OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.

DISCLAIMER

FAIR USE POLICY

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.

DISCLAIMER

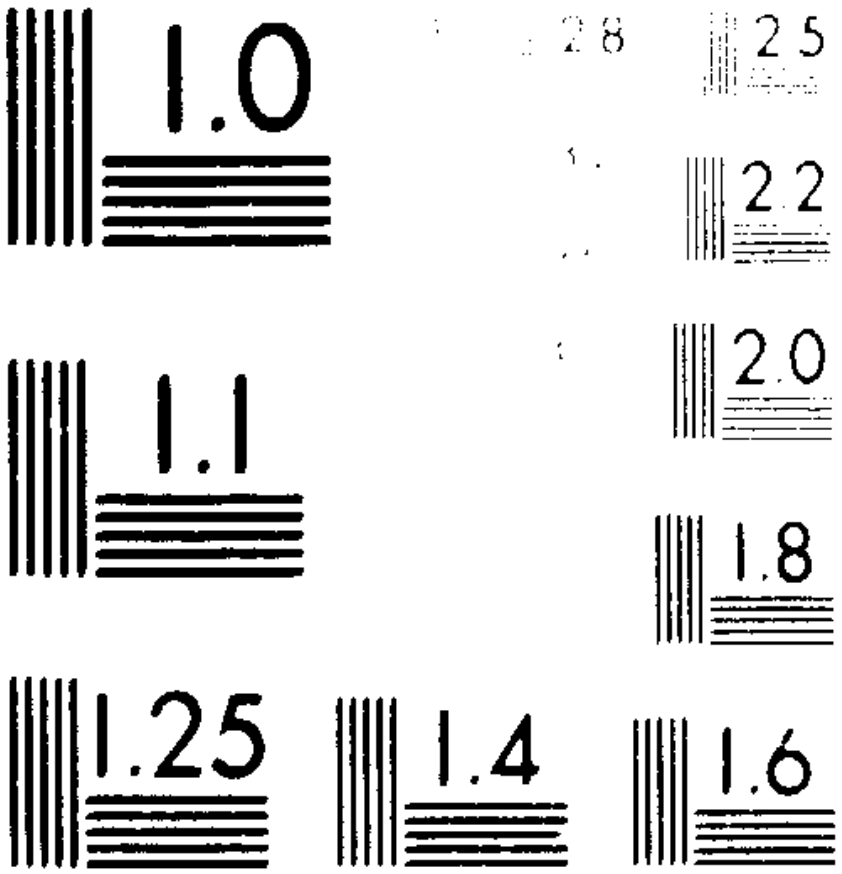
FAIR USE POLICY

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org


2.8
2.5
1.0
2.2
2.0
1.1
1.8
1.25
1.4
1.6

1090

Distr.
LIMITED

UNIDO/IO.456
13 August 1981

ENGLISH

UNITED NATIONS INDUSTRIAL
DEVELOPMENT ORGANIZATION

REVIEW OF THE VEGETABLE OILS AND FATS INDUSTRIES SECTOR OF THE PACIFIC REGION[1/]

DP/RAS/79/031

COUNTRY REPORT ON PAPUA NEW GUINEA

Prepared for the Government of Papua New Guinea by the United Nations Industrial Development Organization in co-operation with the International Trade Centre UNCTAD/GATT.

Based on the work of J. R. Santhiapillai and G. P. Yeats.

1/ This document has been reproduced without formal editing.

V.81-28625

CONTENTS

RECOMMENDATIONS

1. The Copra,Marketing Board guarantee supplies to enable the Carpenter's mill to expand throughput to 75,000t. This guarantee be in the form of the Board making a substantial investment in the mill.

2. The Board look at the feasibility of erecting a copra mill at Madang. The study should not only be for new machinery but also for second hand machinery and using second hand machinery, to take remaining supplies from PNG, except from N.Solomons Province. This feasibility to include bulk copra ships and bulk handling facilities at major depots.

3. A regional approach be made to international banks or aid countries for the transfer of used milling equipment from Europe to the Pacific.

4. The Board support a feasibility study on a mill in the Solomons of crush all Solomons plus PNG copra from N.Solomons Province.

5. The Board send more copra to Palau if present milling trial a success.

6. The feasibility of a palm kernel crushing mill in 1985 at Popondetta be investigated. This mill to crush all kernels from PNG and the Solomons.

7. The soap factory should use coconut oil and/or palm oil.

8. A feasibility study be made of establishment of an edible oils refinery in PNG with the capacity of 10,000t of oil to produce cooking Oil, Margarines, Dripping Specialised fats & Oil for Soaps.

9. Government review tariffs for products of an oils refinery.

10. The soap factory increase production to full factory capacity, and the government take co-ordinated action to restrict imports.

11. The government assist the soap factory in analyses of the prospects of producing all PNG's soap requirements.

12. The Copra Marketing Board discontinue the practies of individual registration of growers, and first and second payment for copra.

