

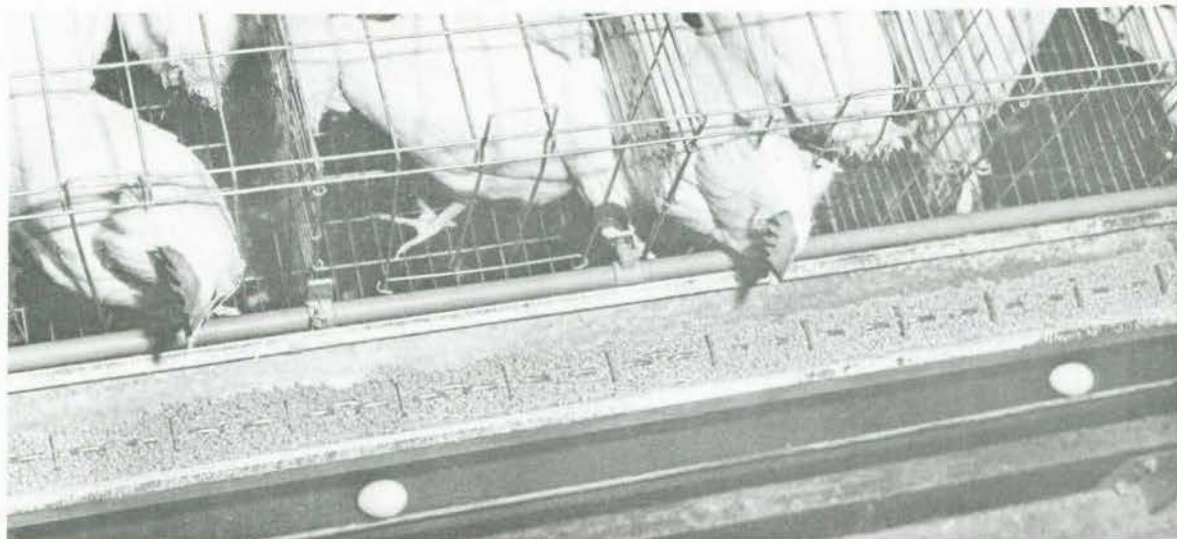
south pacific BULLETIN

QUARTERLY PUBLICATION OF THE SOUTH PACIFIC COMMISSION

/ FOURTH QUARTER 1978



All your eggs in one basket



CUP-WATERING AND AUTOMATIC FEEDING OF CAGED BIRDS

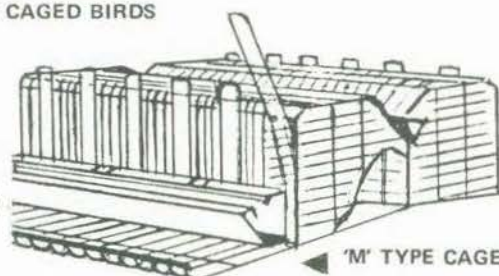
Sure, you can put all your eggs profitably in one basket - if it's from Harrison Jamesway.

Harrison Jamesway - Australia's biggest manufacturer and supplier of poultry equipment, now selling in the Pacific - offers farmers much more than baskets for eggs or chicks.

Harrison Jamesway profit-building poultry equipment includes:

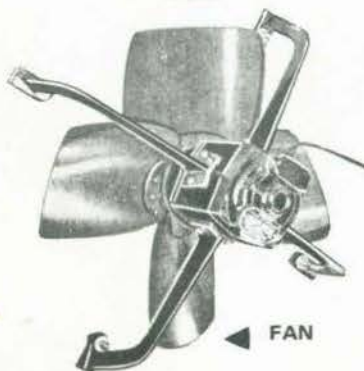
- ▶ Jamesway Big J. incubators, modular units available
- ▶ Feeding systems for cage and ground birds, low cost, space-saving, easy to instal, more eggs per pound of feed.
- ▶ Watering systems for all birds: stable, sensitive, dependable, hygienic, labour-saving.
- ▶ 'M'-type laying cages: stronger, less maintenance than other types; non drip nipples allow plenty of water yet keep litter dry.

- ▶ Egg graders to suit your farm-grading, 3,000 or 1,600 eggs per hour.
- ▶ Propeller Fans with higher volume air outputs than normal for similar diameters.



'M' TYPE CAGE

HANGING WATERER



FAN

For peak productivity on the farm, for a thriving, viable self-supporting industry, check with Harrison Jamesway. Their man-in-the-Pacific, will call anywhere to consult on any poultry equipment problem. Write or cable him now at

HARRISON JAMESWAY PTY. LTD.

9 Malta Street, Villawood, 2163
N.S.W. Australia.
Cables: Perfectchick Sydney
Phone: 728-6144
Telex : AA24315

South Pacific Bulletin

Subscription Form

I wish to subscribe to the *South Pacific Bulletin* by surface mail:

name

Please print

address

.....

.....

	PACIFIC ISLANDS	AUST.	NZ	UK	USA
One Year:	\$A3.80	\$4.00	\$4.80	£ 2.40	\$US5.00
Three Years:	\$A 10.50	\$11.00	\$13.50	£ 6.75	\$US14.00

My remittance for is attached.

New ☐

Renewal ☐

(please tick appropriate box)



South Pacific Commission Publications Bureau
P.O. Box N324 Grosvenor Street, N.S.W. 2000,
Australia.

Air mail postal rates supplied on application

Handicrafts of the South Seas

Order Form

Please send me copy/copies of *Handicrafts of the South Seas*.

Please print

.....
name

.....
address

Price per copy: SPC area - \$A3.50; elsewhere - \$A4.00. Post free

My remittance for is attached.



South Pacific Commission Publications Bureau
P.O. Box N324 Grosvenor Street, N.S.W. 2000,
Australia.

Fish Poisoning in the South Pacific

Order Form

Please send me copy/copies of *Fish Poisoning in the South Pacific*.

Please print

.....
name

.....
address

Price per copy: \$A3.50 or \$US5.25, post free.

My remittance for is attached



South Pacific Commission Publications Bureau
P.O. Box N324 Grosvenor Street, N.S.W. 2000,
Australia.

Exotic Plant Pests and Diseases

Order Form

Please send me copy/copies of *Exotic Plant Pests and Diseases*.

Please print

.
name

.
address

.

Price per copy: SPC area - \$A7.50; elsewhere - \$A15.00; plus \$A3.00 postage/
packing all areas.

My remittance for is attached.



South Pacific Commission Publications Bureau
P.O. Box N324 Grosvenor Street, N.S.W. 2000,
Australia.

SOUTH PACIFIC BULLETIN

OFFICIAL JOURNAL OF THE
SOUTH PACIFIC COMMISSION

Vol. 28, No. 4; 4th Quarter, 1978.

\$A0.95 in the SPC area
\$A1.00 in Australia
\$NZ1.20 in New Zealand

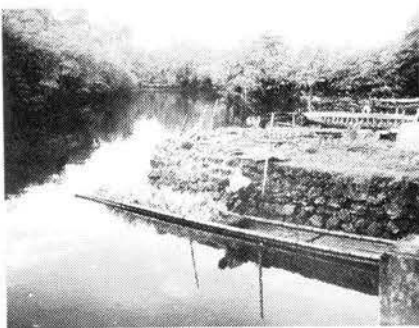


Contents

- 3 18th SOUTH PACIFIC CONFERENCE: *C. Nalo*
Report on some highlights of the Noumea Conference.
- 11 TAPA CLOTH AND T-SHIRTS: BUSINESS AND WORK IN PACIFIC
VILLAGES, *Alan Bollard*
Indigenous small industry is one effective way to minimise the
effects of rural drift and mounting unemployment in the Islands.
In many instances, the businesses are based on traditional skills.
- 14 SOUTH PACIFIC TUNA FISHING — A CHANGING SCENE: *W.A.
Wilkinson*
The 'long line' technique for deep swimming tunas has developed
considerably and greatly improved catch rates, but it has its
problems.
- 17 MELANESIAN SHELL MONEY'S NEW ECONOMIC ROLE: *John Connell*
Shell money has always been an important element in
Melanesian culture, but its importance diminished when
European cash money appeared. Shell money is coming back as
a medium of payment where traditional values are involved.
- 24 JOINT SUB-REGIONAL TRAINING COURSE ON CENSUS METHODS
Knowledge of the size, distribution and composition of the
population is vital for developing countries; expert assistance in
conducting censuses has usually come from outside, but a course
was recently held in Suva to instruct Islanders in census methods
and to reduce dependancy on outsiders.
- 25 SPC SECRETARY-GENERAL VISITS TOKELAU: *Don Stewart*
Dr. Salato is the first S-G to visit these atolls.
- 27 THE COMMUNITY COLLEGE OF MICRONESIA: *Dirk A Ballendorf*
A comparative newcomer to the Pacific educational scene, the
Truk-based CCM offers a curriculum that tries to develop a
responsiveness to Micronesia's current and future needs.
- 31 REEF AND LAGOON TENURE SYSTEMS IN THE PACIFIC ISLANDS, *R.E.
Johannes*
Before western contact, Islanders knew well the benefits of
limiting the number of fishermen allowed to harvest a given
stock.
- 35 INDEX TO ARTICLES PUBLISHED IN THE SOUTH PACIFIC BULLETIN IN
1978, BY SUBJECT AND AUTHOR
- 38 PACIFIC READING: *SPC Publications Bureau*
Book reviews, SPC takes over Oral English course.

The original of all articles is English unless otherwise
indicated.

Registered at the Post Office, Suva for transmission by
post as a Newspaper



COVER

Our cover photo this issue shows a
Palauan unloading coral he has har-
vested. The coral will be burned to make
the lime powder that is sprinkled on
betel nut. The location is the fishing
village of Ngeremetengel in
Ngeremlengui Municipality, Palau,
Western Caroline Islands; it is the village
where Robert Johannes lived while
examining the Palauan marine tenure
system; see his article on page 31.
(Photo: Robert E Johannes)

Unless otherwise stated, articles may be reproduced
without prior reference provided acknowledgement is
made to author and source. SPC does not accept
responsibility for statements made in contributed
articles.

Direct all enquiries either to the Secretary-General,
South Pacific Commission, B.P. D5, Noumea Cedex,
New Caledonia; or the Editor, SPC Publications Bureau,
P.O. Box N324, Grosvenor Street, N.S.W. 2000,
Australia.

Editor of Commission Publications:
C. E. Birchmeier
Advertising Manager:
Frank O'Connell

THE SOUTH PACIFIC COMMISSION

The South Pacific Commission is a consultative and advisory body which was set up in 1947 by the six Governments then responsible for the administration of island territories in the South Pacific region. These were Australia, France, the Netherlands, New Zealand, the United Kingdom, and the United States of America. Participation by the Netherlands Government ceased at the end of 1962. The Independent State of Western Samoa was admitted as a participating Government in October 1964, the Republic of Nauru was admitted in July 1969, the Dominion of Fiji in May 1971, Papua New Guinea in September 1975.

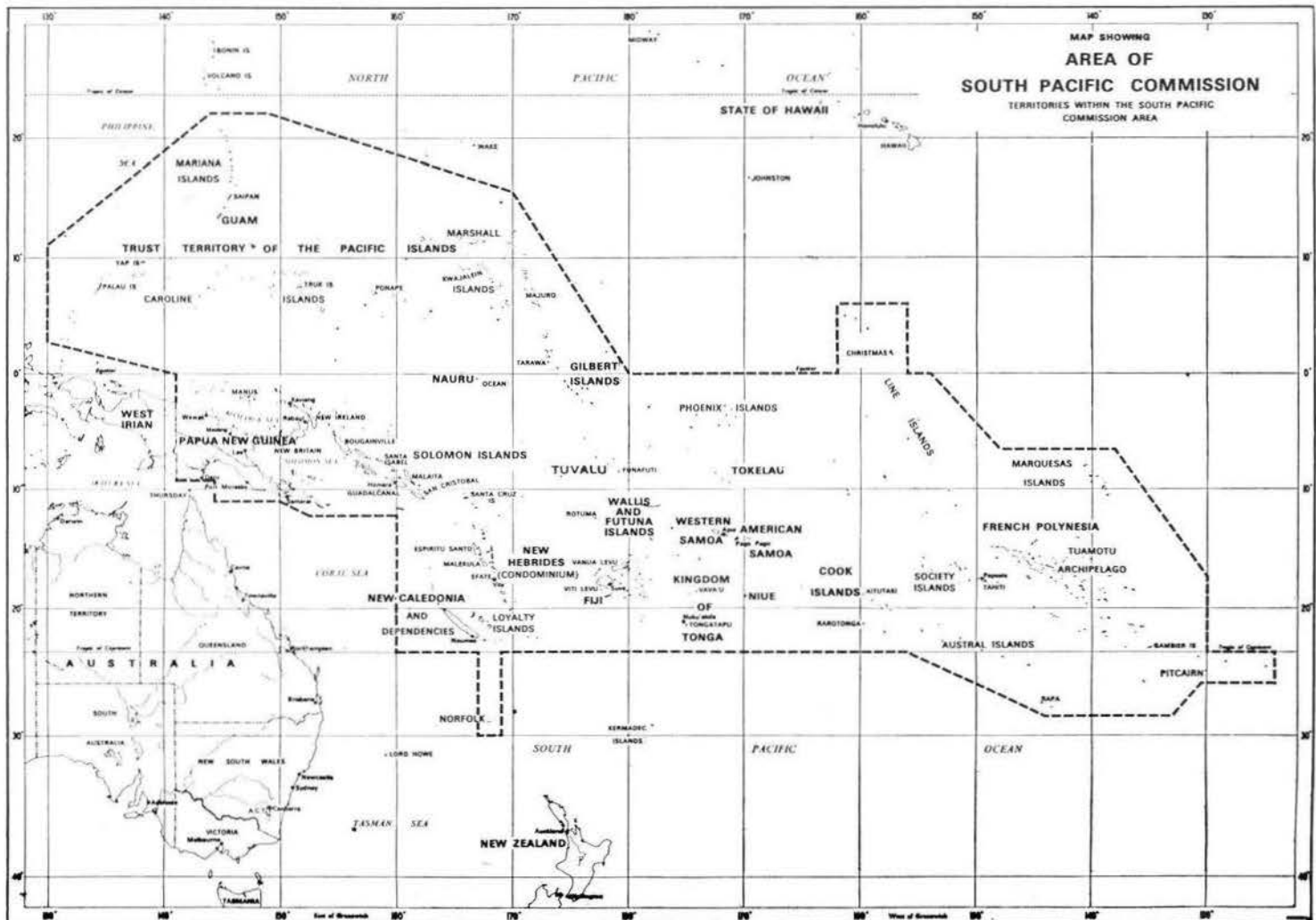
The Commission's purpose is to advise the participating Governments on ways of improving the well-being of the people of the Pacific island territories. The Commission's work programme provides for activities in the fields of food and materials, marine resources, rural management and technology, community services and information services and

data analysis. The Commission's headquarters are in Noumea, New Caledonia.

Until 1974, Commissioners from the participating Governments met in annual Session. The South Pacific Conference first met in 1950, and became an annual event in 1967. It was attended by delegates from countries and territories within the Commission's area of action, and met immediately before the Session.

In October 1974, in Rarotonga, Cook Islands, representatives of the participating Governments signed a Memorandum of Understanding which provides for the Commission and the Conference to meet annually in a joint session known as the South Pacific Conference.

The Principal Officers of the Commission are: the Secretary-General, Dr E Macu Salato; the Director of Programmes, Mr W.T Brown; and the Director of Administration, Mr D. W. J. Stewart.





Dr. E. Macu Salato, Secretary-General of the South Pacific Commission, thanks the High Commissioner for officially opening the 18th Conference and ORSTOM for making its auditorium available for the ceremony. From left: Conference

chairman, Toalipi Lauti, Prime Minister of Tuvalu; Jean-Gabriel Eriau, French High Commissioner and Head of the territory of New Caledonia and Dependencies; Dr. Salato; M. Legand, (ORSTOM).

EIGHTEENTH SOUTH PACIFIC CONFERENCE

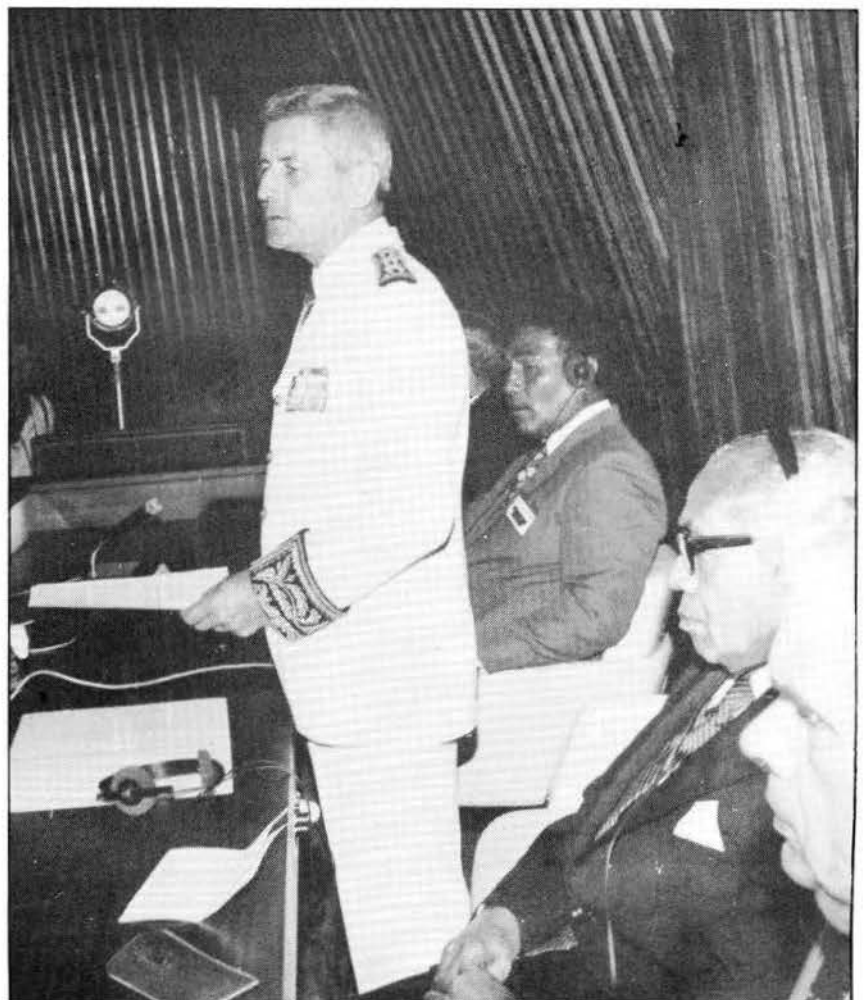
By CAROLINE NALO, SPC Publications Officer

"We have talked too often about the problems of the region; the time has come to find solutions", said one speaker at the Eighteenth South Pacific Conference, which met at SPC Headquarters in Noumea, New Caledonia, from 7 to 12 October. Among the problems for which the Conference sought solutions were the shortcomings of introduced educational systems, the need for more appropriate forms of development and development aid, and the region's isolation from the rest of the world.

