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**THE UNIVERSITY OF THE SOUTH PACIFIC
Marine Studies Programme**

Capabilities in Fisheries Education and Training

Presentation by

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SUMMARY

The University of the South Pacific is a regional university serving 12 Pacific Island nations; the main campus is in Suva at Laucala Bay, and there is a second campus housing the School of Agriculture at Apia, Western Samoa. The USP operates centres in 11 countries, and several Institutes, including the Institute of Marine Resources. Since 1978 USP has offered a Diploma in Tropical Fisheries, and since 1988 courses in Ocean Resources Management. In 1991 the USP Council approved in principle a major Marine Studies Programme; Certificate, Diploma and Degree programmes focussing on marine studies (including fisheries) will commence in 1992 and will be fully operational by 1994. The Marine Studies Programme is overseen by a Marine Studies Coordinating Committee, whose membership is representative of South Pacific regional bodies active in the marine area. A strengthening of post-graduate programs in Marine Studies is now taking place, and cooperative programmes with other institutions are being developed where these will assist in the acceleration of training, education and research in Marine Studies. Formal links exist or are being developed with, among others, the University of Otago, New Zealand, Kagoshima University and the University of Tokyo, Japan, James Cook University of North Queensland, the Australian Institute of Marine Science and the Great Barrier Reef Marine Park Authority, Australia, and the University of Victoria, Canada.

A new Institute of Marine Resources is currently being established in Honiara, Solomon Islands, under the guidance of a Scientific Advisory Committee whose representatives are drawn from international, national, and regional bodies engaged in Marine Science, including the University of Papua New Guinea. The activities of the new IMR will focus on research, training and consulting in marine resources. In 1992 a new Atoll Research Programme was established in Tarawa, Kiribati, under the aegis of the USP Marine Studies Programme; for the next three years it will host the US-AID funded Tarawa Lagoon project. It is expected that in early 1993 the South Pacific Commission's Regional Post-Harvest Fisheries Centre will be established in Suva, adjacent to the USP Marine Studies Programme facilities. The Centre will work in close collaboration with USP and will concentrate on training and research in fisheries post-harvest technology.

THE UNIVERSITY OF THE SOUTH PACIFIC MARINE STUDIES PROGRAMME

1 The University of the South Pacific - background

The University of the South Pacific (USP) was established in 1969 as a regional University, and currently serves twelve Pacific island countries (Vanuatu, Solomon

Islands, Tuvalu, Fiji, Kiribati, Nauru, Marshall Islands, Tonga, Western Samoa, Tokelau, Niue, Cook Islands). The main campus (Laucala) in Suva, Fiji, accommodates the Schools of Humanities, of Pure and Applied Sciences, and of Social and Economic Development. A second campus (Alafua) in Apia, Western Samoa, accommodates the School of Agriculture. Extension Services is an autonomous unit within the University; its headquarters are located on the Laucala campus where extension courses are prepared for students unable to enroll in residential studies. Under this unit, the University operates extension centres in nine member countries (the College of the Marshall Islands will become the tenth, since the Marshall Islands joined USP in 1991). In addition, the University currently operates the Institutes of Education, of Marine Resources, of Natural Resources, of Pacific Studies, of Social and Administrative Studies, and of Research, Extension and Training in Agriculture, of Rural Development. An Atoll Research Programme has been recently set up in association with the USP Centre in Tarawa, Kiribati. In 1990, the University had 274 academic staff; enrollment included 1,800 full time, 600 part-time, 6,600 extension and 1,600 continuing education students.

Between 1978 and 1991 USP offered a Diploma in Tropical Fisheries Programme through its Institute of Marine Resources (IMR). A total of more than 140 graduates have successfully completed the programme, and many of the graduates now occupy senior positions in Fisheries Departments of various South Pacific nations. In addition, courses in Ocean Resources Management (known as the Ocean Resources Management Programme or ORMP) have been offered through USP's School of Social and Economic Development, in cooperation with the Forum Fisheries Agency, and funded by the International Centre for Ocean Development, Canada.

Following a review of the Diploma in Tropical Fisheries Programme in 1989, the initiation of the Marine Studies Programme, a review of USP's Institutes in 1991 and new initiatives with respect to the ORMP, the USP has made several major moves towards improving its capabilities in education, training and research in the fisheries area. These initiatives will be outlined in this paper.