13. A stabilization fund be established for all oil palm growers.

14. Canvas for Futures trading to be established for coconut oil,copra copra cake, palm oil, palm kernels and palm kernel oil.

15. Payment for copra exported be based on measured quality.

16. PNG investigate the possibility of copra cake sales to Fiji utilizing back loading rates on ships.

17. A regional trade declaration be initiated to promote trade and production within the region and to strengthen regional countries positions in negotiations with outside countries.

INTRODUCTION

1. Project Background and Justification

The first consultation meeting on the Vegetable Oil and Fats Industry was held in Madrid from 12 to 16 December 1977.

This meeting convened by UNIDO in pursuance of the Lima Declaration and Plan of Action and General Assembly Resolution 3362, is part of its efforts to promote co-operation in raising the overall level of industrial production in developing countries. The meeting made a series of follow-up recommendations relating, inter-alia, to global policy for increased international and technical co-operation between the developed and the developing countries and among the developing short-term and long-term.

UNIDO decided to carry out, through expert services, evaluation studies of the potential of the vegetable oil industries sector in a selected number of developing countries. This evaluation country study was to assess and evaluate the existing situation in the countries to be covered with regard to the availability and utilisation of oil-bearing materials (including the raw material potential), the domestic market situation (present demand) in vegetable oils and protein cake/meals and the present status of the vegetable oil industry. In fulfilment of the above decision, a UNIDO consultant on edible oils made a study of Western Samoa from November 20 to December 4, 1978.

Since the Pacific region is agronomically suitable for production of oil producing species, coconuts and oil palm, such raw materials offer one of few available possibilities for integrated agro-industrial development; vegetable oils and fats, detergents, cosmetics, protein cake/meals, livestock feed and further spinoffs and linkages with the agricultural sector.

It was agreed during the UNDP/ESCAP/SPC/SPE Inter-Country Programming Meeting held in Suva in February 1979, that this type of study should be made into a Regional Pacific Project.

SPEC would like to see the exercise accord recognition to the concept that effective regional co-operation could be a positive means of reducing costs and rationalising development in the Pacific.

2. Objectives

Development objectives: The long term objectives of this regional project is the promotion of regional self-sufficiency in production, processing and related agro-industrial development of vegetable oils and fats.

The study is to assess and evaluate the existing situation with regard to the availability and utilisation of oil bearing raw material potential, the domestic market situation demands for a vegetable oil industry, protein/cake and the status of the vegetable oil industry at present in operation with a view to its further technical technological, and alternative development. It should provide specific long range recommendations towards improving the export of vegetable oils and fats, and provide marketing strategies in relation to present export patterns.

Immediate objectives: The immediate objectives is to recommend methods that can be applied for improving local production and distribution and to provide a marketing diagnosis which will stimulate better export strategy which can be implemented in the immediate future.

Whenever applicable, the study should also consider evaluating oils and fats from animal sources and the possibility of developing viable productions and import substitutions.

