, to which their academic qualifications are not directly relevant. Some of these senior staff members have voiced their frustration at being unable to carry out research-related data collection and analysis work, while at the same time recognising their skill shortages in the general management fields.

Recommendations

- 35. Appropriate existing short courses in areas such as personnel management, financial management, report writing, administrative procedures, and organisational dynamics should be identified or, if none exist within the region, designed by regional organisations or educational institutions.**

- 36. Management courses should, at least initially, be aimed at the most senior staff of fishery organisations.**
- 37. Donors should support the widely-expressed need for general management training by providing funding for the development and implementation of such courses, preferably in-country.**

3E. Extension training

77. 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 should be pointed out that those attending the technical workshop associated with the 20th meeting of the FFC gave their support to these courses. In particular, mention was made of the important principle of 'training the trainers'.

Recommendations

- 38. The 'training the trainers' model used by SPC for its extension courses has great merit and should be followed as an appropriate model in the design and delivery of future courses in other work areas.**
- 39. Communication and extension skills should continue to be developed through the continuation of the current extension training programme until all staff who must deal directly with community leaders and fishermen have taken such a course.**
- 40. An upgraded 'refresher' extension course should be developed and subsequently presented to those who have taken the current course.**

3F. Inshore data collection and analysis

78. The continued exploration and expansion of effort in inshore fisheries is of concern to 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 inshore data which, when analysed, will lead eventually to appropriate management measures.

79. It would appear to the team that most of the inshore 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 preclude the possibility of doing the necessary work involved with data analysis. In addition, some expressed the opinion that training programmes in the past were set at higher standards than was presently necessary at this point in time for Pacific island countries.

Recommendations

- 41. Governments must place higher priority on data collection and analysis to support management efforts for vitally important and often overfished inshore stocks.**

- 42. Regional scientists should continue to assist Pacific island fisheries staff in identifying and prioritising important vulnerable inshore stocks. (Much work has already been done in this regard).**
- 43. The curricula previously developed for training in resource assessment should be examined to ensure that basic data manipulation is emphasised.**

3G. Aquaculture training

80. 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, and have learned of future aquaculture initiatives within the region through the study of development plans.

81. At the moment, many national aquaculture programmes are in a period of change. A new facility is in the start-up phase in Kosrae, FSM, focusing on finfish, 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. The ICLARM Coastal Aquaculture Centre, Honiara, which currently concentrates on cultivation of giant clams, is diversifying into other areas. The government of the Cook Islands has put much effort into the commercial pearl production and, with USAID funding, a Pearl Extension and Research facility will shortly be constructed. In both Western Samoa and American Samoa experimental work with giant clams, mussels, oysters and seaweed may lead to commercial production. Several other facilities exist outside the countries visited by the team.

82. All of these developments 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 five to ten years. Cost-effective training and technology transfer will be best assured through the attachment of staff to regional centres of excellence specialising in specific species. Aquaculture development requires close cooperation and planning between all relevant institutions in the region.

Recommendations

- 45. Effective communications must be established between Micronesian, Melanesian and Polynesian aquaculture interests to ensure effective exchange of scientific knowledge and technology, and to minimise duplication of effort.**
- 46. Recognised centres of excellence specialising in specific species should be identified and utilised as attachment training centres in the region.**
- 47. Aid donors should fund extended attachments to the centres of excellence for staff development purposes.**

3H. Privatisation

83. In many of the countries 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 realised that such a move is necessary to meet various economic priorities (employment, wealth, localisation) and gain necessary efficiencies in order to compete internationally. Current transitional initiatives take several forms, including joint ventures with international groups, government-owned but fishermen-operated vessels, and fishermen's cooperatives. Ongoing extension work is attempting to expand this shift to the private sector in rural areas.

84. Most countries are limited in the human resources available to cope with this shift to privatisation. Personnel requirements for private enterprise must, in almost all cases, be drawn from government institutions.

Recommendation

44. Educational institutions and donors should focus on the need to assist with the privatisation of the fishery sector through the development of training and funding in such areas as post-harvest fish handling, processing, marketing and small business management.

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