2 The Marine Studies Programme

In recognition of the importance of marine resources to the economic and social development of the region, the University has undertaken to broaden and strengthen its involvement in the area. In 1988, the University created a Chair in Marine Studies and established the Marine Studies Coordinating Committee to consider regional marine related training, education and research requirements. To ensure that broad regional views are represented, non-university Coordinating Committee membership includes the Forum Fisheries Agency (FFA), the South Pacific Commission (SPC), the South Pacific Applied Geoscience Commission (SOPAC) as well as representation from other organizations such as FAO/UNDP, US-AID, ICOD, and other groups at the request of the Committee. The Professor of Marine Studies was charged with the responsibility of developing a Five-Year Plan for the development of a Marine Studies Programme. The Plan was completed in 1991, was adopted by USP's Council at their 1991 meeting in Tarawa, Kiribati, and was widely

circulated to regional agencies and many other institutions and individuals throughout the South Pacific region (see attached copy of the Five-Year Plan).

3 Certificates, Diplomas, Courses and Post-Graduate Programmes

In addition to programmes outlined below for the Marine Studies Programme, it should be noted that the following are offered through the School of Pure and Applied Sciences:

BEd (only with Home Economics or Technology options)

BSc (with single Majors in Biology, Chemistry, Earth Science, Home Economics (Bed Programmes), Mathematics, Mathematics & Computing Science, Physics, and Technology, Bsc in Environmental Studies. Students may specialize to some extent in marine subjects by taking marine-related courses as part of their normal programme.

MSc (this includes the option to specialize in Fisheries and Marine topics)

PhD

Double Majors allow students to choose from any two of the following subjects: Biology, Chemistry, Home Economics, Earth Science, Computing Science, Mathematics, Physics, and Technology. Double Majors are also available in Biology-Geography, and Home Economics-Geography or Economics combinations.

The University is engaged in a number of cooperative arrangements allowing for joint supervision of theses between USP staff and experts in other institutions.

The USP Marine Studies Programme (MSP) is an interdisciplinary Programme. Education and training programmes already existing or to be developed by the MSP will include:

- A strengthening of undergraduate programmes in marine studies, with the ultimate goal of developing a BSc in Marine Science.
- A Certificate in Ocean Resource Management
- A Certificate in Tropical Fisheries
- A Diploma in Tropical Fisheries
- A Diploma in Fisheries Economics and Management
- A Diploma in Ocean Resource Management and Policy
- A Certificate in Earth Science & Marine Geology
- A Certificate in Post-Harvest Fisheries (in collaboration with the South Pacific Commission)

The Certificate programmes will be available through Extension as well as on campus; the Diplomas (with the exception of the Diploma in Tropical Fisheries, which includes significant laboratory work) will also be available by Extension.

Plans are under consideration for the development of practically oriented, non-degree level Certificate in Fisheries, in cooperation with the South Pacific Commission and an appropriate Technical Institute.

The University is strengthening its capabilities in both basic and applied research, and is focussing its efforts on the development of several interdisciplinary programmes which have considerable relevance to fisheries: the **Coral Reef Program** and the **Atoll Research Programme**. Other areas of research that will be developed include **Aquaculture**, and **Post-Harvest Fisheries** (in association with the SPC). With the support of the International Centre for Ocean Development, Canada, a post-graduate scholarship program has been established for regional students taking M.Sc. degrees in Marine Studies.

As in the past, USP will continue to assist in the operation of workshops and conferences in the area of fisheries, in response to needs identified by its members and by the region.

4 Marine Public Education Programme

A **Marine Public Education Programme** will be an important element of the MSP. It is anticipated that school curriculum materials and teacher training programmes will be important elements of the programme; fisheries topics will be included in these programmes. On a broader basis, the Marine Public Education Programme will also develop means of informing a wider public on matters of concern in the marine field, including fisheries.

5 Pacific Islands Marine Resources Information Service (PIMRIS)

The Pacific Islands Marine Resources Information System (PIMRIS) was established in 1988, as a result of a preparatory study undertaken with funding from ICOD. PIMRIS was established in recognition of the fact that a marine resources information system in the South Pacific is a crucial factor in providing access to information in the Region. ICOD currently funds the Regional Coordination Unit, based at the USP Library; PIMRIS has three additional participants: the FFA, the SPC and SOPAC.

PIMRIS coordinates, collects and disseminates information on fisheries and non-living marine resources in the tropical Pacific. It is intended to help government officers, institutes, research workers, librarians and information officers, fisheries officers, fishermen, students and general users by providing information on living and non-living marine resources. In answer to requests PIMRIS can provide bibliographies, computer literature searches, current awareness services, information packages on tropical marine subjects, interlibrary loans, library consultancies, reference services, and training and information management.