Chairing the Conference was the Honourable Toalipi Lauti, Prime Minister of the Pacific's newest independent country, Tuvalu.

Each South Pacific Conference considers two special themes. The first theme chosen for discussion this year was "Education for what? Preparation of youth for real life — are community high schools the answer?".

The Conference recognised the need for educational systems that are relevant to each country's aspirations, geared to local situations and related to the type of society that each country aims to build. It noted that the region is going through a period of massive, rapid changes, not always for the better, and that if these



The New Caledonia High Commissioner, Jean-Gabriel Eriau, opens the 18th South Pacific Conference.

changes are to be properly managed, there must be a clear understanding of the mechanisms causing them.

The Conference felt that the Island countries' capacity to develop and implement educational programmes is limited, and that they should co-operate more closely in the educational field. It therefore directed the SPC Secretariat, in co-operation with heads of education in member countries and appropriate organisations, to develop a set of principles on which relevant education systems could be built. It also asked SPC to examine means of providing technical and financial help for Pacific Island countries to develop educational programmes geared to their own needs.

The discussions on the first special theme emphasised the need for education to be taken beyond the schools and extended into all sections of the community. However, the Conference also indicated concern for the more formal side of education when it approved the establishment of a South Pacific Board for Educational Assessment. The Board will provide assistance for South Pacific countries and territories to develop examinations and other assessment procedures leading to national school certificates.

The second special theme considered by the Conference was "The special problems of small island countries". The Conference noted that the very small developing countries — defined by one speaker as those with less than 100,000 population — have different development problems and strategies, requiring different solutions from those of larger developing countries. The Conference requested SPC to undertake discussions on this topic with aid donors and parties engaged in development research, and to formulate a research programme and proposals for specific programme development assistance that would focus exclusively on the development problems of small, isolated developing countries.

The Conference emphasised that developing island countries and territories are at a particular disadvantage because they are small, scattered, dependent on a limited range of saleable products, at a great distance from overseas markets, and prone to natural disasters. It called on donor countries and international organisations to accept developing island countries and territories as a special development group, alongside other geographically disadvantaged and least developed developing countries, and invited aid donors to provide special measures of assistance to developing



The Secretary-General welcomed delegates to the Conference; here, he greets Western Samoa's Terry Goggin as Conference chairman Toalipi Lauti looks on.

island countries and territories in their economic and social development programmes.

In many Pacific Islands, the bulk of the population still lives in the rural areas. Rural development is therefore an important element in the overall development of the region. The Conference noted that while each island has its own unique problems, there is a growing need for a fresh, practical approach to rural development. It directed SPC to call a meeting of Island planners to examine proposals which will ensure that rural development programmes contain an appropriate balance of religious, cultural, social and economic elements. It also requested SPC to continue consultations with other organisations concerned with rural development, such as the churches and the regional universities.

One particularly difficult problem facing the very small countries and territories of the region is that of obtaining capital for development, often required on a very small, even individual basis. A meeting organised by SPC earlier this year at the direction of the Seventeenth South Pacific Conference considered in detail the feasibility of establishing a special Regional Development Fund to assist these countries and territories, but recommended that the concept of such a Fund not be pursued further at this time. The Asian Development Bank (ADB) has recently been making efforts to adapt its procedures to

suit the Pacific Islands, and seven Island countries are now members of ADB. However, the smaller Island countries and territories are unable to meet the conditions required for ADB membership. The Conference requested SPC, representing those members of the Conference which are not ADB members, to explore ways in which they might be given access to ADB's Development Loans.

Poor communications are another factor impeding development in the South Pacific. The quality of commercial air services to and through the region has long been a problem — fares are high, flights infrequent and flight times determined by markets at either end of the route, outside the Pacific Islands. Many countries and territories in the Pacific have invested substantial sums in the development of tourism, and reliable air services are also essential to attract private investment capital needed to expand job opportunities for local people.

The Conference noted that the Ninth South Pacific Forum, held in Niue in September 1978, endorsed the establishment of a Regional Airlines Association. It cited the services to Fiji, American Samoa and Western Samoa from Hawaii, the United States and Australia as an example of the severe deficiencies in air services affecting the region. It noted that in spite of representations to the metropolitan governments concerned,

the prospective new United States carrier to the region has not yet commenced service, and indeed is applying for a further delay. This not only causes personal inconvenience to the people of the region, but has severe effects on the economies of the countries concerned.

The Conference requested governments operating or regulating commercial air services to and through the Pacific to resolve their differences and take early action to ensure that Pacific Island Countries and territories have adequate and reliable air services. The full text of the Conference resolution on this topic will be transmitted to the Governments, major air carriers and other bodies concerned with air services in the region.

Representatives of some countries and territories expressed concern that movement of people within the region was

being hampered not only by inadequate air services, but also by restrictive immigration requirements. The Conference agreed that appropriate arrangements should be made to lessen the current restriction of movement of people within the region. At the same time, it recognised the need for more effective control of illegal traffic in drugs, and also, because of reported recent abuse, of entry by foreign sailing boats.

Over the past three years, both the South Pacific Conference and the South Pacific Forum have expressed a wish to see work on the environment undertaken on a regional basis. The Eighteenth conference studied detailed proposals for the first phase of a South Pacific Regional Environment Programme, and approved the launching of the Programme as a joint venture by SPC and the South Pacific Bureau for Economic Co-operation, with the support of the United

Nations Environment Programme and the Economic and Social Commission for Asia and the Pacific.

The Conference discussed SPC's work programme and budget for 1979. The 1979 budget will total 323,151,500 francs CFP, equivalent at present exchange rates to approximately \$A3,474,747. The work programme adopted by the Conference lays heavy emphasis on rural and community development, marine resources, training and advisory services.

A highlight of the Conference was the decision by the Participating Governments to amend Article XXI of the Canberra Agreement by which SPC was established. The amendment will permit any Government within the territorial scope of SPC and either fully independent or in free association with a fully independent Government to accede to the Canberra Agreement and thus become a



The Conference gets down to business and the chairman talks to delegates, from left: W.T. Brown; Toalipi Lauti and Dr. Salato.



The opening ceremony ended with a magnificent display of traditional dancing presented by the Amicale de Taput from



Lifou, Loyalty Islands (left) and the Tiare Tahiti group from French Polynesia (right).



Terry Goggin (*Western Samoa*)



Basile Tui (*Wallis and Futuna*)



M.Y. Vivian (*Niue*)



F. Bole (*Fiji*)

Some of the delegates at the 18th South Pacific Conference



I. Ionatana (*Tuvalu*)



Clarence Takeuchi (*TTPI*)



Dr. S. Ma'afu Tupou (*Tonga*)



Jesus U. Torres (*Guam*)



Buraro Detudamo (*Nauru*)



John Tau (*Papua New Guinea*)



Maco Tevane (*French Polynesia*)



Dr. T.R.A. Davis (*Cook Islands*)



J.P. Condon (*USA*)



Naxoue Paouta (*New Caledonia*)



Daniel Ho'ota (*Solomon Islands*)



Falima Teao (*Tokelau*)



Pierre Revol (*France*)



Livai Nasilivata (*Fiji*)



Gerard Leymang (*New Hebrides*)

full member of SPC, if invited to do so by all Participating Governments. Until the introduction of the new amendment, only fully independent countries could become Participating Governments of SPC.

During the Conference, the representatives of Solomon Islands and Tuvalu announced that their Governments intended to accede to the Canberra Agreement and thereby become full members of SPC. Present Participating Governments are Australia, Fiji, France, Nauru, New Zealand, Papua New Guinea, the

United Kingdom, the United States and Western Samoa.

Since 1974, when a Memorandum of Understanding gave Island countries and territories an equal voice in the South Pacific Conference with Participating Governments, SPC has been undergoing a constant process of change and becoming increasingly responsive to the needs and desires of the Pacific Islands. The decision to amend the Canberra Agreement was one further step in this process, while the likelihood that the South Pacific Conference will take a still greater decision-making role in the future was foreshadowed when the Conference adopted a resolution that delegations to future Conferences be led by high-level representatives with the authority to make prompt decisions on behalf of their Governments and Administrations. As one representative at the Conference remarked, the Conference is the only body that can make decisions affecting the whole Pacific Islands region.

The present SPC Secretary-General, Dr E. Macu Salato of Fiji, will shortly be completing his term of office. The Conference appointed as his successor the Honourable M. Young Vivian, Niue's Minister of Economic Development, Agriculture and Education. Mr Vivian,

who led the Niue delegation and was also Vice-Chairman of the Conference, will take up his appointment on 1 July 1979. In making the appointment, the Conference recorded its deep appreciation to Dr Salato for his dedicated service to the region during his tenure of office.

At the invitation of the Government of French Polynesia, the Nineteenth South Pacific Conference will be held in French Polynesia in September or October 1979; the Conference invited the Government of the New Hebrides to provide the Vice-Chairman for that Conference.



Roniti Teiwaki (*Gilbert Islands*)



J. Snodgrass (*UK*)

PARTICIPANTS IN THE 18TH SOUTH PACIFIC CONFERENCE

CHAIRMAN

The Honourable Toalipi Lauti, Prime Minister of Tuvalu

VICE-CHAIRMAN

The Honourable M.Y. Vivian, Representative of Niue

DELEGATIONS

American Samoa

Leader	Lt Governor Tufele F. Liamatua
Representative	Mr Palauni Tuiasosopo
Adviser	Mr F. Rohlfing
Observer	Mr Fiaaoga Siatu'u

Australia

Leader	The Honourable A.E. Adermann
Representative	Mr Richard K. Gate
Alternate	Mr Michael R. Ovington
Adviser	Mr Zivojin Gavrilovich
Parliamentary	Mr Barry D. Simon
Observer	
Parliamentary	Senator Kerry W. Sibraa
Observer	

Cook Islands

Leader	The Honourable Dr T.R.A. Davis, Premier of the Cook Islands
Alternate	Mr Aaron Marsters

Fiji

Leader	The Honourable Livai Nasilivata
Representative	Mr J. Kotobalavu
Adviser	Mr J. Cavalevu
Adviser	Mr F Bole
Adviser	Mr A. Bamola

France

Leader	M. Pierre Revol
Alternate	M. J.F. Gospodarowicz
Adviser	Mr B. Malandain

French Polynesia

Representative	Mr Maco Tevane
Alternate	M. M. Dieffenbacher

Gilbert Islands

Leader	The Honourable Roniti Teiwaki
Representative	The Honourable Teatao Teannaki
Adviser	Mr G. Quince

Guam

Representative	Mr Jesus U. Torres
----------------	--------------------

Nauru

Leader	His Excellency President Hammer DeRoburt, President of the Republic of Nauru
Representative	The Honourable Buraro Detudamo
Alternate	The Honourable Kinza Clodumar

New Caledonia

Representative	M. N. Paouta
----------------	--------------

New Hebrides

Leader	The Honourable G.K. Kalsakau, Chief Minister of the New Hebrides
Representative	The Honourable Father G. Leymang
Adviser	Mr T. Taun
Adviser	Mr G. Toulet

New Zealand

Leader	The Honourable J. Bolger
Alternate	Mr Bruce Middleton
Adviser	Mr Raymond Wright
Adviser	Mr Derek Morris
Adviser	Ms Nicole Poananga
Adviser	Ms Barbara Midenhall

<i>Niue</i>		Observer	The Honourable Carlos C. Camacho
Leader	The Honourable M.Y. Vivian		
Alternate	Mr Stencil Kingi	<i>Tuvalu</i>	
Alternate	Mr R. Layton		
<i>Papua New Guinea</i>		Leader	The Honourable Toalipi Lauti, Prime Minister of Tuvalu
Leader	The Honourable Father John Momis	Alternate	Mr I. Ionatana
Representative	Mr J. Tau	<i>United Kingdom</i>	
Adviser	Dr P. Ellyard		
Adviser	Mr J. Liosi	Representative	Mr J.M.O. Snodgrass
Adviser	Mr D. Tsibim	Alternate	Lord Dunrossil
		Alternate	Mr A.F. Ward
<i>Solomon Islands</i>			
Leader	The Honourable Daniel Ho'ota	<i>United States of America</i>	
Alternate	The Honourable Andrew Kukuti		
Adviser	Mr D. Maeke	Representative	The Honourable J.P. Condon
Adviser	Mr Wilson Ifunaoa	Alternate	Mr George Chaplin
<i>Tokelau</i>		Adviser	Mr W. Bodde
		Adviser	Mr Robert Craig
Representative	Mr Falima Teao		
Alternate	Mr Sirila Enosa	<i>Wallis and Futuna</i>	
Alternate	Mr Apolo Ioakimi		
<i>Tonga</i>		Representative	M. Basile Tui
Leader	The Honourable Dr S. Ma'afu Tupou		
Alternate	Mr M. Tuita	<i>Western Samoa</i>	
<i>Trust Territory of the Pacific Islands</i>		Leader	The Honourable Letiu Tamatoa
		Alternate	Mr Terry J. Goggin
		Alternate	Mr F. Vitolio Lui
Representative	Mr Clarence E. Takeuchi	Parliamentary Observer	The Honourable Sala Ulugia Suivai
Observer	The Honourable Francisco Diaz	Parliamentary Observer	The Honourable Te'o Fetu



SPC's principal officers outside the Conference hall, from left: Dr. Salato; W.T. Brown, Director of Programmes; D.J. Stewart, Director of Administration.

Tapa cloth and T-shirts: business and work in Pacific villages

By Allan Bollard,
SPC Assistant Economist,

Twenty miles down the road is a small village. A youth group here wants to raise money to repaint the village hall. They have decided to make soap too, but on a very small scale. They use local coconut oil made with a small hand press, local flowers for perfumes and old cardboard boxes for molds. The only thing they have to buy is a little caustic soda (they can make this too, but have decided that it is not worth time).

They work together after school and work, a few nights a week. The group gets on well together. The soap they obtain is not smooth and uniform like the factory stuff, but they are experimenting all the time to improve it. They use some of it themselves or give it away to friends, and they sell some in the local store. Next they plan to weave small containers and sell

the soap in the tourist market in town. When they have made enough money to paint the hall, they will hold a group meeting to decide whether to keep on making soap.

This is a very different form of business from the big soap factory. But as planners are beginning to realise, it is a uniquely Pacific way; it can be efficient; and it fits within the concept of the new Pacific approach to rural development called for by island leaders.

In 1977, the South Pacific Commission began a Rural Employment Promotion Programme in response to these calls. The broad objective is to increase the attractiveness of rural living. It aims to do this by promoting the potential employment opportunities that already exist through the improved use of physical resources and human skills in villages.

The programme is surveying types of technology, both inside and outside the region, which may be adapted to suit local needs. It will advertise the progress of many successful (and unsuccessful) small businesses already being operated by villagers in the region. A catalogue of small-scale Pacific rural industries due to be published by the end of 1978 will present these experiences in easy-to-read form.

A study has already been undertaken of Pacific governments' policies on rural development and

employment. Most governments are publicly committed to helping the rural sector, and many have set up rural development programmes. Yet, in most cases, there are strong biases against the rural sector — often disguised or unintentional — in the form of taxes, incentives, and the overall pattern of government spending. What proportion of its funds, for example, does a Department of Public Works spend on work in towns compared with rural areas? The programme aims to bring these patterns to the attention of planners who are not always aware of their distorting effects.

Another study will investigate the potential of traditionally-based social groupings for modern rural employment creation. This is something too valuable to be ignored when, for example, a church committee can quickly mobilise a whole village to spend a day voluntarily clearing up roads for the benefit of the community.

The programme is not aimed at the agricultural sector. Subsistence and cash cropping are the mainstay of almost all Pacific economies, and the chief employers. It is vital that they should remain so. But agriculture is already served by established departments and funds.

The South Pacific Commission programme is concentrating on that other somewhat mysterious area of rural business: the processing of crops and livestock products, handicrafts production,



ALAN BOLLARD

M.A. (Hons) 1974, Ph. D. 1977,
Uni. of Auckland. Field work on
monetization in Tonga, 1973-74;
and projects in the Cooks and other
1974-75.



The old village way of making coconut oil for perfume and soap . . .



. . . And the new urban way. Which is better?

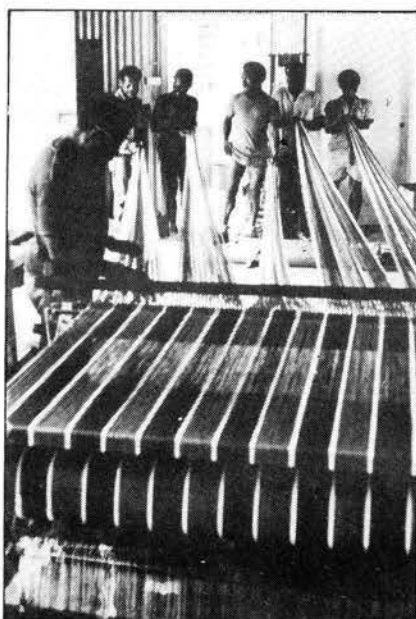
building and domestic industry, and village services. These are "businesses" that are often ignored because there is no real name for them, because they often close down, because they do not get measured in censuses, are not registered, and do not submit tax returns.

In some Pacific countries there are few such enterprises. In others a real "Gandhian" technological revolution is taking place. It is not always evident, because very often it is going on in people's houses, in their backyards, in community halls, or out in the bush. But, do not be deceived: many people around the Pacific are busy at work: a group of women making coconut oil perfume by hand, a school making cane furniture for sale, a man running a billiards saloon, a family selling ice-blocks, a village group making concrete blocks to build a church, a youth group running a . . . the list is endless.

So far, information has been recorded on several hundred groups or people in the South Pacific region, working in over a hundred different types of activities, often without any official help or recognition. And this is just a fraction of the many people who are really involved. Many of these enterprises are ill-conceived and unsuccessful. Yet they do represent attempts at a real Pacific adaptation of economic development, and for this reason

alone they are important.