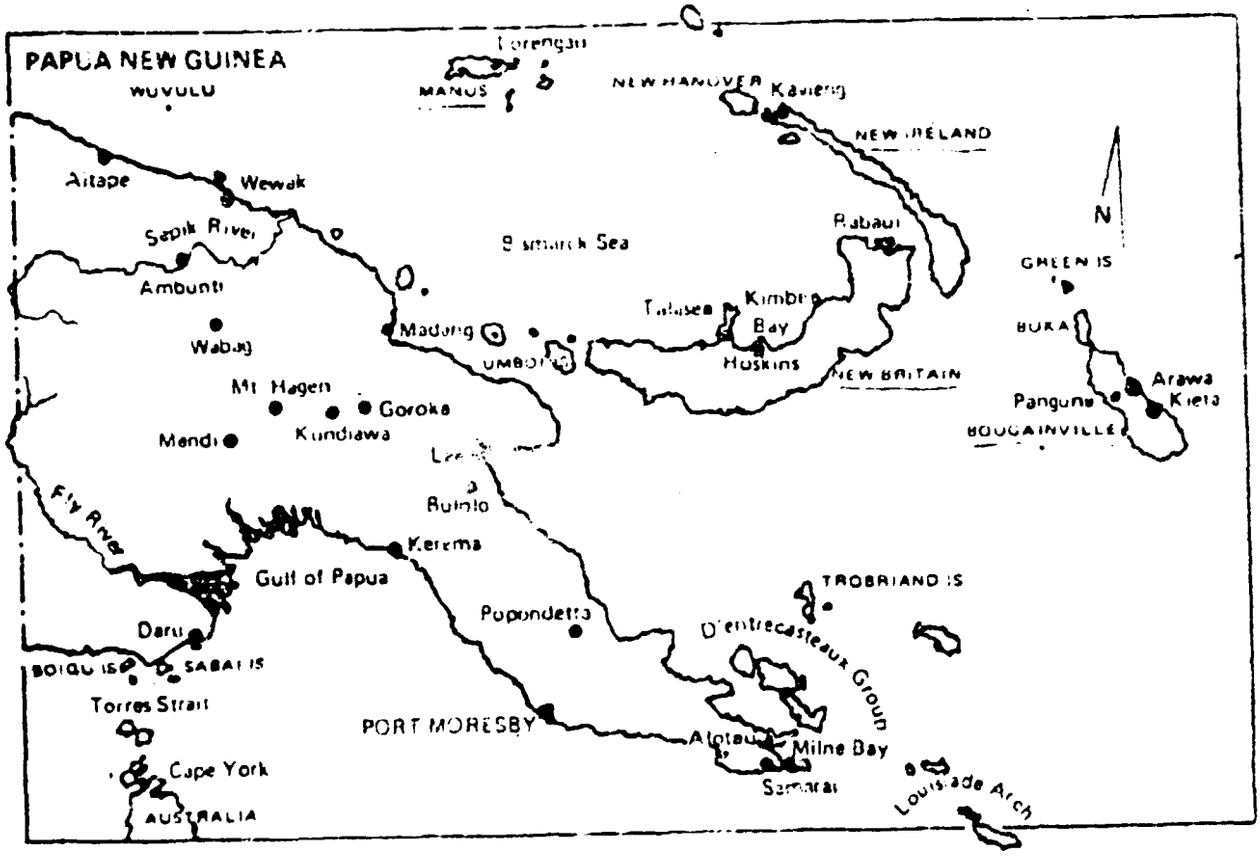
3. Project

In fulfilment of the above, two consultants a) Joe R. Santhiapillai - Team Leader and Vegetable oil Industry Specialist from UNIDO b) George Yeats[1] - Marketing Analyst from ITC, visited Fiji, Kiribati, Tonga, Western Samoa, Niue, TTPI, Papua New Guinea, Solomon Islands, Cook Islands, Nauru, Vanuatu and Tuvalu and prepared twelve country reports with tables, annexes and assessments made and based thereon. In addition the experts produced a summary of the regional study. The project was for a duration of six months.

4. Acknowledgements

Our sincere thanks are due to all the people we had met during our visits to the different countries. If not for their considerable help and co-operation this project would not have been a success. A list of those people principally involved in discussions is given at the end of the report.

During the project we were based at SPEC, Suva and our special thanks are due to the Director, Deputy Director, Administration Officer and Mr. John Franklin, Trade and Marketing Officer and all at SPEC for their invaluable help and co-operation. Our thanks are also due to Mr. Dello Strologo, SIDFA and all at the UNDP office in Suva for their help in innumererable ways.


PAPUA NEW GUINEA
WUVULU
MANUS
Lorengau
NEW HANOVER
Kavieng
NEW IRELAND
Aitape
Wewak
Sepik River
Ambunti
Wabag
Bismarck Sea
Rabaul
N
GREEN IS
BUKA
Arawa
Kieta
Panguna
BOUGAINVILLE
Madang
UMBOI
Talasea
Kimbe Bay
Hoskins
NEW BRITAIN
Mt Hagen
Goroka
Kundiawa
Mendi
Lae
Bulolo
Fly River
Kerema
Gulf of Papua
Daru
TROBRIAND IS
Pupondetta
D'entrecasteaux Group
BOIGU IS
SABAI IS
Torres Strait
PORT MORESBY
Alotau
Milne Bay
Samarai
Cape York
AUSTRALIA
Louisiade Arch

PAPUA NEW GUINEA

Population	:	3,150,000
G.D.P.=capita	:	K540 = US$810
Land Area	:	462,243 sq.km.
Sea Area	:	3,120,000 sq.km.
Geography	:	It is the largest developing country in the South Pacific region. The country is divided into 4 regions 1) Southern Coastal (Western Gulf, Central, Milne Bay and Northern Provinces 2) Highlands (Southern, Enga, Western, Chimbu and Eastern Provinces) 3) Northern Coastal (Morobe, Madang, East New Britain, West Britain and North Solomons.)
Agricultural Production	:	Coffee, Cocoa, Coconut and Oil Palm are the main agricultural export crops.
Total Production of Oils & Fats Equivalent	:	150,500 m.t.
Total Exports of Oils & Fats Equivalent	:	150,000 m.t.
Total Imports of Oils & Fats Equivalent	:	10,000 m.t.
Import Dependency on oils & fats	:	95%
Per capita consumption of Oils & Fats (food uses)	:	1.6 kgms/annum
Per capita consumption of soaps & detergents	:	2.9 kgms/annum

Note: Above figures exclude fresh nuts and invisible fats consumption.

Coconuts

Coconuts are grown extensively in all Coast areas of PNG and form an important source of food for village people living in these areas. Coconuts are also used for drinking, and cooking purposes and as a cosmetic oil. It has been estimated that well over 20% of all coconuts produced are consumed domestically (ADB 1971).