The products of PIMRIS are:

USP

contents pages awareness service (regular)
IMR database on hardcopy
Information packages (quarterly)
e.g. No. 1 Driftnet fishing
 No. 2 Sea level rise & greenhouse effect
PIMRIS Newsletter (Quarterly)
recent publications list (monthly)

FFA

FFA News Digest
FFA Serials List

SOPAC

Bibliography of selected works on sea level rise
Current awareness service
List of journal titles on marine resources held by SOPAC

SPC

Information Bulletin Beche-de-mer
List of journal titles on marine resources held by SPC

FACILITIES

1 The School of Pure and Applied Sciences:

The School of Pure and Applied Sciences (SPAS) building houses the Departments of Biology, Chemistry, Home Economics (to be moving to the SPAS building soon), Physics, and Technology. The department of Mathematics and Computing Science is presently housed in the School of Humanities building. All of these departments are or could be involved in some aspects of marine studies. The South Pacific Regional Herbarium is administered through SPAS. It is accommodated in a new building separate from the SPAS Building, adjacent to the Botanical Garden.

The SPAS building includes individual staff offices, laboratories and lecture rooms, as well as a variety of technical and administrative support services. Staff actively engaged in research also utilize facilities developed by Institutes (IMR and INR for marine programmes), off campus facilities (such as the Dravuni Field Station), or through cooperation with Government laboratories (such as the Fisheries Division or Minerals and Natural Resources, in Fiji) and regional agencies (such as SOPAC).

SPAS, in cooperation with the groups referred to above, has reasonable capabilities in terms of field support facilities and laboratories. The MSP is currently housed on the lower campus at Laucala Bay, where there is easy access to the Suva Lagoon and Suva Barrier Reef; research vessels, small boats and dive facilities are available for teaching, and to researchers on a cost-recovery basis.

SPAS is well serviced with computers, and also has access to a VAX mainframe computer, as well as E-mail. Most of the University computers are PC's.

2 The School of Social and Economic Development (SSED)

The School of Social and Economic Development (SSED) houses the following departments: Accounting, Economics, Geography, History/Politics, Management and Public Administration, and Sociology. Also included under SSED are programmes in Business Studies, Land Management, Ocean Resources Management and Population Studies. The Pacific Law Unit, located at the Vanuatu Complex in Port Vila, is also included under SSED. The Institute of Social and Administrative Studies (ISAS) is located within the SSED building complex. All of the SSED departments and programmes, as well as ISAS, are or will be involved with the MSP, in a variety of ways.

The ORMP was taken over by USP in early 1992, and will continue to be housed in SSED, close ties will continue between the ORMP and the MSP.

3 The Institute of Marine Resources (IMR):

The Institute of Marine Resources has been central to the University's marine studies activities since it was established in 1978. Various regional agencies, especially the FFA, have served in an advisory capacity to the IMR and, since the establishment of the MSCC they have played a formal advisory role. Following various resolutions by the USP Council, a completely new IMR will now be established in Honiara, Solomon Islands. An IMR Steering Committee met in Honiara on 15-16 April, 1991, and included representatives from the USP, the Solomon Islands Government (Ministry of Natural Resources) and the Solomon Islands College of Higher Education), ICLARM (Coastal Aquaculture Centre, Honiara), Forum Fisheries Agency, South Pacific Commission and the University of Papua New Guinea.

The **Mission** of the IMR is to contribute to the development of knowledge of the marine resources of the region, enhance the skills of those responsible for managing them, and thereby promote their sustainable development and conservation. In pursuing its mission, IMR shall give emphasis to:

- * the identification of areas for strategic research responsive to regional needs;
- * acquiring and disseminating the best available information on the marine resources of the region;

- * strengthening policy and technical inputs to the decision-making process;
- * strengthening research and management capabilities of the personnel involved in decision-making relevant to marine resources; and
- * supporting the work of governments, other agencies and community groups in the application of information on marine resources to their development, management and conservation.

The activity programme of IMR will be developed with the assistance of a Scientific Advisory Committee, and will be implemented in consultation and, where appropriate, collaboration with community groups, national, regional and international organizations. Activities will comprise:

Adaptive Research, Training, and Information Management and Extension.

It is anticipated that the IMR will play a role in fisheries training, education and research, and its programme will be governed by regional needs identified by the University through the Marine Studies Coordinating Committee and, to a degree, by the IMR Scientific Advisory Committee. Through cooperating with the South Pacific Commission, the Forum Fisheries Agency, the Solomon Islands College of Higher Education, the University of Papua New Guinea and through resources available to it through USP, the IMR will be in a position to deliver training programmes and workshops.

4 The Institute of Natural Resources

The Institute of Natural Resources (INR) was established in 1977 on the Laucala Campus of USP. It was set up to organize short training courses for scientific and technical personnel; to meet specific needs of the South Pacific Region; to conduct workshops and seminars associated with the development of the region's natural resources; and to undertake consultancy and research thus contributing to the awareness and understanding of natural resources of the region. The marine-related activities of INR were transferred to the IMR, when it was established in 1978.