Certain types of activities hold out most promise for the Pacific. They must be technically feasible, and that does not just mean that they can operate in a Western country. Many of the most successful new Pacific industries are



A local weaving business group in Papua New Guinea relies on hand looms and plenty of helpers.

an adaptation of very old ones, allowing people to recall and build on their extensive traditional skills. This is one reason why block and screen printing of fabrics to make, for example, T-shirts is such a successful Pacific small industry today: in many islands tapa cloth

used to be similarly printed with intricate designs.

The activities should fit in with existing local work patterns instead of imposing Western factory-type ones. Pacific Islanders may prefer to work individually, in family groups, or in larger community parties. Work should fit in around existing jobs. In Papua New Guinea a weaving centre allowed its weavers to work whatever hours they liked. They preferred to operate from about 4 a.m. to 11 a.m. daily, working very hard just before payday, then having a few days' holiday. This way people worked most efficiently.

Introduced activities should also use existing village social organisations as far as possible, adapted where necessary to fit the requirements of business. A business is most likely to operate efficiently when it is designed, owned and managed locally.

Another important aspect is the aim of the business. Westerners are used to working in an impersonal organisation with commercial profit-making objectives. The Pacific way is sometimes more sympathetic to working for a particular cause, such as village facilities or family status rather than simply money profit. Consequently, many near-bankrupt village shops may appear to be failures to a Westerner, but are not necessarily so to the shop-owner.

The Pacific has another key resource that planners do not usually use: the strength of kinship ties. Many new houses, churches, shops and small businesses are built from money sent back by relatives overseas or in town. This informal network of relatives and "wantoks" is often a better means of marketing goods, obtaining technical advice, getting raw materials and credit, than the current impersonal and sometimes inefficient marketing boards, banks, and government departments. Apart from some of the co-operative-type developments and kin-based business companies in Papua New Guinea, this resource has not been used.

Pacific Islands will always have to deal with a number of inherent disadvantages: in particular their isolation, poor transport, lack of storage facilities, small size, and weak marketing power. For these reasons, it is often sensible to concentrate on non-perishable products for home consumption or local markets.



A bakery in Fiji: one of the most common rural industries.

Of course, this type of development has its dangers. It should not be so over-rated that it attracts funds away from agriculture and other crucial areas. Appropriate technology should be used only when it really is appropriate to the Pacific and



A pottery-making group in Papua New Guinea using local clays and incising original traditional motifs.



A small fabric printing-sewing shop in the Cook Islands, where traditional local designs are screen or block printed.

not to Asia and Africa. The Pacific has been victim of too many development fads already. With these qualifications in mind,

indigenous small industry could, with government help, provide a significant boost to employment and incomes in the Pacific. □

South Pacific Tuna fishing — a changing scene

By W.A. WILKINSON, Fisheries Officer, Department of Agriculture,
Nuku'alofa, Tonga.

The long line fishery for deep swimming oceanic tunas and other pelagic species was introduced by the Japanese after the second World War, as was the technique of floating 'baskets' or sections of lines suspended between bamboo adequately buoyed, from which branch lines are attached with cotton covered traces and hooks. This operation is a particularly labour intensive one. It is arduous, requiring almost non-stop working round the clock for periods up to 3 months or more, depending on the fuel and refrigerated capacity and size of the tuna long liners.

The very labour intensity of the operation has caused its own problems, and Japan has had difficulties finding sufficient young crew prepared to tolerate these conditions. With improved labour and working conditions in Japan itself, the problems have been compounded. The less developed countries such as Korea, and, to a lesser extent, Taiwan, have, during the past few years been providing crews for the oceanic long-liners. Japan has progressively become more involved in marketing, and in financing infrastructure such as processing plants and bases and providing technical manpower for these bases.

Recent technical innovations in this fishery have greatly improved catch rates; in particular, the use of a deeper long line fishing to a depth of 300 metres has resulted in appreciably higher catch rates, particularly of Big-eye tuna, than the standard tuna long-line which fishes only to a depth of 170 metres. The deeper line is wider spaced between buoys and carries as many as 12 hooks on each section or 'basket'. It is, of course, much heavier and requires a specially built line hauler, capable of hauling the heavier line.

The new technique has been suc-

cessfully used in the Indian Ocean, mainly by Korean vessels; and now by vessels fishing the South West and Central Pacific Ocean and converting to this new gear. Complete automation of the long-line operation has also been introduced resulting in a much smaller crew requirement and a speedier fishing operation. The tuna long-line fishing vessels of Japan have been active in the Pacific Ocean south of the equator since the completion of the peace treaty with the United States in 1952. Large shore based facilities have been constructed in Pago Pago (American Samoa) in Pallicola (New Hebrides), in New Caledonia, and within the past 10 years, in Levuka (Fiji).

These bases have been of considerable economic and social consequence to the Pacific Islands. The effect of Asian crews on a Polynesian society was less socially destructive than initially feared. Though as many as 100 long-line vessels operate from the Pago Pago base, the time crew spend on shore for rest and recreation is usually limited. The, usually, Korean crews return to their own country on the completion of their contract to the processing companies; the shore based technicians live in well contained housing units within the processing complex. Recreational facilities, Canteens, Cinema, etc. are incorporated in the complex — somewhat typical of an army base. The canning plants run on a 24-hour basis.

The processing plants in Pago Pago are, not surprisingly dominated by two large American multi-nationals: Van Camp and Star Kist of California. Though an initial attempt was made to train Samoan crews this has not proved successful. Good fishermen and seamen as they traditionally are, they do not relish the long, tedious, working hours required on board a tuna long liner for two to three

months at a stretch.

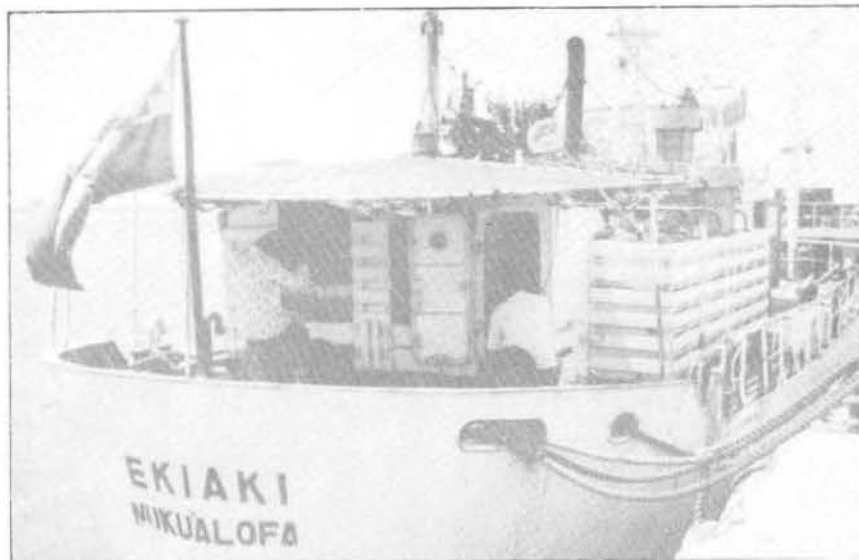
In Levuka, Fiji, the shore processing facilities are, again, Japanese owned and managed. The Fiji Government initially had a small 'token' equity investment in the plant. This is changing and Fiji has now established its own fishing corporation and is rightfully acquiring a larger share in the processing operations. Fiji has built its own pole and line fishing vessel, bought a second hand pole and line vessel from Japan, and is chartering similar vessels from a Japanese company. The results have been very encouraging and catch rates have ranged from 5-30 tonnes of skipjack a day, which are sold directly to the canning plant on Levuka. The value of the exported catch has risen to F\$9,341,000.

In the nearby Kingdom of Tonga, the Government owns and operates its own oceanic long-liners, entirely manned by Tongan nationals. This is the only Pacific territory which has shown initiative in developing the tuna fishery in its own right; both vessels have had a good year's fishing and a regular export trade in whole frozen Albacore has materially increased the Kingdom's foreign exchange earnings. A 200-ton tuna cold store is planned in Nuku'alofa to be funded from the European Development Fund. This will enable larger consignments of frozen tuna to be stored before export. It is a good beginning for this small Island nation.

The implications of the 200-mile extended economic zones of sovereign jurisdiction, which many Pacific countries and territories are establishing unilaterally, must clearly affect the oceanic longliners of Japan, Taiwan and Korea, currently operating in the South Pacific region. As elsewhere in the world, fisheries have taken on a fresh significance in the South Pacific; it is a changing scene. Hopefully, the proposed Fisheries Agency will assist towards the emergence of a more rational approach to management of the highly



Two vessels operating the long-line tuna fishery in the Pacific.



migratory tuna stocks. The U.S. contention — so clearly stated at the many Law-of-the-Sea meetings — is that highly migratory species such as the oceanic tunas must not be managed by sovereign states due to the tuna's ability to move from one zone to another; any management must be at an international level. Clearly, this may well be the reef on which the regional agency concept may indeed founder, as small Pacific territories, having recently achieved jurisdiction over valuable sea resources, may well be reluctant to relinquish this to any outside Agency — no matter how well-intentioned and motivated.

For the future, the world's

production of tuna is not expected to keep pace with the market demand as the major producing areas are already fully exploited. National jurisdiction to 200 miles will cause countries like Japan to be excluded from traditional fishing grounds. In the next few years, there will be major changes in who produces the fish; this combination of factors, plus the anticipated demand growth will cause the price of fish to escalate.

The Pacific Island territories and smaller maritime nations are well placed to take advantage of this and materially increase their fish production and subsequently to improve employment, revenue

and an improved standard to living for the people of this vast region. □

Meeting recommends regional co-operation in forestry

The need for more regional co-operation in forestry was stressed by a Regional Meeting on Forestry Management and Development jointly organised by the South Pacific Commission and the Government of New Zealand in Suva, Fiji, from 31st October to 6th November.

The meeting urged Pacific Island governments to establish forest policies that will take into account the important role forests can play in land conservation, preservation of genetic resources, recreation, production for domestic needs and, in some cases, export trade.

It recommended that Pacific Island countries collaborate in the exchange of forestry information, the exchange and sale of seeds and forestry research. It also recommended that common standards and specifications for logs and timbers be adopted throughout the region, and that the possibility of a regional approach to the marketing of forestry products be investigated.

The Meeting noted that the possible role of forests in meeting the energy needs of each country and territory should be studied. It recommended that regional statistics and economic data on forest resources, production, trade and labour productivity be compiled and circulated.

A number of recommendations were made for improvements in training of forestry workers.

Participants from American Samoa, Fiji, French Polynesia, Guam, New Caledonia, the New Hebrides, Solomon Islands, Tonga, the Trust Territory of the Pacific Islands and Western Samoa attended the Meeting.

Mr J. Sopena of New Caledonia's Forest conservation Service and forestry experts from New Zealand were consultants to the Meeting, which was directed on behalf of SPC by Mr M. Lambert, Tropical Agriculturalist. □

An eleven-week training course in basic audio-visual production techniques was held from 6 June to 15 August 1978 at the South Pacific Commission's new Audio-visual Training Workshop in Suva, Fiji. Originally six participants were to have attended; at the last minute two applicants were unable to attend, and the course was therefore limited to four trainees. This small number, however, contributed to interaction between participants, and the course proved very satisfactory.

A wide range of communication techniques was covered, and after a general introduction to audio-visual methods, graphic tools and drawing and enlarging, the course was structured on an individual basis, catering for each trainee's wants and needs.

For the instructor on this type of course, it is a delight to watch a person who has never drawn anything in his life produce, by various ways, drawings that he never thought possible. Sometimes, too, a student who has never drawn anything before finds a hidden, unknown, natural ability. It is not often that this happens, but this particular course uncovered one trainee with a real natural talent for graphic art.

The course started with an introduction to the process of communication, with examples of how audio and visual aids can be used to support other teaching methods and to make the learning process easier for the student. Visual perception and illusion were explained, and examples of the simpler pitfalls shown. Emphasis was laid on the need for careful audience study and pre-testing before a production programme starts.

In the graphic field, students were shown how to draw by various means; how to enlarge drawings which, when combined with different techniques of lettering, could be laid out to produce posters, wall charts or teaching charts; and how to print their designs by silk-screen printing methods.

The simpler teaching aids such as flannelgraphs, magnet boards and hook and loop were demonstrated, and followed by lessons on how to get the best possible results from duplicators. Although spirit duplicators were used, the emphasis was on ink duplicators and on ways of producing simple booklets and pamphlets with hand- and machine-made stencils.

The course participants were shown how to use cameras with black and white film, and how to develop, print and enlarge their photographs. Colour slide photography was used to illustrate slide/tape synchronised instructional programmes, for which the trainees chose the subject matter and wrote the scripts.

SPC TEACHES AUDIO-VISUAL TECHNIQUES



Abdul Lateef, SPC Audio-Visual Assistant (left) teaching Ioata Taulialia screen-printing.



SPC's new audio-visual workshop in Suva, Fiji, where the training course described in this article was held.

Slides/filmstrip, 16mm, opaque and overhead projectors were used and students were shown how to make transparencies for the overhead projector. Tape recorders and their uses were demonstrated by the South Pacific Commission's Educational Broadcasts Officer, then used by the course participants to mix music and sound effects to produce tapes for the slide/tape pro-

grammes.

Participants were Mrs. Rukmani Naidu, Ministry of Education, Fiji; Mr. Jean-Denis Lorfèvre, Service de l'Éducation, Tahiti; Mr. Ioata Taulialia, Broadcasting and Information Division, Tuvalu; and Mrs. Maraia Lesuma, Department of Educational Media, University of the South Pacific, Fiji. □



Melanesian shell money's new economic role

By DR. JOHN CONNELL, Department of Geography, University of Sydney.

Throughout the Melanesian islands of the western Pacific, there are records of the historical use of shell money but, in contrast with the many areas where shell money was used, there were always relatively few centres of production. Consequently, shell money was one of the most important items in many of the historic Melanesian trading partnerships, like the famous 'kula' ring of the Trobriand islands that Malinowski described.

Within the island of Bougainville before European contact, there was local trade in shell valuables, manufactured in the Shortland islands, and possibly

also on Bougainville, between different language groups, and also regional trade which incorporated shell armbands from Choiseul and possibly shell valuables from Malaita.

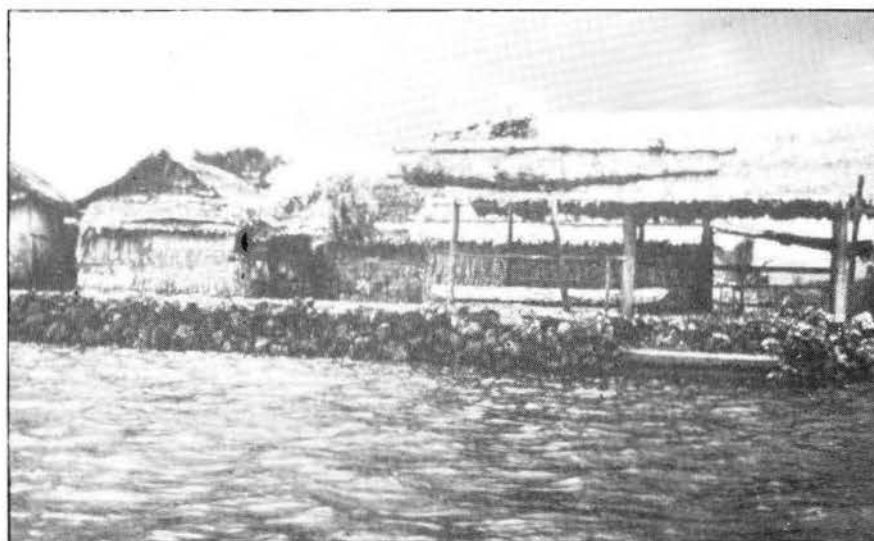
This is a much shortened version of an article that appeared in *Oceania*, vol. XLV111, no. 2, under the title, "The Bougainville connection: changes in the economic context of shell money production in Malaita."

Bougainvilleans exchanged agricultural produce such as pigs and almonds, clay pots and spears for these valuables. Before European contact there was considerable trade between the south coast, the Shortland Islands and Choiseul. South Bougainville may have had no trading links with northern Bougainville and Buka. Trade between Buka, New Ireland and New Britain was regular.

Along these tenuous and intermittent trade links shell money circulated. It was traded from Malaita to the islands of Santa Isabel, Makira (San Cristobal), Ngela (Florida), Guadalcanal,

Russell Islands, Choiseul, the Shortland Islands and beyond to Bougainville, New Ireland and, exceptionally, west New Britain. Most of this trade was indirect and must have been minimal in its western extensions where there was competition from historic centres of production including the Shortland Islands, the Lihir Islands, Manus and east New Britain. Although each centre manufactured slightly different kinds of money they were often interchangeable and the unit of measurement, the more-or-less six-foot fathom, from fingertip to fingertip, was identical throughout.

This kind of trade continued into the twentieth century in Bougainville, although in some areas that had experienced greater European contact it ended earlier. Trade links became even more tenuous but throughout the twentieth century south Bougainville, and especially the Siwai area, remained a market for Malaitan shell money.



In various ways, considerable quantities of Malaitan shell money reached Bougainville where it has a variety of uses, very similar to those at its point of origin. In the twentieth century a very small proportion was obtained directly from Malaitans working on coastal steamers, but such direct trade was rare. Before the Second World War, the quantity of shell money in use was actually declining since the

Australian administration in what was then the Territory of New Guinea had banned trade with the British Solomon Islands.

The war proved to be a turning point in the use of shell money in the Solomon Islands. The combination of post-war disruption and religious disapproval of brideprice and decoration resulted in a general decline in demand. By the 1960's, production was no longer particularly important yet now, ten years later, production is at its highest recorded level and most competing traditional economic activities have been abandoned. A major export market has been rediscovered.

Before European contact, the shell money that was used in Siwai and in other parts of Melanesia (especially New Britain) seems to have been used in much the same way as contemporary money. It was portable and durable; it was not associated with a limited range of

Laulasi Island, a partly artificial, island. Both Laulasi and Alite Islands are traditional centres of shell money manufacture.

commodities, and almost all goods and services had a money value. The quantity in circulation was controlled by local leaders; this legality enabled savings, in storehouses which performed functions similar to banks, and loans with variable interest rates.

Although the wealth generated by shell money accumulation was usually distributed at or before the death of the owner, there seems no good reason not to consider the shell money of New Britain and Bougainville, as it was apparently used at the time of European contact, as true money.