The total area under coconuts is estimated to about 250,000 hectares of which about ½ is largeholdings, but the copra produced by the large holdings is about 50% of the total.

The method of harvesting coconuts is one which is widely used throughout the Paeifc countries i.e. to allow the coconuts to fall to the ground.

Copra is made by Ceylon driers (about 40%), hot air driers fired by coconut husks and firewood (about 40%)and by mechanical hot air driers using an oil fired burner with a mechanical fan (about 20%).

Copra Milling

The Copra mill is owned by Carpenters and situated in Rabaul, It was installed in 1952 with second hand machinery from Canada.

The mill has 7 Anderson Expellers and has a milling capacity of about 60,000 tonnes of copra per annum and is at present working very close to its capacity - about 55,000 tons. This has only just been utilized fully due to a government reluctance to allow the company the full quantity of copra needed to keep the mill at full capacity, although the mill has always had to pay the Board the full equivalent of that which copra shipped to Europe has been getting.

A higher price is obtained for copra sent to Japan and Singapore because of lower freight rates compared with Europe, however, this market is limited, and in no way is the government getting less for its copra than it would, had no copra been crushed in PNG. On the other hand it is obvious that the mill is making a satisfactory profit, and was also making one when its throughput was only two thirds of what it is now. It is also run very efficiently e.g. there are only six staff to a shift, and three shifts per day; and it is maintained in an exemplary way as can be seen from the fact that the mill has been installed for 30 years in PNG and was a second hand plant at the time of its installation, and its rate of extraction of oil from copra is as high as any operating today. The present site is capable of taking another range of machinery to increase the mill capacity to 75,000t, and would cost approximately, K220,000. The company is keen to do this (another indication of how profitable a well planned, efficient milling operation is) but would want to be assured that the extra quantity of copra would be supplied by the Board . This copra could be supplied from the Rabaul depot(probably best done by diverting trucks from Rabaul to Toboi) while still leaving Rabaul 5000-10,000t, which is enough to keep it as a copra exporting port. Because we believe that this milling operation is a profitable venture, and to give the company the necessary guarantee re copra supplies, one course of action would be for the government to make a substantial investment in the mill operations on behalf of the people of PNG. This is best done through the Copra Marketing Board and is discussed in greater detail below.

When questioned about the possibility of investing in another copra mill in PNG, Carpenters said that it would be difficult to make a 20% profit by investing in a new mill However, the company conceded that purchase and re-erection of a second hand mill would be another matter. It is our opinion too that the difference between profitable and unprofitable copra milling in the South Pacific could be partly in the use of second hand equipment. This is said, of course, on the understanding that the equipment has been well maintained and is throughly inspected by a competent authority before purchase.

The most likely siting for a mill would be Madang, for two main reasons: this is the major source of copra outside the Rabaul area and there is the likelihood of relatively cheap sources of hydro-electric power available. Apart from the 75,000t, proposed above, to feed into the existing Toboi mill, and production from Kieta of 13,000t, if the rest of PNG production were transported to Madang, a mill throughput of about 67,000t would be possible. Because of the high cost of shipping and handling, it may be desirable to have one or two specially designed/converted bulk carrier copra ships, with perhaps a capacity of 2,000t and bulk-handling facilities at all copra depots except the smallest ones. Under existing legislation of the Board, it seems likely that the delivery of copra to a proposed mill at Madang, including coastal shipping, could be handled by the Board. However,ownership of a mill would be a new venture for the Board and would require amended legislation. We believe it is desirable for the Board to go into copra processing

in order for benefits from this activity to flow back to growers, and not just benefit the country as a whole. It is our assessment of the future market for coconut products that prices will not be different from the present low price, thereby putting even more pressure on high cost producers, such as PNG than at present. And unless some measures are taken to increase the return to growers, the commercial growers(plantations and larger small holders) could cease production altogether, and the subsistence growers could decrease production. This would in turn raise the cost of copra handling facilities and further lower returns to growers. It is recommended that should a detailed study of the above proposal show it is feasible, then milling operations should be carried out by a subsidiary company of the Board, with a management contract let to Carpenters, or similar company, thoroughly versed in copra milling. Another alternative which could be considered is that a slightly smalle mill be located at Madang with supplies from Wewak and Finschfen by conventional coastal vessel, and from Lae and Port Moresby by road (when a link with Madang and the latter is completed). This would give a total of about 37,000t, and may be more if other centres could feed into the mill and cover high transport costs by greater throughput and efficiency of the mill. This volume would give a confortable margin over the widely quoted minimum throughput of 30,000t for an efficient mill, and could be built to allow for expansion should the need arise, In this eventuality the copra from other centres except Kieta would be shipped to overseas markets as at present.

Another possibility is that the Solomon Islands could contruct a mill there which could also process copra from Kieta and possibly Buka as well. The Solomons currently have a production of some 25,000t, which by itself may not be sufficient for an efficient operation. With Kieta it would be about 38,000t and with Buka an additional 4,000-9,000t depending on whether the Toboi mill could be topped up from either Kimbe or Namatanai rather than Buka as it is now. This will be referred to further in the chapter on regional co-operation.