INR's activities focus on eight significant overlapping areas: energy; environment; remote sensing; food science; soil resources; water resources; analytical chemical services. The INR works in close collaboration with a number of USP departments, including Chemistry, Biology, Physics, Technology, Geography and Home Economics. It has also conducted a number of consultancies in collaboration with the IMR.

INR operates an Analytical Services Laboratory, Energy Studies Unit, an Environmental Studies Section, all of which have relevance to Marine Studies.

Analytical Services provide consultancy services to government departments, commercial organizations and private citizens, and a range of clients are served. Capabilities include water analysis and a range of others such as soil analyses, detection of pesticide residues, and related training. The Analytical facility is the best of its kind in the South Pacific.

The Environmental Studies Section engages in environmental impact assessment, remote sensing training and applications, coastal ecosystem studies, soil resources evaluation and crop growth simulation modelling.

The INR plays a significant role in the MSP, especially through its Analytical Services, its Energy Studies Unit, and its Environmental Section. Of particular importance are services such as water analysis, monitoring programmes, environmental impact assessment, and coastal ecosystem studies. With the anticipated increase in the range of expertise available in the university in these areas (such as Oceanography, Marine Geology, Fisheries Biology, Marine Ecology and Marine Botany) as the MSP expands and develops over time, the capabilities of the INR will be similarly improved.

In early 1992 INR produced a new Corporate Plan: copies of this may be obtained by writing to the Director.

5 The Dravuni Island Field Station

The Dravuni Island Field Station is located on Dravuni Island within the Great Astrolabe Lagoon, part of the Kadavu Island group some 40 km to the S of Suva. It is administered by the Director of the MSP, and provides opportunities for research and teaching to USP staff and students, and to visiting groups of researchers and educators. Astrolabe, Inc., a Washington D.C. based foundation, has entered into a formal agreement with USP for the future development of the Dravuni Field Station and the R & D programmes associated with it.

Dravuni is a small facility, with very basic accommodations and laboratory space. It can house up to 14 persons, although more can be accommodated through use of overflow rooms that can be negotiated with the Dravuni villagers. Power supply is by generator, and water supply is from catchment from the roof. Sewage is disposed of through a small capacity septic system. Most equipment needed for research has to be taken to Dravuni. USP supplies transport and field support from its Research Vessels and small boats, and equipment can be borrowed from USP. A schedule of charges is implemented for use of the Dravuni Field Station; food and cooking by village women can be negotiated.

6 The Atoll Research Programme

The Atoll Research Programme is administered through the USP Centre in Tarawa, Kiribati, and falls under the general aegis of the MSP. Recently renovated office and laboratory facilities have been made available in support of the US-AID funded

Tarawa Lagoon Project, which will use them as an operating base for the next three years. The Atoll Research Programme has access to the teaching, administrative and library facilities of the USP Tarawa Centre, and training and research activities relating to atoll countries will be encouraged. There is space for up to eight scientific staff, and arrangements for short or long-term visits can be made through the resident Fellow.

7 The Regional Post-Harvest Fisheries Centre (South Pacific Commission)

The proposal to establish a Regional Post-Harvest Fisheries Centre for the Pacific was approved by the South Pacific Conference in October 1990. Since then planning has been in progress between SPC and USP, and a funding proposal has been presented to the European Community. If funding is approved, it is anticipated that the Centre will be established in Suva on the USP campus, with building commencing in early 1992. The purpose of the project is to "establish and operate a regional centre....offering teaching, training, applied research, and advisory services in post-harvest fisheries to the government and private fisheries sectors of the region" (extract from SPC Technical Dossier, August 1991]. One of the activities of the Centre will be the offering, in collaboration with USP, of a Certificate in Post-Harvest Fisheries.

FEES

1992 fees are as follows (extracted from USP 1992 Calendar, pp. 87-90):

Tuition: For students studying privately and who are residents of any member countries of the University:

Full time studies:	FJ\$2,052 per annum
Post-graduate courses	FJ\$513 per postgraduate course
Supervision of Thesis	FJ\$1,026

For students who are not residents of the member countries of the University:

Full time studies:	FJ\$7,510
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Board:

Including mid-year break:	FJ\$3,360
Excluding mid-year break	FJ\$3,110

Books:

Recommended annual allowance	FJ\$400
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Students are also expected to pay a Students' Association Fee of F\$40; students attending internal courses must pay a refundable caution deposit of F\$35, and those

in laboratory courses must pay a refundable laboratory deposit of F\$35. Admission regulations for entry to USP programmes are outlined in the USP Calendar, which can be obtained by writing to the Registrar of the University. Additional information regarding fees and regulations for programmes described above can also be obtained by writing to the Registrar at the following address:

The Registrar
The University of the South Pacific
P.O. Box 1168,
Suva,
FIJI