In many other parts of Melanesia where shells were used they were not a true currency and their use declined rapidly following European contact. Europeans and others introduced shells in large quantities, causing rapid inflation in prices and a substantial shift of use from shells to cash. Consequently, in several areas, cash now plays a major part in such important transactions as bridewealth, where the shell component may be no more than an attempt to retain tradition visually, or, at best, be one means of legitimising the deal. In Goroka in the New Guinea highlands, pearl shells have gone, as Ben Finney describes it, 'from valuables to chicken feed'.

The most important difference between the shells of New Britain and Bougainville and those used in the Highlands, is that the latter were not a manufactured product; neither pearl shells nor cowrie shells were altered substantially after they had been found. European contact removed the isolation that had prevented inflation in the Highland economies. It was impossible for most of the coastal shell money economies to suffer in the same way since shells were more difficult to obtain and production was difficult and time-consuming, hence they are still widely used in New Britain and Bougainville.

European money still had overwhelming advantages over shell money; it became more easily available (from wage labour and crop sales) and was necessary for purchases of modern goods. Moreover, since it was essential for tax payments, every household had to have some cash every year. Cash expanded first into areas where the use of some kind of money was most regular,

such as in food purchase, and eventually replaced shell money in many kinds of transactions.

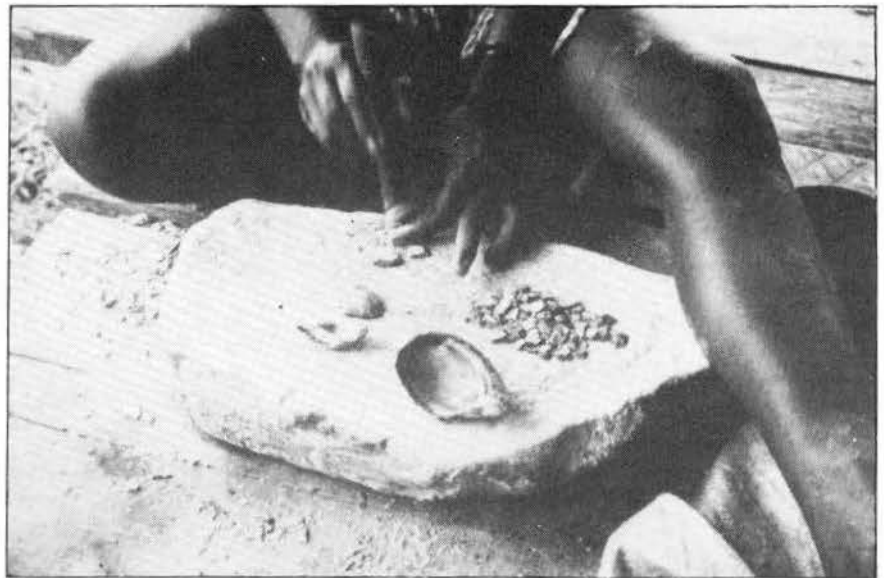
The current uses of shell money are restricted to the significant exchanges that maintain social systems. In Siwai, as elsewhere, strings of shell money are now used almost entirely in transactions of considerable social importance, especially wife transfers, and are no longer performing the range of functions that enabled them historically to be considered as money.



A woman uses modern drilling methods with a brace and bit; drilled pieces are in the foreground.

In Siwai the period of post-war reconstruction was longer than in Manila but by the mid-1950's demand began to increase and some trade resumed, again almost entirely indirect, but made more difficult since the Shortland Islands, the historical trading partners, had abandoned their own use of shell money. Less than a decade later the first stands of cocoa planted in south Bougainville had begun to bear fruit, ushering in a period of considerable affluence.

Siwai is at the centre of the Buin plain of south Bougainville; before the war it was a rich agricultural area, producing mainly taro. After the war, sweet



The manufacture begins with the breaking of the shell roughly into pieces; in the foreground is a typical shell.



'Traditional' drilling using the futa; this is now done only for tourists.

potato became the staple, following the death of taro, and cash crops, especially cocoa, were successfully introduced. In Siwai, as elsewhere, population increased, and is now about 9,000, but an even more substantial change was that the injection of very high cash incomes from cocoa (and, later, from employment in the copper mine) into a society that was already experiencing subsistence-affluence,

enabled the expenditure of large sums of money on feasts, which became larger than ever and were carried out on a greater variety of occasions.

None of the traditional uses of shell money have changed; current uses cover 'the important things in life' — primarily wives and pigs, but also court fines and compensation, payment for services (curers and sorcerers) and



The revived manufacture of shell money has caused a change in family roles: formerly, women worked in the gardens, now they are more profitably employed making shell money. Here, a man is digging in the sweet potato garden; mounding increases productivity.

purchases of ground. All marriages between Siwais and almost all purchases of mature pigs are accompanied by shell money transfer. Outright ground purchase is rare but increasing and shell money is an essential component. In the last decade demand for shell money has grown rapidly and is still growing, so that, for the first time, there has been direct trade with Malaita, beginning in the mid-1960's.

The Langalanga are salt water people who formerly lived mainly on artificial or semi-artificial islands in the 25 km-long Langalanga lagoon on the west coast of Malaita. No more than a tenth of the present Langalanga population of about 2,500 remain on the islands; population increase, missionary activity, finally cyclone Ida in 1972, encouraged landward migration but their economy remains oriented to the sea and they firmly differentiate themselves from the 'bush people' of the mainland. Their basic, three-sector economy of fishing, gardening, and shell money manufacture has had a long history, but Bougainvillean demand for shell money has altered the balance between these activities.

Starting in the 1960's the shell money prices that could be obtained in Bougainville compared so favourably with those in much poorer Malaita that Langalanga production grew, as far as possible, to meet the Bougainville



The length of the shell money required for a Siwai wife transfer is evaluated; lengths are marked on a pole (sometimes on a house post) so that, in case of dispute — such as divorce — the exact length would be known and could, if necessary, be repaid.

A young Siwai wife, decorated with the shell money that was part of her bride price, prepares to leave her own home to go to her new husband's.

demand and its particular requirements: strings of small red shells and small white shells, which in Bougainville are remixed in a variety of combinations of different values. Areas of local demand like north Malaita, which preferred a different kind, found their supplies almost cut off while southern Malaitans, who used the same kind as Bougainville, found that supplies existed but prices had become much higher. In both areas this further reduced use.

In only a decade, despite a continuing demand in Malaita and amidst much argument and resentment from regular Malaitan buyers, production has changed from an almost total dependence on a Malaitan market to an almost total dependence on a Bougainvillian market. More than three-quarters of current production of shell money goes to Bougainville. Two-thirds of this goes to Siwai and almost all the remainder goes to neighbouring Nagovisi. Moreover, production now includes much 'jewellery' which is sold to tourists in Malaita or through stores and hotels in Honiara.

Most of the shells continued to come from the Langalanga lagoon, but because of increased demand both white and red shells are in short supply and these are usually brought from outside. White shells come from Lau and south Malaita; red shells are brought from various places as far away as Gizo and Choiseul in the Western Solomons where Malaitans go to dive.

Most stages of manufacture were traditionally performed by women and girls: breaking the shells into small pieces, shaping

A shell money transfer on Laulasi island: the shell money and cash needed for bride price are set out. On the right is a Siwai basket brought back by one of the shell money traders.



them roughly into circles about twice the size of the final disc, smoothing the rough shell surface, drilling holes in the centre and stringing the resultant discs. In each of these stages they are now assisted by small children from the age of about five upwards.

Traditionally, breaking and shaping were done with stones; now hammer-heads and solid metal cylinders make the process a little faster and a little more accurate. But the most substantial transformation has been in drilling; traditional drills (*futa*) were operated by twisting and untwisting a string which powered the flint-tipped drill. These were very slow and inefficient since the only means of sharpening the flint was with a cockle shell, while the holes were quite crude and scarcely adequate for the smaller Bougainvillean money. Now this has been entirely replaced by brace and bit drills and the *futa* only revives when tourists arrive.

The final stage, which is entirely the work of men, is to smooth the edges of the shells and reduce them to a uniform size; formerly done by rubbing with a grooved stone and an abrasive of sand and water, this too is now universally carried out using imported Chinese grinding blocks. A further possible technological improvement is the introduction of powered diamond drills which would be faster and might also decrease the high fracture rate. At present, a fortunate household can produce four or five strings in a month, but a more likely average remains one or two a month plus some production of jewellery. Modern technology has approximately halved the traditional production time.

Higher prices and decreased production time have encouraged greater participation in shell money manufacturing in the central lagoon area; every household manufactures money. In several cases the last stages of production, smoothing and polishing, are completed by Malaitans now resident in Honiara who have become incorporated into the production chain as a result of the

NUTRITION SUPPLEMENT

YOUR BABY'S HEALTH FROM BIRTH TO ONE YEAR



Budha Zaher
Health Education Officer



South Pacific Commission
January 1978

A HEALTHY MOTHER GETS A HEALTHY BABY

BREAST-FEEDING IS BEST

BOTTLE-FEEDING

FOOD 1 - 2 MONTHS

FOOD 3 - 5 MONTHS

FOOD 6 - 9 MONTHS

FOOD 10 - 12 MONTHS

FOOD AFTER 1 YEAR

FOOD PREPARATION

CARE OF THE BABY: CHECK-UP/IMMUNIZATION

HEALTH PROBLEMS OF THE CHILD

PROTECT YOUR BABY FROM ACCIDENTS

THINGS TO REMEMBER

A special supplement in this issue will be of considerable interest to all concerned with the nutrition of Pacific Island mothers and babies. Your Baby's Health from Birth to One Year is a flipbook destined for community workers - nurses, social workers, women's interests officers, home economists, agricultural extension officers, teachers, etc. - and literate mothers; in other words, for anyone who is in contact with the community and can help improve the nutritional state of mothers and children. It is written in simple language with illustrations designed for the Pacific Islands. Copies (in English and French) may be obtained on request from:

SPC Publications Bureau, P.O. Box N324, Grosvenor Street,
NSW 2000, Australia.

"boom". In Malaita, concentration on shell money manufacture has also resulted in some households abandoning almost all gardening; in others it is entirely men's work. Men, who are less essential for shell money production, work in diverse tasks but women are increasingly concentrating on shell money from which the returns are higher than any alternative economic activity.

Between ten and 15 Langalanga regularly, two or three times a year, travel to Bougainville to sell shell money, while more than twice that number have been there at some time. Most represent extended kin groups, collecting from them at least 100 strings for each trip.

Most traders either fly from Honiara to Kieta or go by ship to the Shortlands and from these by canoe to the Buin coast; since the Papua New Guinean customs service is at its least efficient in Buin, where exports and imports are now almost non-existent, many prefer this route, declaring themselves as 'tourists' and invariably avoiding the A\$2 duty per string.

Some traders go to Panguna copper mine, where they can sell to affluent young men, but most go directly to Siwai or Nagovisi, staying with individual Bougainvilleans at a cost of one string for two to three weeks' board and lodging. They need no advertisement to sell their products; the host Bougainvilleans who are often, but not always, local leaders always ensure that their own relatives are first served and in many cases Bougainvilleans do all the selling themselves, leaving the Malaitans merely to fulfil their 'tourist' declaration. One hundred strings are usually sold in as little as a week, even with individual Siwais acting as brokers to their own relatives. The whole trade is for cash although a few Malaitans have exchanged shell money for Siwai's main handicraft, baskets, and one was considering an offer of a piece of ground for planting



Men from the Guava area in central Bougainville evaluating shell money. (Photo Bougainville Copper Ltd.)

The level of trade has been so high that there have been constant disputes between Siwais and Malaitans. In 1964 and 1965, which more or less mark the start of Malaitans revisiting Bougainville, prices were around five pounds (\$10) or 6 pounds (\$12) per string. In 1975, after years of dispute, the price that Siwais would pay for shell money was tentatively fixed at \$25 for a string of red shells and \$20 for a white string. In Siwai, at least, these have subsequently tended to be maximum prices; red strings could sometimes be obtained for \$20 and white strings for \$16, but in Nagovisi the upper limits seem to have been fixed prices.

Consequently, many Malaitans who entrusted their shell money to traders are now uncertain that they are receiving the real sale price. In 1975, the Langalanga Area Committee was concerned about 'underhand dealings by those who travel to Buin'. Price stabilisation has not yet been achieved. Generally, tradition and the economics of supply and demand had once again proved too strong for legislation.

Despite these disputes over prices, Malaitans are unlikely to

abandon the Bougainville market readily. Most can easily complete the round trip from Malaita for less than \$200; many for half that. One Malaitan in June 1975 carried back \$9,000 and each trader makes around \$2,000 profit from every trip for eventual distribution in Langalanga. South Bougainville exports annually about \$60,000 to Malaita including at least \$40,000 from the Siwai area.

The only limits to shell money production for Bougainville are the willingness and ability of Bougainvilleans to continue buying 3,000 strings each year and absorbing them into the economy. The cost is easily met, because of almost universally high incomes from cocoa and likely to remain so; within limits, the price is entirely acceptable to both Malaitans and Bougainvilleans. Prices of wives, land, pigs and services continue to rise but usually at no more than the general rate of inflation. Overall demand for shell money is likely to continue to increase until attitudes to ceremonials change and it is unlikely that this will occur in less than a decade.

For the Malaitans of Langalanga there are no economic alternatives really worth considering seriously and no reason yet to worry about the export market declining. Shells are becoming more difficult to obtain, but at the present profit rate it seems improbable that Malaitans will not continue to purchase them from different locations. The Bougainville unique trading relationship, one that has grown from a minor indirect relationship to a major trade and has spread the affluence of south Bougainville some 550 kms away to a small part of Malaita, seems unlikely to be merely a transitory phenomenon in the economy of the western Pacific. □

Photographs from the author, Dr. John Connell.

Joint sub-regional training course on census methods

In the South Pacific region as in other regions of the world, knowledge of the size, distribution and composition of the population is of great importance to governments for administrative reasons, as well as for planning purposes. The main sources of this knowledge are the population censuses which in most countries in the area are being conducted at five-to-ten year intervals.

Some 25 censuses have been held so far in the 1970s and more than ten others will be taken in the 1979-81 period. In the past, expert assistance was usually provided by metropolitan countries and international agencies, but it is felt that this dependency on outside assistance should be reduced step-by-step by training of Pacific Islanders. For that reason a course on Census Methods was offered at the Institute of Social and Administrative Studies of the University of the South Pacific, Suva, Fiji, from 8 August till 2 September, as a result of a joint effort of a number of interested organisations.

The sponsors were the East-West Center, the South Pacific Commission and the University of the South Pacific. Funding was obtained from the United Nations Fund for Population Activities, which approved its financial support of the course in the framework of the UNFPA/SPC project for Technical Assistance and Training in Demography and Population Statistics.

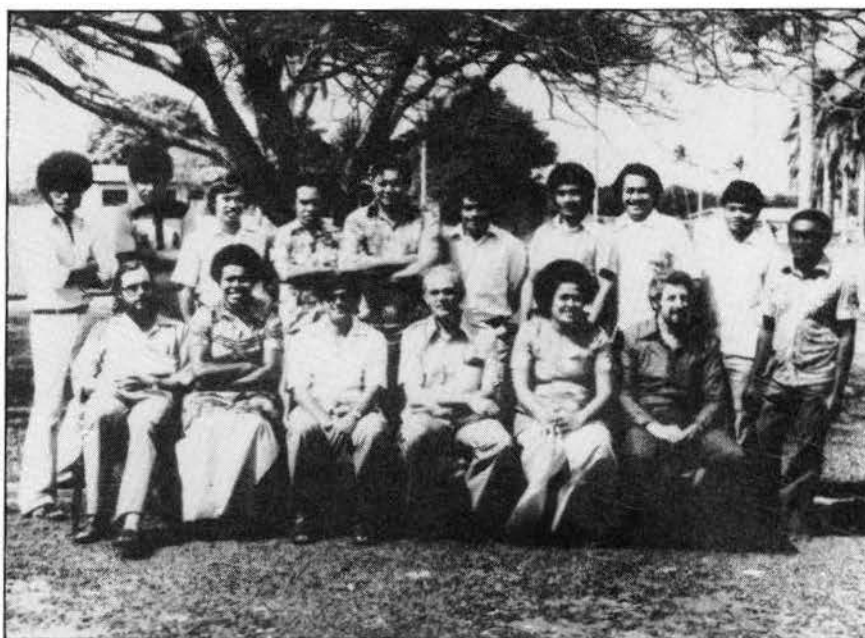
The course was attended by eleven participants from nine countries: Mr. Misimooa Pone (American Samoa), Mr. A.M. Turua (Cook Islands), Mrs. V. Naroba (Fiji), Mr. B. Tebau (Gilbert Islands), Mr. D.P. Taufitu (Niue), Mr. M. Raka (Papua New Guinea), Mr. N. Charope (Papua New Guinea), Mr. N. Suvulo (Papua New Guinea), Mr. M.P. Lapo (Solomon Islands), Mr. S. Iosia (Tuvalu)

and Mr Y.C. Ayuyu (Northern Mariana Islands). The participants were or will be involved in the planning and execution of the next census in their countries and were therefore highly motivated in the course proceedings, which included all elements of the census process.

Attention was paid to methods of census design and preparation (including legislation, budgeting, questionnaire design, census mapping, publicity, recruiting and

Government officials and staff members of international agencies based in Suva supported the course by giving short lectures on specific points (for example, explaining the use their organisations made of census data).

The course was practically oriented, the participants were asked to work on various small country projects and a number of field visits were made in connection, for example, with census mapping and data processing.



Participants at the Census Methods Course held recently in Suva, from left: sitting — Drs. E.R. Hoefnagel (USP NUFFIC), Mrs. V.L. Naroba (Fiji), Dr. A. Ali (Director, ISAS), Drs. Ko Groenewegen (SPC), Mrs. M. Kubuabola (course secretary), Dr. Peter Pirie (EWPI); standing — Nick Suvulo (PNG), Nelson Charope (PNG), J.C. Ayuyu (Commonwealth of the Northern Mariana Is.), Morea Raka (PNG), A.M. Turua (Cook Islands), D.P. Taufitu (Niue), S. Iosia (Tuvalu), Misimooa Pone Jr. (Am. Sam.), Barry Tebau (Gilbert Is.) and M.P. Lapo (Solomon Islands).

training), enumeration (including pilot surveys and post-enumeration surveys), quality control, data processing, publications and analysis. The course was mainly taught by Drs K. Groenewegen (SPC), Dr. P. Pirie (EWC), Drs E. Hoefnagel (USP), and Mr. C. Walsh (Consultant), while a number of Fijian

The participants were provided with a number of documents for further study at home.