There has been some discussion recently of island countries buying mills in Europe or the mill in Palau,Micronesia, and continuing to operate them in those countries, in order to safeguard milling facilities. We are not in favour of these proposals for three reasons: first, the European mills may be closing for cost reasons, in which case it cannot be assumed that other ownership can make them run more efficiently: second, it is widely stated that they are closing because of lack of supplied. In this case it would be rather more simple for the island countries to guarantee supplies. This also applies to the Palau mill, where the island countries view processing of copra as a means of adding value to exports and of industrializing their economies, this must be done at home ; and last, there are other indirect factors which may apply: supply of copra meal as a basis for an animal feed industry, supply of coconut oil for soap manufacture and as an input into [illegible] industry, consumption of water and power which may lead to an upgraded service for other consumers or better utilization of existing facilities, and the employment [illegible]

It is likely that processing will be forced on the Pacific. In this case it is in PNG's interests to be able to plan for this eventuality rather than be forced into other alternatives such as utilization of other Pacific mills, which may be greatly to PNG's disadvantage.

The proposals which are favoured are the large mill for Madang and the Solomons mill with Kieta and Buka feeding into it.

It would be desirable for the financing of the installation of a mill, and the reorganization of handling facilities, to be through such an agency as the World Bank or the Asian Development Bank. However, their present mode of operation excludes use of second-hand equipment, such as would almost certainly be necessary for the mill and the shipping. In view of the shutdown of mills in Europe at present, and the likely necessity of the Pacific islands to make other arrangements for milling copra, we would envisage a transfer of milling equipment from Europe to the Pacific This would be a major development for the region, and we think, warrants submission of a special case to the international banks. Should this not succeed, foreign aid especially, U.K.,German or Dutch assistance could be sought. These three countries are the three most likely to be concerned with closing mills in Europe, and are active in aid-giving to the Pacific. Their aid could be coupled with assistance to their own companies in disposing of copra mills.

Milling of PNG Copra at the Palau Mill

The Copra Board as an experiment has sent a shipment of 6,500t of copra to be crushed by the Palau mill on a charge basis-crushing cost of US$50 per ton of copra, while the marketing of the oil and cake is done by the Board.

The Palau Plant has a capacity of about 40,000t of copra and hence if this is successful and this capacity is utilised to mill PNG copra, there would only be about 35,000 tons of copra left assuming that Carpenters would increase their capacity to 75,000t.

Present price paid to growers = K215 = US$325
(including bounty payment of K65)

Price of copra excluding bounty = K150 = US$225
Freight of Copra to Palau = US$28/ton
Crushing cost to Palau Mill = US$50/tonne

Hence total cost to convert 1 tonne of Copra into oil & cake
=US$225 + 50 + 28 ==US$303

Let us now determine the price obtained for oil,

Contracted CIF price of oil =US$595/annum

Insurance =US$9.00
Freight =US$50.00

Hence F.O.B. price of oil = US$595 - 59 = US$536/tonne
Hence for one tonne of copra,

Cost recovered on oil	= 536 x .6 =	US$321
Cost recovered on cake	100 x .32 =	US$ 32
		US$353

Hence net gain on this operation = US$50 per tonne of copra as compared to shipping the Copra to Europe.

The Board must be congratulated in trying ways and means of increasing the price paid to producers and also this is the type of marketing ideally suited in the Pacific countries as the idle capacity of the mills in this region would be utilised and is Regional Cooperation put into practice in a profitable and meaningful way. If this experiment is finally proved successful a major portion of the PNG copra could be milled in Palau and the existing mill capacity utilised. This could be done till such time as the alternatives discussed above are examined.

Dessicated Coconut

Dessicated coconut has been manufactured by Carpenters for about 5 years and the plant (capacity 4500t per annum) was shut down in 1973. Carpenters feel that it is not worthable owing to the high labour rates in PNG. It is a fact that dessicated coconut manufacture is highly labour intensive and Pacific island countries would find it difficult to compete with Sri Lanka and the Philippines with their very low labour rates. It would be feasible if there is a freight advantage from the Pacific to the Australian and New Zealand market and this does not appear to be so.

Palm Oil

There are three oil palm schemes in PNG at Hoskins, Bialla and Popondetta. At full maturity these three schemes will be producing some 110,000 tons of palm oil and 20,000 tons of palm Kernels. At present all the oil is sent to Europe and the kernels to Japan for crushing into palm kernel oil and cake. A further 25,000t of oil and 5,000t of kernels are likely to be produced in the existing scheme in the Solomons if further planting is allowed to take place to bring that mill up to full capacity. At least one other scheme is being investigated in each country which could increase production still further. The sub-regional total would thus provide for a likely minimum of 28,000t of kernels which could be milled in the sub-region. The Popondetta scheme is planned to have the second highest production at 8,000t, and has the advantage over the others that it is on the mainland of PNG and should be able to share in the relatively cheap hydro-electric power which could be made available. As the process is identical with that of crushing copra, the same arguments apply as given above. It may be crucial to such a mill to h ave a throughput of over 30,000t of kernels, in which case the possibility of doing this would have to await until such time as another scheme was implemented, or crushing could be handled by a copra mill. This latter is most likely a possibility in the Solomons.