A census in any country is a major undertaking which requires strong national support at all levels. The Course on Census Methods has helped to strengthen the role of Pacific Islanders in census planning and execution. □



During July and August the Secretary-General, Dr E. Macu Salato, made the first visit by a South Pacific Commission Secretary-General to the atolls of Tokelau. He was accompanied by the Commission's Director of Administration, Mr D.W.J. Stewart. The visit was made in response to an invitation extended by the people of Tokelau, and enabled the Secretary-General to assess ways in which SPC can assist the territory as it moves towards developing self-government.

Tokelau is a New Zealand dependency, situated about 500 km north of Western Samoa. It comprises three atolls, Atafu, Fakaofu and Nukunonu. The total land area is a little more than 1,000 hectares and the population is a little less than 1,600. The only regular means of physical communication with the outside world is a vessel chartered five times a year from Apia in Western Samoa. There is no air

Arrival by whaleboat over the reef at Fakaofu.

SPC SECRETARY-GENERAL VISITS TOKELAU



service. The atolls have been under New Zealand's administration since 1926 (before, they had formed part of the Gilbert and Ellice Islands Colony) and are still administered from Apia, where the Office for Tokelau Affairs is situated.

Before embarking on the Nauru Pacific Line vessel, *Cenpac Rounder*, for the ten-day round trip from Apia, Dr Salato visited the Office for Tokelau Affairs to meet Apia-based staff. Apart from administrative and accounting functions, the Apia office operates a storage depot, workshops and a handicrafts centre. Dr Salato was also guest of honour at a luncheon hosted by Tokelau's Official Secretary, Mr Simon Carlaw, which was attended by Western Samoa's Minister for Economic Development, the Honourable Asi Eikeni, the New Zealand High Commissioner to Western Samoa, Mr

The Secretary-General speaking at the opening of the Administration Centre at Nukunonu.

Don Harper, and Tokelau and Western Samoan officials.

Travelling aboard *Cenpac Rounder* with Dr Salato was His Eminence Cardinal Pio Taofinu'u, who was returning to visit his former parish at Nukunonu, where he was resident priest some 20 years ago. His Eminence was



DON STEWART

From 1971 to 1975, Mr. Stewart was District Officer of Tokelau, based in Apia. (This title has since been changed to Official Secretary.) He first visited Tokelau in 1970 and has made numerous trips there since.

By DON STEWART,
SPC Director of Administration



The new Administration Centre at Fakaofu.

accompanied by Mr Pio Tuia, former Head Teacher of the Nukunonu School, who had been undertaking theological studies at Moamoa, Western Samoa, for the past five years and who, in 1972, had travelled with His Eminence to Europe and the United States. The formal installation of Pio Tuia as Catechist during mass celebrated by the Cardinal in the Nukunonu Church was an occasion for great rejoicing on the island. Pio Tuia is shortly to proceed to Manila for further study, on the completion of which he will

return to Tokelau to assume responsibility for the church's activities there.

Considerable public works activities have been undertaken in Tokelau during the past ten years, culminating in new Administration Centres on Fakaofu and Nukunonu. These buildings, which were designed and constructed by the Public Works Division of the Tokelau Public Service, house the offices of the Faipule and the Administration Officer, the

radio/post offices and the village co-operative stores. During his visit, Dr Salato was invited formally to open the Centre at Fakaofu, while Cardinal Pio officiated at the opening of the Nukunonu Centre.

The Tokelau hospitals were of particular interest to Dr Salato. Constructed during the past five years by local labour, each of the three hospitals — one on each atoll — comprises two *fale*-style wards, an operating theatre, outpatient facilities, a dental surgery, a doctor's office, a laundry and ablution blocks. Each hospital is under the control of a local medical officer, assisted by Tokelauan nurses trained in New Zealand and Western Samoa. At Nukunonu, Dr Salato met an old colleague, Dr Simeona Peni, formerly of Tuvalu, with whom he had attended medical school in the 1930's.

Other public works activities in recent years include the construction of schools, post offices, houses built for education officers (now used as guest houses) and water catchment facilities, the latter being assisted by SPC. Unlike public works departments elsewhere, Tokelau's division has no road-building or maintenance responsibilities, since there are no motor vehicles in Tokelau (save a handful of motorcycles) and therefore no roads. Footpower and boat — the traditional *vaka* (canoe) and outboard-powered craft — are the means of transportation.

In the past, SPC has assisted the people of Tokelau in a number of ways in the fields of public health engineering and water supply, epidemiological information, agriculture, rhinoceros beetle control and technical training. During his visit, Dr Salato was able to assess at first hand other ways in which assistance might be given to this remote and isolated territory. These include technical training in Fiji for Tokelauan outboard-motor and diesel-generator mechanics, travel grants for Tokelau students at the University of the South Pacific, and further assistance with agricultural and water-supply projects.

As Tokelau moves in the direction of self-government, new and perhaps untried areas of assistance will present themselves. Of particular significance in this regard is a proposed SPC-financed political study tour of Tuvalu by six

(Continued on page 43)



A coconut stick insect: these insects cause severe damage to coconuts in Tokelau, especially on Atafu.

The Community College of Micronesia

By DIRK A. BALLENDORF, President, Community College of Micronesia, Ponape.

The Community College of Micronesia, one of the newest in the Pacific area, came into being on 1 June, 1970 when the then High Commissioner of the Trust Territory, Edward E. Johnston so designated it. Until then, it had been known as the Micronesian Teacher Education Centre (MTEC), but its history goes back to the very beginnings of the American administration in Micronesia.

At Guam, in 1947, the U.S. Navy initiated a teacher training programme for islanders, first known as the Mariana Area Teacher Training School (MATTS). This school did some pioneering work in post war teacher preparation. The following year, under civil administration, the school was renamed the Pacific Islands Teacher Training School (PITTS) and it was moved to Truk in order to provide the students with living conditions more comparable to those on their home islands and the anticipation of a more economical administration of the school.

Some 25 students from across the Trust Territory were selected for that first year's class. English and teacher preparation courses were emphasized. Towards the end of 1948, it was decided by the education officials to expand the programme at PITTS to two years. Gradually the curriculum diversified. In 1949, 29 students were brought to study communications. In 1950 courses were added in business, government administration, and agriculture.

In 1952, it was decided to make PITTS into a general education school for all qualified students in the Trust Territory, and that its name be changed to the Pacific Islands Central School (PICS). In doing this the school gradually dropped its emphasis on teacher training and a direction toward post-secondary establishment,

and in its place projected and developed a broader training base for other needed professionals. By the time PICS moved to Ponape in 1959 — its present site — the emphasis on teacher education had diminished to only one course in the curriculum. The programme had become that of a full, three-year senior high school, and the enrollment was about 150 students.

The need, however, for teacher education had not been adequately met. Each district in the Trust Territory assumed its



The college crest, designed and made at the college by the students who chose the shark and the six stars as their emblems; the stars on the waves represent the six districts of Micronesia: Palau, Yap, Truk, Ponape, Kosrae and the Marshalls.

own responsibility for teacher education and developed short courses or vacation institutes, including practice teaching in laboratory schools. Still, this effort on the part of the districts was not enough to meet needs adequately.

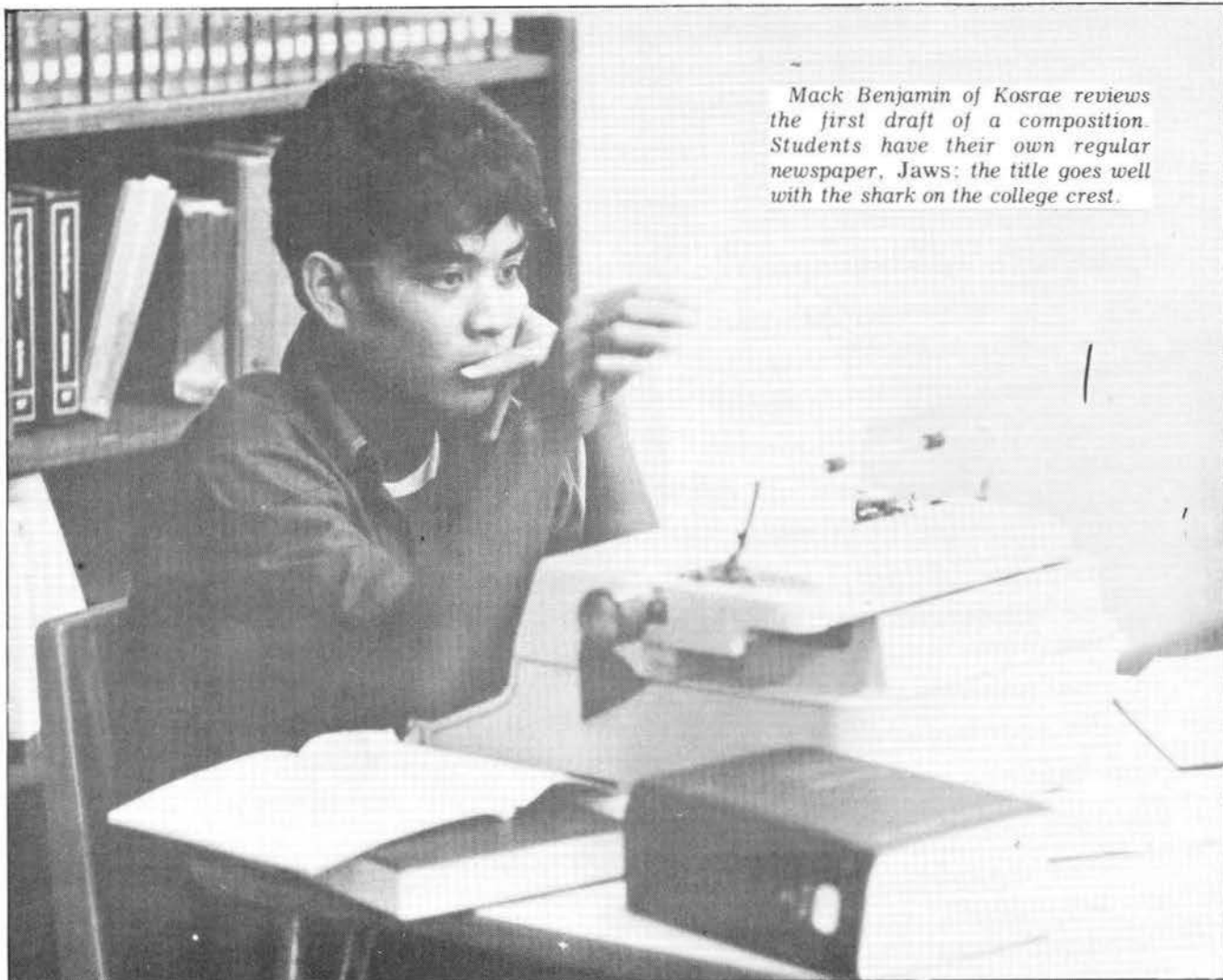
In 1963 at Ponape, MTEC was formed in two classrooms at PICS. With the help of the University of Hawaii, this new, expanded, and comprehensive teacher training programme grew

to serve all districts of Micronesia.

With the establishment of the Community College, and the eventual withdrawal of the University of Hawaii's assistance, CCM — as the school has come to be dubbed — began to diversify its programme and move towards the development of a full-fledged community college. In June, 1971, 40 students graduated with Associate of Science degrees in elementary education. Five women were among their number! In 1972, the Community College applied for its accreditation to the Western States Commission in California. After appropriate site visits and the development of self-study reports, unconditional accreditation was granted in June, 1978. And thus the Community College of Micronesia became the Territory's first accredited degree-granting institute of higher learning.

Today's stated objectives of the Community College of Micronesia are:

1. To provide two-year terminal programmes in the fields of nursing, business management, elementary teacher education, and special education.
2. To establish competency in the basic disciplines.
3. To prepare students for further study in four-year institutions by offering liberal arts courses and a liberal arts degree.
4. To continue to assist the districts of the Trust Territory in their efforts to upgrade their elementary teaching staffs through extension services.
5. To provide appropriate workshop and certificate programmes when needed.
6. To offer courses in continuing



Mack Benjamin of Kosrae reviews the first draft of a composition. Students have their own regular newspaper, Jaws; the title goes well with the shark on the college crest.

education that are relevant to the needs and desires of the community at large in all districts of the Trust Territory.

The Community College endeavours to expand areas of knowledge and understanding. It also seeks to encourage and assist students to a fuller development of their own resources. Towards these ends curricula are provided in:

1. The liberal arts and sciences to provide a general basic education, with an emphasis on improving communications skills in English as a foundation for success in professional training or preparation for advanced study.
2. The professional training areas of nursing, business, elementary teacher education, and special education which will develop a theoretical and practical foun-

ation for success and personal gratification in those careers.

3. In-service teacher education which will lead to professional improvement and contribute to the better education of the Trust Territory youth.

4. Continuing education which will provide opportunities for further intellectual and technical growth for interested individuals.

The Community College endeavours to be flexible in meeting student and community needs by providing a responsive curriculum which will change as community educational priorities change. Academic and non-academic activities are provided to foster interchange among island groups. The college tries to introduce the kind of atmosphere students will encounter in and out of the classroom should they con-

tinue their education outside the Trust Territory.

The college extension service in the other districts for in-service elementary teachers offers opportunities for people to study on a full or part time basis, year round. Community service/interest courses on a non-credit basis are offered for the general public at these extension centres. A good deal is being learned from this experience with the extension programme which could be useful to similar efforts throughout the Pacific.

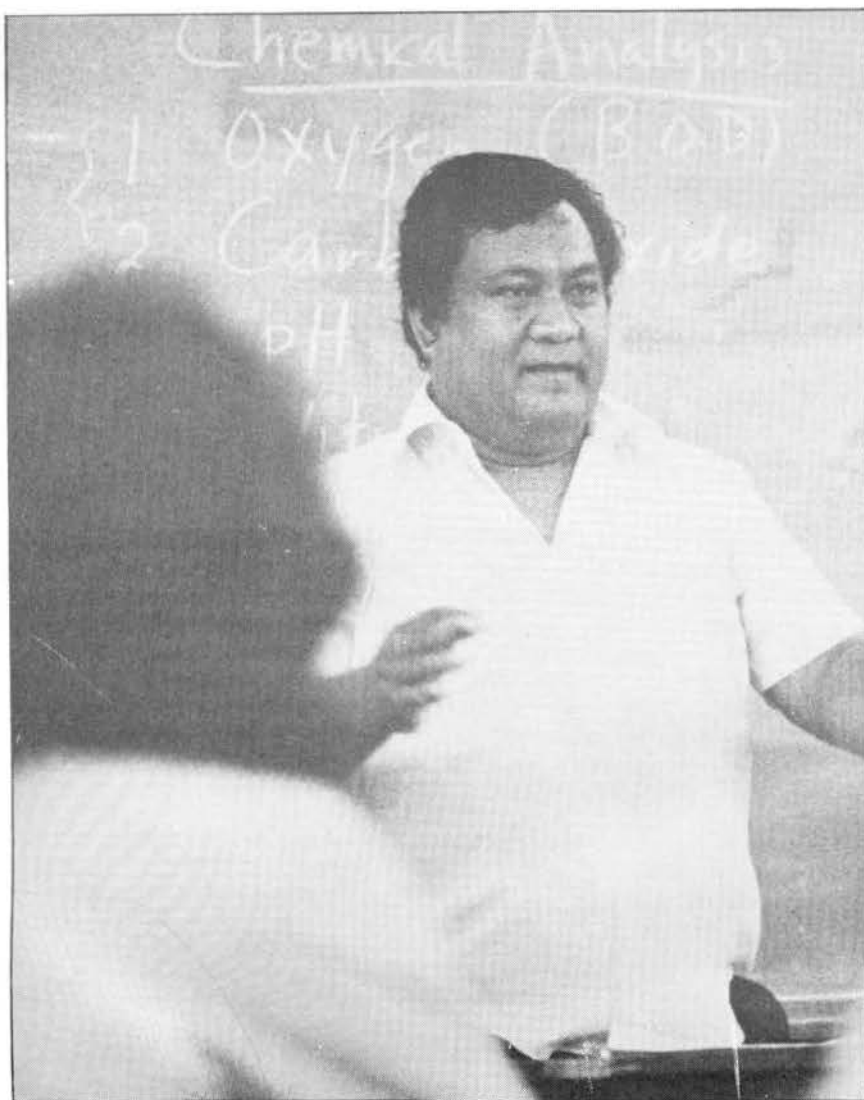
In sum, the essential purpose of the Community College of Micronesia is to focus on the challenges today in education in the islands, seeking to develop a responsiveness to the needs and interests of today's and tomorrow's Micronesians. In terms of educational practice, the

Louisa Ping of Yap learns to take blood pressure from her teacher, Mengyor Emesiochl of Palau. Nursing is a big programme at the CCM for both men and women.





From left: Frank Harecatchig (Yap), Tom Bobo and Keyko Langrine (Marshall Islands) working on assignments.



philosophy of the college endorses a belief that a small college must carefully select faculty for teaching excellence and interest in the development of the individual. The college also seeks to emphasize and promote experiences linking instruction with a variety of off-campus involvements providing opportunities for off-campus research, work-study, and internships.

Understanding these purposes, the principal tenets of our educational philosophy are that the college must provide for the opportunity and support required to: (1) develop a social consciousness and a set of personal values. (2) Formulate a sense of aesthetic and scientific awareness and responsiveness. (3) Develop and strengthen a positive self-image with a Micronesian perspective. (4) Identify opportunities to lead as well as to serve. (5) Pursue effective education in career-oriented disciplines

(Continued on page 43)

Timothy Jerry, chairman of the Science Department, with his chemistry class. Micronesian students are showing a rapidly growing interest in science.

Only within the past 80 years have westerners discovered that heavy fishing pressure can lead to the depletion of marine fish stocks. Pacific islanders, in contrast, have been aware of the limits of their fisheries resources for centuries. Almost all the marine conservation measures designed in this century in the West were already in use in Oceania when the first western explorer stepped ashore (Johannes 1978).

Within the past 25 years, Western fisheries biologists and economists have reached the general consensus that the cornerstone of sound fisheries management is "limited entry" — limiting the number of fishermen that are allowed to harvest a given stock. Awareness of the value of limited entry occurred much earlier than this in Oceania; reef and lagoon tenure — a form of limited entry — appears to have been the single most widespread marine conservation method in operation before western contact.

Ironically, the use of this measure has declined since western contact. Western colonists, accustomed as they were to the now outmoded doctrine of "freedom of the seas," did not understand the virtues of such a system. (It was "un-American" stated one American critic). Moreover, it stood in the way of their ambition to capitalize on the islands' marine resources. So, consciously in some cases, unconsciously in others, they brought about its decline on a number of Pacific islands (Johannes 1978). Here I discuss the basic features of this practice and its value today where it still survives.



Ngiraklang, second chief of Ngeremlengui, making a fish trap in his Papuan village; he taught author Johannes a great deal about Palauan fishing.

Reef and lagoon tenure systems in the Pacific islands

By R.E. JOHANNES, Hawaii Institute of Marine Biology, University of Hawaii.

In the West, marine fishing grounds have traditionally been open to all. Under such conditions it is in the best interests of a fisherman to catch all he can and to use any means at his disposal to do so. Fishing in moderation amounts to pointless self-sacrifice, for what is voluntarily left uncaught will probably be caught by someone else. Experience has demonstrated repeatedly that depletion of such a fishery is almost inevitable. Freedom of entry to a fishery, designed to be fair to everyone, is thus ultimately fair to no one.

The essence of reef and lagoon tenure is the right to control access to fishing grounds by

district, village, clan or family. Where such control exists it is in the best interests of the controllers to harvest in moderation, thereby ensuring good future yields. The system has an added virtue in that fishermen will often voluntarily police their tenured fishing grounds if their right to do so is secure, thereby reducing substantially the enforcement efforts required today of chronically overburdened Pacific island fisheries departments.

Pacific island marine tenure systems can be sufficiently flexible to permit the use by others of stock surplus to the needs of the owners. The following examples are from

various districts in Palau (Johannes, unpub.). Upon request, outsiders may be allowed to fish, sometimes without payment, sometimes with a small payment of cash or a portion of the catch. Today, restrictions are upheld in some districts only in connection with commercial fishing — catching a few fish for one's own use being looked upon as quite acceptable. (This would change, of course, if too many people took advantage of such generosity). In the past some fishing rights were transferred outright by villagers who did not need them to villagers in neighboring districts who did. In some instances fishing grounds have been shared

by two or three districts.

Reef and lagoon tenure has implications that go beyond conservation of fish stocks. In the absence of limited entry, too many fishermen typically crowd onto the best fishing grounds and more boats and more fishing gear are used than is necessary to harvest the catch. This form of economic waste is doubly unfortunate in Oceania; money paid for most of the boats and fishing gear and all of the motors and fuel flows out of the local economy thereby contributing to the chronic trade deficits that plague the area.

Marine tenure systems take on added significance in the context of the rapidly growing interest in aquaculture in the Pacific islands. Public ownership of mangrove, estuary and reef resources throws up a number of impediments to the siting and management of aquaculture facilities. Hawaii provides an example. Here, where almost all coastal waters are now publicly owned, a tangle of regulations and permit requirements (many of them devised before the recent upsurge in interest in aquaculture) present very expensive and time-consuming problems for prospective aquaculture developers.

There are also the problems of obtaining public approval and preventing public access when aquaculture facilities are sited in public waters. The development of aquaculture in Hawaii's coastal waters is consequently unlikely (Trimble 1975). However, about 30 small areas of reef and lagoon in Hawaii are still privately owned — all that remains of Hawaii's traditional reef and lagoon tenure system. Aquaculture development could proceed in these privately controlled reef areas (known as *konohikis*) unencumbered by the constraints associated with public ownership (Johannes, unpub.).

Reef and lagoon tenure systems facilitate the effective stewardship of marine resources but do not guarantee it. A population of owners of a fishing ground may

grow to such a size that they feel compelled to exert excessive pressure on the stocks. The development of an export market to a district centre, another island or another country can produce the same result. These are situations where additional regulations must be imposed on the fishery to maintain desirable yields (for example, Johannes 1978a). But it would be self-defeating for island governments to allow erosion of traditional marine tenure systems under such conditions just because they did not provide a **total** solution to the problem of overfishing.

Novel problems have developed in connection with reef and lagoon tenure systems in the 20th century generating criticism and further attempts to dispose of some of them. In at least six different island groups, tuna fishermen seeking bait in tenured waters have been forced to land and request permission to put out their nets. These requests were not always granted. And even when they were, the often formal and elaborate procedure involved wasted valuable time. This has discouraged bait fishing and, as a consequence, tuna fishing in some areas.

The problem appears to have been solved recently in two island nations through government mediation. In Solomon Island, bait fishermen pay \$50 per boat month plus \$2.75 per boat night to a local government council. In Papua New Guinea, coastal villages that control bait fishing share 2½ per cent of the F.O.B. value of exported tuna.

In some islands, traditional tenure boundaries extend miles out to sea beyond the outer reef edge. These boundaries are generally not defended very energetically because most traditional island fishing is done on or near the reefs. But efforts could be made to enforce them and this could create additional problems for commercial tuna fishermen.

Moreover, since the commer-

cially important species of tuna are highly migratory, local limited entry does not constitute an effective means of conserving tuna stocks. Consideration should thus be given to restricting tenured areas under local control to shallow water fisheries, leaving regulation of deep water pelagic fisheries largely to central island administrations and inter-island agencies.

To protect and enhance the value of reef and lagoon tenure systems in Oceania several actions seem desirable. First, they must be studied and their details recorded. Thousands of pages have been written on land tenure in the Pacific but very little on marine tenure. Most published information is anecdotal and obviously peripheral to the main interests of the writers. Three useful outlines of particular traditional marine tenure systems are provided by Allan (1957) for the Solomon Islands, by Kosaki (1954) for Hawaii, and by von Bulow (1902) for Samoa.

Official records of tenure boundaries and detailed descriptions of tenure customs are needed. It should not be assumed that the customs prevailing in one district are indicative of customs on the island or island group as a whole. (However, for ease of administration, some consideration might be given to standardizing customs, to the extent that this is practical, within an administrative district.)

Secondly, once marine tenure systems are better understood, the laws relating to them should be reviewed. Some of these systems have been recognised and their legality upheld by the courts. In Pacific Island societies where traditional authority is waning, such "legalization" helps maintain valuable customs. But it may also reduce their flexibility. On a number of islands, for example, marine tenure is legally sanctioned only if it can be demonstrated that it existed before Western contact and has been maintained continuously thereafter.

(Continued on page 34)

SPC APPOINTMENTS

ECONOMIST

Dr Feleti Sevele recently took up his appointment as Economist with the South Pacific Commission. Dr Sevele, who is Tongan, carried out his tertiary studies at the University of Christchurch, New Zealand. He holds a B.Sc. in Mathematics, an M.A. (Honours) in Geography and a Ph.D. in Economic Geography.



DR. FELETI SEVELE

On his return to Tonga in 1973, Dr Sevele was appointed Secretary of the Commodities Board, which is a statutory body responsible for the export of all agricultural commodities. In addition, the Board runs the Tonga Construction Company, which is the largest building and construction enterprise in the Kingdom. Apart from Government, the Board is the largest employer in Tonga, having a total workforce of more than 600 persons.

In 1974, Dr Sevele became Director and Chief Executive of the Board, a post which he held until joining the South Pacific Commission. He was also a Director of a number of companies, and a member of Tonga's National Scholarship Board.

Dr Sevele's duties with the Commission will include economic studies, with special emphasis on rural and agricultural development; analysis and interpretation of

regional economic statistics; advisory services; and organisation of meetings and training courses.

□

MASTER FISHERMAN

Mr. Tevita Fusimalohi, a Tongan, was appointed to the post of SPC Master Fisherman in May this year.

Mr. Fusimalohi attended primary school in Tonga, then spent five years between 1961 and 1965 at Wesley High School, in Suva, and a further four years at Navuso Agricultural College (Fiji), graduating in 1969 with a certificate in tropical agriculture.

He then returned to Tonga to work for the Ministry of Agriculture, Fisheries and Forests, initially in the field of agriculture. Because of an interest in fishing, gained as a small boy on his father's boat, he later transferred to the Fisheries



TEVITA FUSIMALOHI

Division. Working on government fishing vessels, first as an assistant fisherman and later as fishing master, he gained considerable experience in trolling and longlining for tuna, and bottom fishing with electric reels, mainly for snapper.

In 1974-75, he attended the University of the South Pacific in Fiji, taking the fisheries course and obtaining a certificate in tropical fisheries. After a period back in his old job in Tonga he

widened his experience during a fisheries training course in Japan, and then in 1976 spent a year at the Grimsby College of Technology in England studying for a diploma in fisheries. At Grimsby he received training in fishing gear technology, fish processing, navigation and marine meteorology. Practical work included sea time on various types of fishing vessel.

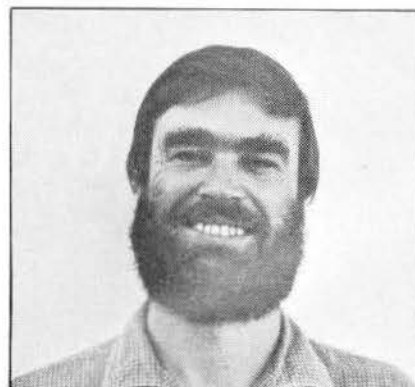
Returning to Tonga in 1977, Mr. Fusimalohi was appointed officer in charge of fisheries at Neiafu, Vava'u, where he was responsible for both administrative and technical matters.

Since joining SPC Mr Fusimalohi has carried out exploratory fishing trials for the Government of Niue as part of the SPC's deep sea fisheries development project. He is now at Tanna in the New Hebrides, running the project there. At the age of 27 he already has a great deal of fishing experience, ranging from the tropical Pacific to the trawling grounds off Iceland.

Mr. Fusimalohi is married with two children. □

FISHERIES ASSISTANT

Because of the increasing importance of fisheries to the South Pacific, the 1977 South Pacific Conference approved the recruiting of a Fisheries Assistant to augment the staff of SPC. This position was taken up in May this year by Mr. James Crossland, a New Zealander.



JAMES CROSSLAND

Mr. Crossland grew up and was educated in Christchurch, leaving school in 1957 to join the Merchant Navy. After undergoing a year's demanding training at the School of Navigation, Southampton, England, he took up a deck officer's apprenticeship with Port Line of London. Mr Crossland spent eight years at sea, working on British, Australian and New Zealand ships. During this time he gained a 2nd Mate's Foreign-going certificate at London in 1962, and a 1st Mate's at Melbourne in 1965. He has also worked as a commercial fisherman, and has experience in bottom trawling, bottom longlining and fish trapping.

In 1972, Mr Crossland completed a B.Sc. Honours course at Canterbury University, New Zealand, graduating with 1st class honours in Zoology. He then spent five years with the Fisheries Research Division of the Ministry of Agriculture and Fisheries, Wellington, where he carried out a series of research projects on snapper, New Zealand's most important food fish. This work included studies on reproduction and fecundity and surveys of eggs and larvae.

The results of these researches were used to make estimates of the size of the fish stocks, which together with other information, helped in the formulation of a management policy for the New Zealand snapper fishery. Mr. Crossland also carried out a series of snapper-tagging cruises during which several thousands of fish were tagged. The results provided new information on movements and the exploitation rate.

Other studies involved the identification and distribution of planktonic fish eggs and larvae. Mr Crossland is also the author of several scientific papers and fishery bulletins.

Mr Crossland, who is married with three sons, brings both practical and research experience to the fisheries staff of the Commission. □.

REEF & LAGOON TENURE

(Continued from page 32)

With the depopulation that occurred throughout Oceania after Western contact, marine tenure boundaries were sometimes allowed by the islanders themselves to lapse; defending these boundaries made sense only when the benefits of doing so justified the effort involved. As populations rebounded over the past few decades the value of defending tenure boundaries has increased once again. But those who, for logical reasons, allowed their marine tenure systems to lapse, and who, for equally logical reasons might want to reinstitute them later, are now sometimes forbidden by law from doing so.

Similar restraints are imposed on those who would modify existing tenure systems or create new ones. Yet, when previously unknown population pressures or new fisheries develop, new or modified tenure systems may be needed. For example, when a new trochus shell industry developed in New Guinea, villagers tried to erect a new marine tenure system to protect their trochus beds from European interests. They were prevented from doing so by the courts (Belshaw 1954).

It must be granted that allowing greater flexibility in reef and lagoon tenure systems would create more work for legislatures and courts. But these systems will never present the volume and complexity of legal problems that land tenure systems have in the Pacific Islands. Tenured fishing areas are generally far larger than most tenured plots of land. There are thus far fewer of them over which to dispute and the ratios of their perimeters (line of potential dispute) to their areas (size of resource) are much smaller than those of typical land plots. In Yap and Palau, roughly 100 disputes over land tenure reach the courts for every one involving reef and lagoon tenure.

To summarize; traditional Pacific island reef and lagoon tenure systems embody a principle recognized today as the cornerstone of sound fisheries

management. Lack of appreciation of the value of these systems by colonials has resulted in their erosion, and in some cases their complete loss. Where they still exist it may be desirable to modify them in order to accommodate new pressures occasioned by commercial fisheries and the adoption of western legal systems. But further erosion of these customs will add inevitably to the difficulties of managing reef and lagoon resources.

Acknowledgements

This work was supported by grants from the John Simon Guggenheim Memorial Foundation and the U.S. National Science Foundation. Contribution No. XXX from the Hawaii Institute of Marine Biology.

REFERENCES

- Allan, C.H. 1957. "Customary land tenure in the British Solomon Island Protectorate," *Rept. British Solomon Island Protectorate Special Land Comm.* Honiara Western Pacific High Commission. 329 pp.
- Belshaw, C.S. 1954. *Changing Melanesia*. Melbourne: Oxford Univ. Press. 197 pp.
- Bulow, W. von. 1902. "Das Fischereirecht der Eingebornen von Deutsch-Samoa," *Globus* 82:319-320.
- Johannes, R.E. 1978. "Traditional marine conservation methods in Oceania and their demise," *Ann. Rev. Ecol. Syst.* 9 (in press).
- Johannes, R.E. 1979. "Using knowledge of the reproductive behaviour of reef and lagoon fishes to improve fishing yields," in: Bardach, J.E., J.J. Magnuson, R. May and J. Reinhard (eds.). *Fish Behaviour and Fisheries Management (Capture and Culture)*, I.C.L.A.R.M., Manila (in press).
- Kosaki, R.H. 1954. "Konohiki fishing rights," *Hawaii Legislative Reference Bureau Rept. No. 1* 35 pp.
- Trimble, G. 1975. *Legal and administrative aspects of an aquaculture policy for Hawaii an assessment*. Dept. for Science Policy and Technology Assessment, Dept. of Planning and Economic Development. □.

INDEX TO ARTICLES PUBLISHED IN THE SOUTH PACIFIC BULLETIN IN 1978, BY SUBJECT AND AUTHOR

Title	Quarter	Author	Subject	Quarter
A				
Asian Development Bank's rush of Pacific approvals	First			
Asian-Pacific Weed Science Society conference.....	First			
Atoll Cultivation	Third			
B				
Biological control of insects	First			
Business and work in Pacific villages-tapa cloth and T-shirts	Fourth			
C				
Census methods, joint sub-regional training course on	Fourth			
Commonwealth Fund for Technical Co-operation, the	First			
Community College of Micronesia, the.....	Fourth			
Community learning centre in New Caledonia, a: Gelima	Second			
Consumerism in Micronesia	First			
D				
Diet, Migration and reciprocal changes in.....	Third			
E				
Economies, South Pacific	Second			
Eighteenth South Pacific Conference, the	Fourth			
Emerging Pacific, the: an Australian seminar on its Pacific neighbours	Second			
Environmental aspects of project planning	Second			
ESCAP, SPC Secretary-General attends 34th session of	Second			
F				
Fiji's farm mechanisation project's successful harvest	Third			
Fiji's leper artist: quiet courage and determination	Third			
Fisheries, South Pacific, move beyond the reefs	Second			
Food for tomorrow's children	Second			
B				
BALLENDORF, D.A.		The Community College of Micronesia	Fourth	
BOLLARD, A.		Tapa cloth and T-shirts: business and work in Pacific villages	Fourth	
BOLLARD, A. & I. Fairbairn		South Pacific Economies	Second	
C				
CONNELL, J.		Melanesian shell money's new economic role	Fourth	
COPPELL, W.		Theses and dissertations- French Polynesia, 2.....	First	
		French Polynesia, 3	Second	
		Solomon Islands	Third	
D				
DAHL, A.L.		Environmental aspects of project planning	Second	
F				
FAIRBAIRN, I.		Helping industry in the South Pacific	Third	
FAIRBAIRN, I. & A. Bollard		South Pacific economies	Second	
FIRMAN, I.D.		Plant quarantine officers meet in Suva	First	
FITZGERALD, T.		Migration and reciprocal changes in diet	Third	
FRIMIGACCI, D. & J.P. Maitre		Research programme on tumuli in New Caledonia.....	First	
J				
JABRE, B.		Malnutrition, the disease that man made	Third	
JOHANNES, R.E.		Reef and lagoon tenure systems in the Pacific Islands	Fourth	
K				
KEARNEY, R.E.		The South Pacific begins skipjack survey programme.....	Third	
KUBERSKI, T.		Fiji's leper artist.....	Third	

French Polynesia: theses and dissertations	
— 2	First
— 3	Second

G

Gelima: a community learning centre in New Caledonia	Second
--	---------------

H

Helping industry in the South Pacific	Third
---------------------------------------	--------------

I

Industry in the South Pacific, helping	Third
Insects, biological control of	First

J

Joint sub-regional training course on census methods	Fourth
--	---------------

L

Leper artist, Fiji's	Third
----------------------	--------------

M

Malnutrition, the disease that man made	Third
Melanesian shell money's new economic role	Fourth
Micronesia, the Community College of	Fourth
Micronesia, consumerism in	First
Migration and reciprocal changes in diet	Third

N

New Caledonia: Gelima, a community learning centre in	Second
New Caledonia, research programme on tumuli in	First
New cattle breed for the tropics	First

P

Pacific fund not recommended by feasibility meeting	Second
Pacific Islands, reef and lagoon tenure systems in	Fourth
Plant quarantine officers meet in Suva	First
Project planning, environmental aspects of	Second
Provisional calendar of SPC meetings for 1978	First