Soap Manufacture

The soap factory is privately owned and recently Steamships bought 51% of the shares. The management of the Company has been given to a company based in Singapore, and the new General Manager has arrived in end April.

The factory was installed in 1976 and is stated to have a capacity of 2,000 tons of laundry soap and about 200 tons of Toilet soap. The factory has been running profitably as it has been given protection by the Government by imposing a voluntary restraint of Australian imports - quota system of protection.

Production of Soaps

	Laundry	Toilet
1977	1,100	75
1978	1,380	70
1979	1,413	70
1980	1,336	60

Even though the import quota is stated to be 50% for Laundry soaps according to Import Statistics (which has to be checked as they are not edited figures) the tonnage imported is 3,200 tons in which case the local production is only about ⅓ the total market.

All the soaps are made of 100% tallow, which is imported. It would be worthwhile to use Palm Oil or Coconut Oil both because it could be cheaper and also because it would improve the quality of the soap. The quality of the laundry soap is reasonable but the toilet soap has to be improved if it is to compete with the imported soaps.

A tariff protection might have to be considered instead of a quota system as otherwise the local soaps would not sell till such time as the imported soaps runs out and also there might be no incentive for the local manufacture to improve the quality.

Two types of toilet soap are produced: Lemon Fresh, wrapped, and unwrapped (for Government use) in tablet of 100 gm, and Love in tablets of 125 gm wrapped. Lemon Fresh is probably sold at less than cost for 10t per cake i.e. 50t per 500gm, but priced realistically it would still be a very suitable toilet soap for the bulk of the PNG market. It is perfumed with lemon grass, which grows well in PNG. An investigation should be made into small-scale extraction of lemon grass oil and its manufacture into perfume for PNG soaps and possible sale to other South Pacific island countries for the same purpose. Citronella, which is used in the Micronesian laundry soap could also be considered. The higher quality toilet soap produced, Love, is priced at 25t per 125 gm tablet, equivalent to 100t per 500 gm. Its competitors range in price from 116t - 132t, but are preferred by the consumer at present. The soap mould leaves a rough finish to the tablet, and the colours are harsh and unattractive. The expensive wrapper (0.5 t each) although well printed is unsatisfactory in that the name is white against a pastel background, and thus does not present itself distinctively enough. The suggestion has been made to the company that Love be painted in a darker colour against a lighter background. For these reasons, and the fact that little marketing promotion has been attempted because of staff shortages, and equipment is not adequate for a large increase in production, the toilet soap share of the market is only 8.5%. This should alter under new company ownership and management, and the market share is expected to rise to 14% by the end of this year and up to 28% if new machinery is installed next year. Any marketing push would best be made to areas within road transport access of Lae, before additional cost is incurred in sea transport to other centres, which would add about 2t per 500 gm, making it less attractive to consumers.

About 1260t of tallow are imported @ K433/t, and about 120t of tallow from the Lae abattoir are used per year @ K320/t. Enquiries have been made about tallow from Goroka, but no reply was received. Presumably it is all consumed locally as that is a fat deficient area. If present tallow is considered to come just from Morobe Province then the potential of the rest of the PNG (less Highlands) to produce tallow could be about the same again as what is now purchased locally. This could save K50,000 annually in foreign exchange plus provide an additional income for the abattoir for a product which otherwise may have been wasted. The factory is at present using small amounts of palm oil @ K420/t ex Popondetta, and should be able to buy coconut oil ex Rabaul at about K500/t ,both delivered Lae prices. In the past, the management hasn't been sufficiently flexible to adjust to the present low prices of vegetable oil but would be advantageous to the factory from the point of view of price to use more vegetable oils and also from the lathering quality of the soap.

Palm Oil Refining

The maximum market for Vegetable Oils, Ghee and Fats and Margarines is about 5,000 tonnes and the market for Butter is about 1,000 tonnes. Assuming 50% replacement of butter the maximum market for refinery products is about 5,500 tonnes which is a fair size market to consider installation of a reginery - neutralising, bleaching and deodorising. In order to make dripping and vegetable ghee, palm oil could be used if fractionated into Palm Olein and Palm Stearin.

The Palm Oil fraction or liquid fraction could be used for cooking oils and the Palm Stearin fraction (suitably blended) could be used for the manufacture of Dripping and Margarines.