R

Reef and lagoon tenure systems in the Pacific Islands	Fourth
---	---------------

L

LAMBERT, M.	Asian-Pacific Weed Science Society Conference	First
LAMBERT, M.	Atoll cultivation	Third

M

MAITRE, J.P. & D. Frimigacci	Research programme on tumuli in New Caledonia	First
MUNIAPPAN, R. & L.M. Stevens	Biological control of insects	First

N

NALO, C.	Gelima: a community learning centre in New Caledonia	Second
NALO, C.	The eighteenth South Pacific Conference	Fourth

O

O'CONNELL, F.	The stamps of Tuvalu	Second
---------------	----------------------	---------------

P

PITTMAN, G.A.	SPC/Tate English syllabus and abstract vocabulary	First
---------------	---	--------------

R

RODY, N.	Consumerism in Micronesia	First
RODY, N.	Food for tomorrow's children	Second

S

SPEAKE, J.D.	Sugar, fluorides and dental health-3 years later	Third
STEVENS, L.M. & R. Muniappan	Biological control of insects	First
STEWART, D.	SPC Secretary-General visits Tokelau	Fourth

V

VUNAKECE, A.D.	Fiji's farm mechanisation project's successful harvest	Third
----------------	--	--------------

W

WILKINSON, W.A.	South Pacific Fisheries move beyond the reef	Second
WILKINSON, W.A.	South Pacific tuna fishing-a changing scene	Fourth

Reefs, South Pacific fisheries move beyond the	Second
Research programme on tumuli in New Caledonia	First

S

Solomon Islands: theses and dissertations	Third
South Pacific the, begins skipjack survey programme	Third
South Pacific Conference, the eighteenth	Fourth
South Pacific economies	Second
South Pacific fisheries move beyond the reefs	Second
South Pacific, helping industry in the	Third
South Pacific and tuna fishing — a changing scene	Fourth
SPC meetings for 1978, provisional calendar for	First
SPC month at the University of the South Pacific	Second
SPC Secretary-General attends 34th session of ESCAP ..	Second
SPC Secretary-General visits Tokelau	Fourth
SPC/Tate English syllabus and abstract vocabulary	First
Stamps of Tuvalu, the	Second
Sugar, fluorides and dental health — three years later ..	Third
Suva, plant quarantine officers meet in	First

T

Tapa cloth and T-shirts: business and work in Pacific villages	Fourth
Tate/SPC English syllabus and abstract vocabulary	First
Tenure systems, reef and lagoon, in the Pacific Islands ..	Fourth
Theses and dissertations: French Polynesia-2	First
French Polynesia-3	Second
Solomon Islands	Third
Tokelau, SPC Secretary-General visits	Fourth
Tumuli in New Caledonia, research programme on	First
Tuna fishing, South Pacific — a changing scene	Fourth
Tuvalu, the stamps of	Second

U

University of the South Pacific, SPC month at the	Second
---	--------

SPC HANDBOOKS

Each Handbook is priced at \$A1.50 post free and this series of publications now consists of—

No. 1—**Rat Control in the South Pacific** by F. P. Rowe. English and French. (English edition revised by F. P. Rowe, J. M. Williams and E. J. Wilson.)

No. 2—**Cocoa Production in the South Pacific** edited by K. Newton. English only.

No. 3—**Improving Land Tenure** by Ron Crocombe. English only.

No. 4—**Laboratory Techniques in the Diagnosis of Some Intestinal Parasitic Infections** by Lawrence R. Ash. English and French.

No. 5—**Banana Production in the South Pacific** edited by M. Lambert. English and French.

No. 6—**Coconut Production in the South Pacific** edited by M. Lambert. English and French.

No. 7—**Urban Youth Work in the South Pacific** by Jean-Michel Bazinet. English and French.

No. 8—**Market Gardening in the South Pacific** edited by M. Lambert. English and French.

No. 9—**Bacteriology** by Dr. J. Saugrain. English and French.

No. 10—**Weed Control in the South Pacific** edited by M. Lambert. English and French.

No. 11—**Hæmatology** by Dr. J. Saugrain. English and French.

No. 12—**A Handbook of Hospital and Health Service Administration** by D. Horne and V. Williams. English only.

No. 13—**Manuel de Reutilisation des Effluents d'Origine Animale dans le Pacifique Sud** by Claude Richard. French only.

No. 14—**Citrus Production in the South Pacific** edited by M. Lambert. English only.

No. 15—**Beef Cattle Husbandry and Herd Management** by W. P. Bewg. English only.

No. 16—**Arabica Coffee Production in the South Pacific** edited by M. Lambert. English and French.

Price includes postage.
All orders and inquiries should be sent to:

SPC Publications Bureau.
Box N324 Grosvenor Street,
N.S.W. 2000.

Pacific Reading

Material in this section is contributed by the South Pacific Commission Publications Bureau. Please direct any enquiries to Box 306, Haymarket, NSW, 2000.

TEACHING ENGLISH — THE CHILD'S SECOND LANGUAGE

This new teachers' handbook, written by Althea Purdy (English Language Consultant to Catholic Education Office, Sydney and to the South Pacific Commission) is a detailed guide to the correct use of the Tate/SPC English Language Teaching materials — it has been specifically written to assist those teachers who have decided to try these materials in their classroom and have asked, "How do I use them effectively."

Cover and sample page from Althea Purdy's new book on teaching English as a second language.

Teaching English — the Child's Second Language provides a background to the highly structured organization of language in the Tate Oral English Course and its integrated SPC Reading Course and Workbooks, together with key information and guide lines for teachers wishing to slot into the programme at any point. Language development is seen as an integrated whole of listening, speaking, reading and writing and the close relationship between Oral English and the SPC Reading Course is exploited.

The teaching points of the Oral English books are incorporated into a second language lesson providing revision, extension and addition for an English speaking environment. Teaching techniques are discussed and details of actual lessons are given.

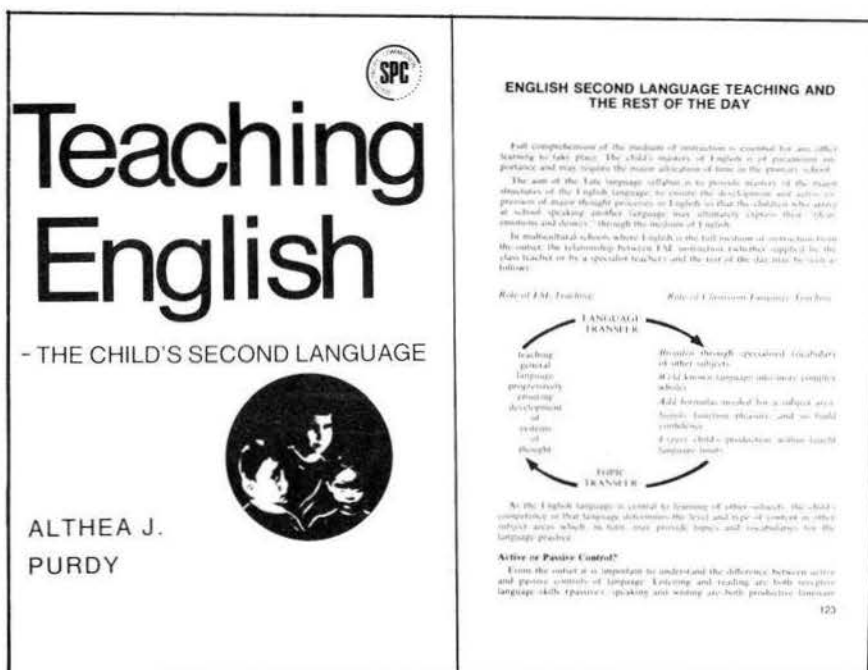
Additionally, *Teaching English* contains details of the linguistic progression, analyses of the major linguistic and conceptual items which have been taught before each of the Oral English books, an outline of the skills developed in early reading instruction, and teaching plans for introducing the materials to a class. Every teacher using or linking up to the Tate/SPC materials should find this book an invaluable aid; also the book should prove exceptionally useful to teachers of migrant children classes in English speaking countries.

Copies of this handbook are now available from the SPC Publications Bureau. Price within the SPC area: \$A3.00; (elsewhere) \$A4.00 plus postage. □

ILO — SPC DIRECTORY OF TRAINING FACILITIES IN THE SOUTH PACIFIC

Compiled and published jointly by the International Labour Office and the South Pacific Commission, this two-volume Directory lists the training facilities/courses available in South Pacific countries and should greatly assist all educationists concerned with vocational training programmes. As mentioned in the Foreword. —

"In the initial stages of industrialisation, it was possible to rely to a great extent on apprenticeship and on-the-job training schemes, entry to which did not call for any degree of formal training. However, industrial development has meant that pre-vocational and vocational training became necessary firstly, to ensure that the increasing number of young people coming on the employment market have some skills relevant to employment and secondly to enable young



people to aspire to become master craftsmen or technicians."

The training courses finally chosen for inclusion in the Directory are those leading to first employment or for upgrading the skills and knowledge of those already in employment. The information given includes details of courses available, in both English and French speaking countries/territories, and is organised on the basis of the International Standard Classification of Occupation (ISCO) — which provides a systematic classification structure covering the occupation of the civilian population.

Each entry follows a standard format — and provides such pertinent information as: Title of Course; Name/location of Institution offering course (including duration, periodicity, starting dates, where held); Entry requirements; Brief outline of course; Diploma/Certificate awarded; Fees — boarding/hostel arrangements. The loose leaf format of the Directory allows for easy updating as courses becoming obsolete are simply extracted and destroyed while additions can easily be included.

A limited number of copies of the Directory is available for sale from the SPC Publications Bureau. Price: \$20 (for 2 volumes) plus postage/packing. □

SPC OCCASIONAL PAPERS

Five new publications were issued recently in the South Pacific Commission's Occasional Paper series. Copies may be obtained from SPC Headquarters (B.P.D5, Noumea Cedex, New Caledonia).

No. 6 Demographic research on Papua New Guinea: prospects and problems, by M. Rafiq.

This paper presents an evaluation of the demographic information made available by such sources as censuses, special surveys, registration systems and health and family planning records from the standpoint of its suitability to empirical research on Papua New Guinea. Procedural as well as substantive aspects of various sources of demographic information are examined in the paper and some suggestions made on handling the basic problems of demographic data and improving their quality.

An attempt is also made to identify the role of specialised in-depth studies. It is suggested that such studies should be carried out by autonomous organisations within the country concerned.

The paper is directed at census statisticians, census planners, demographers and other persons who are interested in demographic information. Though based on the Papua New Guinean experience, the paper may be expected to be of interest to other developing countries in the region.

No. 7. Some hypotheses on the skipjack (Katsuwonus pelamis) in the Pacific Ocean, by R.E. Kearney, 23 pp.

A comprehensive, yet concise review of the state of knowledge of one of the Pacific's major resources that projects numerous well-researched theories on the dynamic interactions between skipjack of either varying size or different sub-populations or distributions. The massive skipjack resources of the Pacific Ocean are considered to have been inadequately researched to date, particularly in view of this species' pre-eminence in the listing of the world catches of tuna.

Within the constraints of the limited data base, the available information on (1) the distribution of the species and possible interactions between individuals of different sizes, (2) the occurrence of separate genetically distinguishable sub-populations, (3) the variability in growth of individuals or between subpopulations, (4) the influence of environmental restrictions on the availability of the habitat suitable for skipjack and (5) interactions between these variables are discussed.

Conclusions relevant to the assessment of the skipjack resources of the whole Pacific are given and

hypotheses relevant to the future exploitation of these resources are presented.

No. 8. Aspects of population and socio-economic change in the South Pacific, by Erik R. Hoefnagel, 26 pp.

Issued jointly by SPC, the University of the South Pacific and the University of Groningen, this publication is based on a paper delivered at a Workshop for Population Correspondents in the South Pacific, organised in December 1977 by the Economic and Social Commission for Asia and the Pacific. It discusses the complex inter-relationships between population growth, compositions, and distribution, availability and exploitation of resources, and pollution.

It describes the causes of population growth in the past and illustrates the relationship between population and resources by examples drawn from the Pacific Islands. In the conclusion, the author discusses the possible implications of rural development for future population growth.

No. 9. Factors in the design of appropriate economic projects for the Pacific, by Alan Bollard. 11 p.

In the past 20 years, there have been many attempts to introduce new crops, improved crop technology, and new small industries into the Pacific. Often they have failed. One reason is that they were not all well-designed in the first place to fit the special needs and attitudes of the community concerned.

Occasional Paper 9 examines this question from the point of view of introducing a newly-designed cash crop to a small island. It gives guidelines on how to anticipate the performance of the new process and the community's reaction to it, how the process may be adapted into a more appropriate form, and how an administration may improve its chances of success.

No. 10. Estimates of catches of tunas and billfishes by the Japanese, Korean and Taiwanese longliners from within the 200 mile economic zone of the member countries of the South Pacific Commission, by W.L. Klawe. 41 pp.

This paper provides annual estimates from 1972 to 1976 of catches of various species of tunas and tuna-like fishes by the long-line fleets of Japan, the Republic of Korea and Taiwan within the 30 million square kilometres of sea surrounding the 20 countries and territories for which SPC works. The estimates are given in relation to the present or future 200-mile economic zones of these countries and territories.

This paper is of particular interest at a time when many Pacific countries are engaged in negotiations with foreign nations fishing in their waters.

Book Reviews

The Changing Pacific: Essays in Honour of H.E. Maude

Edited by Niel Gunson, Melbourne, Oxford University Press, 1978. \$25.00

Professor H.E. Maude's life-long interest in the Pacific goes back to his boyhood reading of R.L. Stevenson, and has remained constant over six decades, in which he has devoted most of his waking hours to Pacific Islanders, their history and to other scholars working in the same area. His enthusiasm and generosity with advice, references and intellectual leadership have become legendary in the Pacific field.

Born in India, Harry Maude was educated in England and, after some questioning of his scholastic abilities, he finally graduated from Cambridge with a good honours degree. I feel that once confronted with Pacific material, Harry's abilities became fully apparent. Present at his final oral examination were the Pacific experts Hubert Murray, a colonial administrator, and Malinowski, an anthropologist. In his own Pacific career Harry was to be eminently successful as both colonial administrator and academic.

In 1929 Harry joined the British Colonial Service and with his young wife, Honor, he was posted to the Gilbert and Ellice Islands Colony where they found that the romance of the Pacific was not totally illusive. During his career as a colonial official (1929-1948) Maude was responsible for the final acquisition to the British Empire (one small, uninhabited island), had the news of the birth of his son in New Zealand delivered to him by a three gun salute from a British warship, and was with Honor on Pitcairn Island when she discovered, while gardening, the *Bounty* wedding ring, lost for more than 100 years. But these were brief highlights in a career dedicated to the welfare and development of islanders from many different groups.

In 1948, he joined the newly created South Pacific Commission in the hopes that its aims of economic and social development would help the islanders attain new goals. For several years he was responsible for organizing the research and publication of a number of definitive surveys and reports on a wide range of Pacific subjects.

In 1957, Harry took up an academic post in the department of Pacific History at the Australian National University, where for 13 years he was deeply involved in writing and encouraging Pacific historical research. PhD students within the department and Pacific scholars throughout the world benefitted from his unequalled experience in the Pacific, and treasured the advice and en-

couragement he offered. In retirement, Harry's commitment has continued unabated and now, two years after his 70th birthday, we can be assured that his threat to curtail his Pacific work once he turned 70 need not be taken seriously.

Few have so richly deserved a commemorative volume and even fewer have received one of such uniformly high quality and interest. Many of the great names among Pacific specialists have contributed to *The Changing Pacific*, which contains 20 scholarly articles, all written especially for this volume, a biographical sketch of Harry and a bibliography of his extensive Pacific publications. Honor Maude's contribution to Pacific studies is most appropriately recognized by the inclusion of a bibliography of her separately published works.

In a geographical sense, the essays range widely across the Pacific and the disciplinary skills of the different contributors are equally varied; geography, ethnography, demography, anthropology and history. This diversity is, in fact, an impressive vindication of the eclectic nature of Pacific history as envisaged and encouraged by both the foundation professor of Pacific history at the Australian National University, Professor J.W. Davidson, and Maude himself.

Since it is impossible to discuss in detail even a small number of the articles in *The Changing Pacific*, I will pick out a handful which I found particularly interesting and exciting. The gem of the collection to my mind is Derek Freeman's all too brief study of dispute settlement in a Western Samoan village, "A happening frightening to both ghosts and men." Its immediacy and ring of authenticity are outstanding achievements, which transcend disciplinary boundaries. Norma McArthur and Dorothy Shineberg have cast new and iconoclastic light on some aspects of mission medical history in the Pacific in two meticulously researched and delightfully written chapters, "And, behold the plague was begun among the people" and "He can but die."

Expanding one of Harry's own research interests, Francis Hezel has written a valuable piece on the role of the beachcomber in the Caroline Islands. Finally, Kenneth Emory's "Division of food and labour at the far ends of Polynesia" (Napuka in the Tuamotus and Kapingamarangi, a Polynesian outlier in the Carolines) reveals the intricate mathematical skills and methods of organizing labour on two of the most isolated and far flung islands of Polynesia.

Niel Gunson's meticulous editorship of *The Changing Pacific* is evident in its uniformity of style and high quality, and its excellent index and bibliography. At \$25 it is an expensive book, but it is a fitting tribute to a great Pacific scholar and a volume which Pacific historians will use constantly and with pleasure for years to come. □

Caroline Ralston
Macquarie University.

Employment, incomes and migration in Papua New Guinea towns

By Ross Garnaut, Michael Wright and Richard Curtain; Monograph 6, Institute of Applied Social and Economic Research, Papua New Guinea, 1977.

Towns are a recent phenomenon in Papua New Guinea, established, we are told, for the convenience of foreigners. In fact, until the 1960s, it was illegal for Papua New Guineans to reside in towns without work or a permit, and they were not included in the census. Annual Reports blithely remarked: "There is no unemployment in the territory."

Since then, towns have grown incredibly rapidly (at an average annual rate of up to 17 per cent between 1966 and 1971). Today about ten per cent of the population live in towns. As this study tells us, these towns grew up around employment opportunities. At first, the population was dominated by young male adults. Gradually, whole families arrived and the contacts with surrounding villages grew less strong. Migration usually continued beyond the demand for labour, so that significant unemployment of unskilled workers has occurred.

This monograph is a study based on the results of a major urban household survey undertaken by the Institute of Applied Social and Economic Research and the University of Papua New Guinea. The survey covered ten per cent of the population of 15 large urban areas in 1973-74.