In addition to the above, 100% Palm Oil could be used for the manufacture of soaps if the Palm Oil is bleached. The maximum market for soaps is about 6,700 tons and the Palm Oil requirement is about 4,250 tonnes. Hence the Neutraliser/Bleacher should have a capacity of 4,500 tonnes.

It is therefore recommended that a feasibility study be made for installing a Refinery to have the following capacities:

Neutraliser/Bleacher	-	10,000	tonnes/annum
Deodoriser	-	5,500	" "
Hardening(only essential for high quality margarines)	-	2,000	" "
Fractionating Equipment (if necessary simple fractionation by settling could be done.)	-	5,500	" "

The soap stock produced from the refinery should be used in the manufacture of soaps. Hence ideally the refinery and soap factory should be close to each other for the soap stock to be pumped across.

The possibility of an oil refining plant in PNG has been seriously considered by Carpenters, who are currently thinking of a feasibility study of this on a regional basis. Harrisons and Crossfield also reacted favourably to such a possibility. However, it is very unlikely that these, or similar companies will become involved in this sort of venture. This may be illustrated from the Fiji situation. One company in Fiji is involved in an integrated industrial complex of copra crushing, soap manufacture and edible oil refining. The oil refinery was recently installed and has a current output of 2,400t of oil, about two thirds of its capacity. This integrated industry is obviously highly productive(certainly it is protected from import competition by high tariffs), however, Carpenters established in Fiji for near to a century had never gone into this industry. IN PNG Carpenters stated they would want to have a government guarantee to refine 25,000t of oil before they would commence a plant.

We consider a necessary part of the establishment of an integrated oil refining and margarine production industry is the setting of an effective tariff protection for the products. PNG has traditionally been a low tariff country because there was no need to impose them until recently. There was formerly no industry to protect, most exports were of a primary nature in the production of which PNG was well suited, and lack of import duties meant that the cost of living was lower than would have been otherwise. There is still considerable opposition in PNG to further tariffs, however the facts have to be faced that without them very little industry can succeed. Most of the industralized western countries in the world have followed this policy, and Fiji certainly. It is pleasing to see the PNG government is at present establishing a secretariat within the Ministry of Trade to service the Tariff Advisory Committee.

CONSUMPTION OF FATS AND OILS AND FUTURE MARKET TRENDS

Consumption of Fats and Oils

Papua New Guinea produces about 150,500t of vegetable oil (in oil equivalent terms) and imports a further 10,000t (in oil equivalents) of oils or fats as butter, margarines and shortenings, soaps and oil seeds and in pre-mixed stock feeds. Production is predominantly of coconut products with oil palm products comprising some 20% in 1980. On maturity of present oil palm projects, however, this will contribute slightly less than 50% of total oil production, provided coconut production does not decline.

Exports in oil equivalent terms are about 125,000t, with 38% in the form of copra, 33% as coconut oil and meal 27% as palm oil and 2% as palm kernels.

The subtraction of exports from the combination of production and imports givens PNG human consumption of oils(in oil equivalents) as about 10,000t. Human use is divided into food use of 5000t(1.6 kg per head) and non-food (soaps and cosmetics) of about 5,000t (1.6 kg per head.)

In this figure we have not included consumption of fresh nuts as food by humans and by animals. This is because there are no reliable data on this available. A range of 175 nuts/head per annum to 365 is often quoted for the Pacific islands. If the figure of 200 were taken, the oil equivalent of this quantity would be 50,000t (for the coastal people only) making it easily the largest source of oil consumed in PNG, and an important proportion of production of the coconut industry. This is a somewhat wasteful method of consumption in that usually the nut is split in two, the "water"wasted, the "meat" is grated, and the resultant "cream" extracted. The residual "meal" is discarded or fed to livestock. However, this is part of the culinary tradition of PNG, and is important also in that it involves no cash outlay. As prices of all food-stuffs rise, it is likely that the bulk of the coastal population (villages o ning coconut groves) will consume more coconuts to substitute for foods which have to be bought. The inland "highlands" people who comprise some 25% of the population, have always had a fat-deficient diet. Their major sources of fat are now from imported margarine and dripping, the consumption of which has been rising rapidly as incomes have improved. This could be an important and growing area for consumption of coconut and palm oil. Some promotion and demonstration of use would be required. The latter would be preferable and desirable from a dietary point of view because of the carotene content.

PNG consumption of oils and fats in coastal areas is similar to other Pacific island countries, but based on experience elsewhere, it is likely that, as incomes rise, the consumption of fats and oils will rise even faster. This extra intake will most probably be in the form of greater consumption of fresh coconuts as mentioned above, but also as edible fats and oils. Given a preference, this most likely would be animal fats, however, margarine is also acceptable and could be made using a major conponent of coconut or palm oil. The consumption of oils and fats by "highlands" people is very low by comparison with the rest of the Pacific, and major growth is likely to occur in this area in the future.