The survey itself was carefully framed to try to avoid some of the usual Western biases. For example, four different concepts of unemployment are discussed: the voluntarily unemployed, the hopeful (who want a job because they prefer urban life), the trapped (who would prefer to return to village life if they could afford to), and the dispossessed (who no longer have enough ties with a village to be able to return). At last, a change from the standard deceptive yes/no question on unemployment.

Some interesting material is included: the details on the size and frequency of urban-rural remittances and reverse gifts carried up to town by relatives are unique. We also hear a little of that cloudy area of informal small industries.

But there are gaps. One of the most striking characteristics of Papua New Guinea towns is the ethnic mixture of people living there. We are not told much about this area beyond the general observation that patterns of migrants in a town appear to depend on variations in village incomes and services and distances from the town.

Employment, incomes and migration in Papua New Guinea towns is not a book to read for general interest, but a specialist monograph written for a very narrow audience. It falls somewhere in between a census report and an economic analysis.

The unusual urban experience of Papua New Guinea makes it of only marginal relevance for other Pacific countries. The very small type, indifferent layout, and 120 tables make reading difficult. The dull, terse style reflects many of the statistics but little of the life and atmosphere of Papua New Guinea towns. Furthermore, the survey is already four years out of date, too long in such a rapidly-changing scene. A major aim of the survey was to assist government urban policies. Yet for some reason the Papua New Guinea Bureau of Statistics decided to run its own urban household survey in 1976/7. Preliminary results of this are available, but the monograph does not mention them.

The Papua New Guinea Government is strongly committed to the goals of rural development and equal distribution of the benefits of growth, so it must concern itself with urban policy. The monograph offers two suggestions: either promote employment outside villages, or reduce the imbalance of rural and urban living standards. The latter policy seems more likely to attack the problem at its roots. □

Alan Bollard

Assistant Economist, SPC

* * *

RACE AND POLITICS IN FIJI

By Robert Norton. University of Queensland Press, 1977. 210 pages. Maps, Photographs. \$17.95.

Dr Norton, who lectures in anthropology at Macquarie University, analyses the modern political history of Fiji, relates it to general social science theory, and makes comparisons and contrasts with Guyana and Malaysia. The book is based on archival and printed sources and on extensive interviewing and personal observation during several visits to Fiji over a period of 11 years.

Although the importance of the subject is patent, it has not recently received the attention it deserves. Since Alan Burns' *Fiji*, which was published in 1963, there has been no significant general book on Fiji for the specialist or non-specialist, though there have been a number of scholarly theses which have yet to be published. The racial situation in Fiji's plural society, where the Indians number just under half the total population (1976 census), has worried observers for more than 50 years. Dire predictions have been made. Yet, the fact is that there has not been any significant racial trouble in Fiji. Dr Norton tries to explain why.

His central argument is that equilibrium has been preserved by the growth of common values and understandings that acknowledge and provide for the regular expression of conflict. If this reviewer may be forgiven for putting the author's social science language into plain words: provision

for a regular scrap is a good thing. The message of the book is fundamentally optimistic, in contrast to that of most previous writers on Fiji, but Dr Norton covers himself: he shows an awareness of contrary pressures and trends and of regional complexities within Fiji. One issue for the future is whether class polarisation will supersede racial polarisation. So far, whenever class has appeared, race has reared its head too.

One of the strengths of Dr Norton's book is his objectivity and balance. Even among people who should know better, the situation in Fiji has evoked in print, in errors of omission from print, and in discussion, much ignorant comment and blatant prejudice. The people of Fiji have a right to be annoyed. But Dr Norton has no favourites. He is the dispassionate social scientist. Like all persons of goodwill, he knows that the people of Fiji have to get along together. □

K.L. Gillion

The Australian National University, Canberra.

* * *

Messengers of Grace. Evangelical Missionaries in the South Seas 1797-1860.

By Niel Gunson, Melbourne, Oxford University Press, 1978. \$25.00.

In *Messengers of Grace*, the evangelical missionaries who ministered in the South Pacific between 1797 and 1860 have been subjected to an exhaustive scrutiny. The author, Niel Gunson, has examined their lives, from then early years long before they were "called" to service, to how they spent the few leisure hours they allowed themselves on the mission stations. Given the undeniable importance of the evangelical missionaries' role in almost all the South Pacific societies they entered, this detailed information about missionary background, motive and backsliding is most welcome.

In the preface, Gunson modestly claims that the purpose of the book is "to show something of the mentality of the missionaries who sought to change the social systems of the South Seas." Certainly this is achieved, but it is only "something of the mentality", since Gunson seems to have been loath to use any psychological or psycho-historical methods of insights. While there are difficulties in combining material gained from two such distinct disciplines, it is a pity that in the missionary field where some such attempts have been made, Gunson did not even make a cautious foray.

Within Gunson's framework it should have been possible to analyse more fully the various roles played by missionary wives. Gunson offers several intriguing details about the wives and acknowledges that their services as civilizers and teachers were substantial but in true patriarchal

fashion they are seen only as appendages, and usually rather bothersome ones, of their missionary husbands. Gunson claims that the women took longer to adapt to their new environment than the men and that some never overcame their aversion to the islanders. But the reasons why this was so, if it were so, are never examined. Similarly, Gunson recognizes that mission children suffered considerably and that they lacked the moral fibre of their parents. The interesting hypotheses that such statements suggest are not however pursued.

A second criticism of *Messengers of Grace* questions the very eurocentric purpose of the work. Once the missionaries arrived in the islands one feels that only half the story is being revealed. Gunson's examination of the processes of conversion and the patterns of race relations that developed between islander and missionary is brief and inconclusive, largely because one group of principal actors is not in focus. Further, Gunson is so imbued with the language and judgments that abound in missionary sources that at times he is unable to stand back from his primary material and analyse it more objectively.

While I have reservations about certain aspects of *Messengers of Grace*, it would be unjustified to let them outweigh the very real merits of this book, which provides many fascinating insights into the class position and social aspirations of the early missionaries and reveals the marked rise in missionary status by 1860. Gunson is certainly not uncritical of his subjects. This extensively researched book is well written and immaculately presented. It will prove essential reading for anyone interested in nineteenth-century Pacific history.

Caroline Ralston
Macquarie University

* * *

SPC TAKES OVER ORAL ENGLISH COURSE

Recently the SPC Publications Bureau concluded negotiations with the N.Z. Department of Education to acquire the future publishing and distribution rights of the Tate Oral English Course materials, formerly handled by A.H. & A.W. Reed Ltd., Wellington. The publications involved in this takeover are: *Oral English Books 1-15*; *Oral English Handbook*; *Teaching Speech*; *Teaching Structure* and *Island Readers Series A, B, C, D and E*.

Any stocks presently held by Reeds will be purchased by the Commission and re-located in Sydney thus making all SPC Language Teaching materials readily available from the one source. In order to ensure a ready continuity of materials, the previously out-of-print *Oral English Books 1, 2, and 3* have already been reprinted while *Oral English Book 4* and *Teaching Structure* are now at press and copies of both books should be available by the time these notes are in print.

Effective immediately, all enquiries for copies of the above

mentioned materials should now be sent to: SPC Publications Bureau, Box N324 Grosvenor Street, Sydney 2000 NSW, Australia. A price list of all SPC Language Teaching materials is available on request. □

The Oral English course consists of fifteen books and is part of the South Pacific Commission English Language Teaching Programme. Integrated materials for the teaching of reading to accompany this course, from the Pre-Reading stage and through the Primary/Elementary years, can be obtained from the South Pacific Commission Publications Bureau.

Invest in Safety

There are two essentials to investing money

- safety
- a good return

you get *both* at the Commonwealth Bank.

Talk to the people at the Commonwealth Bank about a Savings Investment Account or an Interest Bearing Deposit.

Two points—you don't have to be a customer of the "Commonwealth", and you don't need a lot of money to make a good investment with absolute bank safety.

**Get with the Strength
BANK COMMONWEALTH**

COMMUNITY COLLEGE OF MICRONESIA

(Continued from Page 26)

which would provide a foundation for either employment or further academic training. (6) Develop excellence in reading, writing, and speaking English.

There are about 1,000 graduates of the Community College of Micronesia scattered throughout the Territory. Many are employed as teachers, but there are also many working in the private sector as well. Government agencies of various sorts comprise a third employment area for graduates. Many others have gone on to continue their education elsewhere.

The Community College of Micronesia is where people of various ages, interests and backgrounds — who are at various stages of development as teachers, but there are also many working in the private sec-

tor as well. Government agencies of various sorts comprise a third employment area for graduates. Many others have gone on to continue their education elsewhere.

The Community College of Micronesia is where people of various ages, interests and backgrounds — who are at various stages of development both physical and intellectual — come together to try and understand the major issues that confront, and are likely to confront, Micronesians. □

SG'S TOKELAU VISIT

(Continued from page 26)

conclusions of the team of representatives.

Other proposals under action include plans for SPC sponsorship of Tokelau's Director of Health, Dr Ropati Uili, to undertake training in epidemiology at the University of Otago in 1979, and for Tokelau's Director of Agriculture and

Fisheries, Mr Semu Uili, to board the SPC Skipjack Research and Assessment Programme vessel, *Hatsutori Maru*, to observe this important scientific research programme. In such ways the SPC hopes to be able to continue to contribute to Tokelau's social and economic development and Dr Salato's timely visit will add status to the Commission's efforts in this regard.

PROF. RAOULT KILLED

Professor A. Raoult, former SPC staff member, was killed recently in a car accident in Marseille, France. Mrs. Raoult, who was with her husband, was seriously injured.

Professor Raoult, who was 69, was SPC Medical Nutritionist from 19 June 1974 to 31 December 1976. Any of the late professor's friends who want to contact his widow may write to her at 24 Rue Jean, 13004 Marseille, France.

G.M. TATE Oral English

BOOK 1

Published by SOUTH PACIFIC COMMISSION in association with the New Zealand Department of Education.



GO FOR THE BIG ONE

The enormous wealth in the Pacific must be tapped by Pacific nations themselves. But it needs power; cheap, dependable power: — diesel power.

The great diesel power in the world is Detroit Diesel Allison — the big one.

These diesel engines work the longest, hardest hours; their power-delivery is impressive; their cost efficiency unequalled.

Detroit Diesel Allison is the world's largest manufacturer of heavy-duty diesel engines with gas turbines and automatic and power shift transmissions, plus torque converters. A complete line of power products, trucks, work boats and heavy equipment. DDA engines range in power from 50 HP to 1600 HP, diesel-powered generator sets from 30 KW to 1100 KW and gas turbine engines up to 5,300 KW for marine and industrial use. We've got what you need to get the job done.

DETROIT DIESEL ALLISON NOW AVAILABLE THROUGH NEW ZEALAND

GMP 1970

For further information forward this coupon to: DETROIT DIESEL ALLISON INTERNATIONAL
NEW ZEALAND DIVISION OF GENERAL MOTORS NEW ZEALAND LTD PRIVATE BAG UPPER HUTT.

Tick box for required brochure:

- ☐ Automotive diesel
- ☐ Industrial diesel
- ☐ Marine diesel
- ☐ Generator set
- ☐ Transmissions
- ☐ Turbines

Name

Address



Detroit Diesel Allison
Division of General Motors Corporation

If you are in the Pacific for BUSINESS . . .



or PLEASURE . . .

BANK



BNZ

Branches at:
Suva, Sigatoka, Nadi, Lautoka,
Ba and Labasa.

Agencies in Fiji at:
Marks St., Cumming St., Walu
Bay, Lami, Nausori, Navua,
Deuba, Namaka (Nadi), Market
(Lautoka), Tavua, Nasea
(Labasa), Savu-savu. A 24-
hour agency service operates
at Nadi International Airport.

Represented at APIA:
(Bank of Western Samoa)

Represented at NUKU'ALOFA:
(Bank of Tonga)



The Bank of New Zealand offers a complete commercial and personal banking service in the Pacific for residents, travellers and overseas businesses. These include: Export and Import Facilities—Currency Exchange—Financial Transactions—Trade Information and Introductions—Collections and Payments—Travellers' Cheques—Letters of Credit—Safe Custody—General Advisory Service—Travel Arrangements, Bookings, etc.—Savings Bank Facilities in New Zealand, Fiji, Western Samoa, Tonga and Australia.

Bank of New Zealand

4837

Established in the Pacific Islands since 1876

Principal publications of the SOUTH PACIFIC COMMISSION

- ★ **SOUTH PACIFIC BULLETIN:** This illustrated quarterly magazine provides informative articles and expert opinion and guidance on a wide range of topics of interest to those concerned with the welfare and development of the territories of the South Pacific. Subjects covered in recent issues include—nutrition, public health, tropical crops, pests and diseases of plants and animals, current scientific research, co-operatives, community development and home economics, trade, education, housing and urbanization, natural history, and anthropology.

SUBSCRIPTION RATES

	PACIFIC ISLANDS	AUST.	NZ	UK	USA
Single copy	\$A0.95	\$1.00	\$NZ1.20	65p	\$US1.25
One year	\$A3.80	\$4.00	\$NZ4.80	£2.40	\$US5.00
Three years	\$A10.50	\$11.00	\$NZ13.50	£6.75	\$US14.00

- ★ **TECHNICAL PAPERS:** These are technical reports on a wide range of subjects in the economic, social, and health fields. More than 170 titles have been issued to date, but many are out of print. A list showing available papers is obtainable on request.
- ★ **SPC READERS:** Written for Pacific schools at the request of Territories. A series of readers based on the Tate Oral English Course for use as class texts or supplementary reading. Price list available on request.
- ★ **SPC HANDBOOKS:** No. 1, *Rat Control* (revised); No. 2, *Cocoa Production*; No. 3, *Land Tenure*; No. 4, *Laboratory Techniques in the Diagnosis of Intestinal Parasitic Infections*; No. 5, *Banana Production*; No. 6, *Coconut Production*; No. 7, *Urban Youth Work*; No. 8, *Market Gardening*; No. 9, *Bacteriology*; No. 10, *Weed Control*; No. 11, *Haematology*; No. 12, *Hospital and Health Service Administration*; No. 13, *Manuel de Réutilisation des Effluents d'Origine Animale dans le Pacifique Sud*; No. 14, *Citrus Production in the South Pacific*; No. 15, *Beef Cattle Husbandry and Herd Management*; No. 16, *Arabica Coffee Production in the South Pacific*. Price, \$A1.50 (\$US1.85).
- ★ **EXOTIC PLANT PESTS AND DISEASES:** An invaluable comprehensive loose-leaf reference book of plant pests and diseases to be excluded from or prevented from spreading within the area of the South Pacific Commission. Price within SPC area \$A7.50. Elsewhere \$A15.00 (\$US18.50). Postage \$A3 extra all territories.
- ★ **FISH POISONING IN THE SOUTH PACIFIC:** Sums up present knowledge of ichthyosarcotoxism; identifies deadly fish; 44 full-colour plates. Price: \$A3.50 (\$US4.35).
- ★ **BECHE-DE-MER OF THE SOUTH PACIFIC ISLANDS:** A handbook for fishermen; identifies, with coloured pictures, commercially important species with advice on collecting, processing, packaging and marketing. Price \$A1.50.
- ★ **HANDICRAFTS OF THE SOUTH SEAS:** Revised edition, many colour and black-and-white illustrations; an invaluable buyer's guide to Pacific artefacts. Price, \$A3.50 in SPC area, \$A4.00 elsewhere.
- ★ **PESTICIDE HANDBOOK:** A guide to the safe and efficient use of crop protection chemicals available in the Pacific. Price \$A1.50 (\$US1.85).

INQUIRIES REGARDING SPC PUBLICATIONS SHOULD BE SENT TO

South Pacific Commission Publications Bureau
Box N324, Grosvenor Street, N.S.W., Australia 2000

over 90 years
experience
in the pacific



**Burns
Philp**
GROUP OF COMPANIES

Head Office:
7 Bridge Street, Sydney
N.S.W. 2000.

Established 1883. Consolidated Capital & Reserves \$125,000,000.

General Merchants—Wholesale & Retail.
Shipping, Customs, Forwarding, Insurance &
Travel Agents. Plantation Owners.

Australian Branches

Melbourne, Adelaide, Brisbane, Fremantle,
Geraldton, Darwin, Bowen, Townsville,
Cairns, Thursday Is., Normanton, Innisfail,
Ingham, Mt. Isa.

New Zealand Branches

Wellington, Auckland, Nelson.

London

Burns, Philp & Co. Ltd., Imperial House,
15/19 Kingsway, WC2B 6UN.

U.S.A.

Burns Philp Company of San Francisco, 230
California Street, San Francisco, 94111,
U.S.A.

BURNS PHILP TRAVEL SERVICE

Australia: Sydney, Melbourne, Adelaide, Bris-
bane, Cairns, Townsville, Bowen, Geraldton,
Darwin.

New Zealand: Auckland, Wellington, New-
market, Nelson, Christchurch,
London.

Papua New Guinea: Port Moresby, Lae,
Samarai, Madang, Rabaul, Kavieng, Kieta,
Wewak.

Fiji: Suva, Lautoka, Nadi, Labasa.
Also at Norfolk Island, Santo, Vila, Apia.

**Represented in the Pacific Islands by:
BURNS PHILP (NEW GUINEA) LIMITED**

Port Moresby, Boroko, Daru, Samarai,
Popondetta, Rabaul, Kieta, Kavieng, Kokopo,
Lae, Bulolo, Wau, Kainantu, Madang, Wewak,
Goroka, Mt. Hagen — Papua New Guinea.

BURNS PHILP (SOUTH SEA) CO. LTD.

Branches: Suva, Levuka, Lautoka, Labasa,
Ba, Sigatoka, Taveuni, Savusavu — FIJI.
Apia, Pago Pago — SAMOA, Nukualofa,
Haapai, Vavau — TONGA, Niue Is.

BURNS PHILP (NEW HEBRIDES) LIMITED

Branches: Vila, Santo — NEW HEBRIDES.

**BURNS PHILP (NORFOLK ISLAND)
LIMITED**

Norfolk Island.

*Buyers & Exporters of all Island Produce —
Distributors & Agents for all Classes of
Manufactured Products & Foodstuffs. Agents
throughout the Pacific for: Queensland Insur-
ance Co. Ltd., Burns Philp Trustee Co. Ltd.,
Shell Co. of Australia Ltd. & Shell Co. (P.I.)
Ltd.*

INTER-ISLAND VESSELS are operated within Papua New Guinea, Western Samoa and the New Hebrides.