LOCAL MARKETING OF OILS PRODUCED

It has long been suggested that coconut and palm oil(neither necessarily further refined than the crude now produced) be made available for the retail consumer and for use in institutional, commercial kitchens. The price received for both coconut and palm oils are about K330/t f.o.b. PNG at present or about 17 toia/ litre. It would be possible for producers to wholesale small amounts of oil for bottling and local sale. Twenty litre containers could be provided for the bulk catering trade. The bottled oil could be expected to be retailed at K0.75 per litre including transport,bottling, labelling, and a profit to the businessman. As low a price as possible should be set in order to capture the maximum market, bearing in mind the Tongan and Ponapean situations, where locally-produced coconut oil does not seem to be finding a ready market. This may partly be because the price is too high. The scale of operation should be kept small at the onset, both to gauge the size of the market, and to keep overhead costs at a minimum. At the same time, it is recommended that the bottles be distinctively and attractively labelled, and some promotion taken place in the form of posters and cooking demonstrations.

MARKETING OF PNG SOAP

At present the factory produces about 8.5% of toilet soap used in PNG, 28.9% of all soaps used in PNG. This is despite an agreement between the PNG Government and Australian soap makers that imports into PNG will be limited to about half the market, i.e. about 2,700t. The factory seems to be unaware of this, and thus has not complained to Government and Government is unaware, or is taking time to inform Australian producers to curtial supplies. It is recommended that the company andAustralian producers be immediately informed of this situation, and the company invited to advise the Government on the timing of an increase in production to full capacity of about 2,520 tons.

It is further recommended that the Government assist the Lae factory to do a financial,an economic and a foreign exchange cost/benefit analysis on the basis of full utilization of present plant, and the installation of newer equipment with the capacity of supplying all PNG's soap needs. Should the analysis prove to be favourable (as this study expects,) then the Government enter into negotiations with the company to enable them to expand production. This can be done by decreasing the imports of soap (import licencing) but this should be accompanied by price control to ensure that the company doesn't exploit its monopoly position. A preferably way of doing this would be to put a tariff on imported soaps such that local soaps would command most of the market because of cheapness.

At the time of our visit the laundry soap was retailing for 40t per 450 gm/bar(equivalent to 44t per 500 gm) which was competitive with imports from Australia 52t per 500 gm and mainland China 46.7c per 500 gm. However, there is evidence to suggest that the imported product is preferred by most consumers and more would be used were it available. Still, the local product seems very satisfactory. The wrapping used for laundry soap seems unnecessary, and part of the K12,000 per year currently spent on importing wrappers from UK and New Zealand could be saved.

MARKETING COPRA

The Copra Marketing Board is the sole authority for the purchase and sales of copra and to administer the Copra Stabilisation Fund. The Board operates efficiently but a high cost compared with other boards in the Pacific. The estimated costs of the Board in 1981 is K17 (US$25) per tonne to cover administration, handling and storage, stevedoring and wharfage charges.

The copra is delivered to the nearest Board depot. However before it is accepted at the depot it must be inspected by produce inspectors of the Department of Primary Industry. It is worth noting that the copra is stored in a systematic manner and that the absence of weevils in copra warehouses is very noticeable. This is being achieved by periodic fumigation using "Insectigas" at a very low cost. It is claimed that this fumigation leaves no residue in the copra and if this is so it is worth using in other countries to eliminate the weevils which are always associated with copra storage and handling.

Based on expected returns from sales during the year the Board fixes a buying price based on approx. 90% of the expected final return after deductions for handling, administration and export tax. Where the 'first price' is in excess of K185 per tonne a levy for the Copra Fund is applicable. Where the price is less than K185 the Board may apply to the Minister for Primary Industry and the Minister for Finance for the payment of a bounty. When the final accounts of the Board are completed the surplus is distributed to each individual producer in accordance with his production for that year. Export Tax is applicable only where the f.o.b. value per tonne exceeds K247.5(US$345) and this tax forms part of government revenue.

The sales price is based on the world price - c.i.f.Rotterdam price. But the cost of freight to Europe is US$88/tonne as compared to US$70/tonne to Japan and hence it is more profitable to sell the PNG copra to Japan than to Europe. The Board receives premiums under N.I.D.P. rules from Japan and ½% on the c.i.f. value from Europe and the local mill. Each year the Board enters into contracts with the various buyers for the supply of copra during that year. In 1981 the following contracts have been concluded:

Europe (L.M. Fischel & Company)	26,000 tonnes
Japan	54,000 tonnes
Coconut Products Limited(Local Mill)	50,000tonnes

Any surplus is sold on the open market. For the first time the Board is experimenting by milling 6,500 tonnes of Copra at the Palau Mill (in TTPI) by paying a crushing cost to the mill owners and contracting the sale of oil and copra meal.

As mentioned above, it was observed that the Board has higher costs per ton handled than other similar bodies in the Pacific. Especially in view of the large amount of copra handled by comparison with other boards, we believe more effort should be made to lower this cost.

Part of this cost, which in the opinion of this study, could be dispensed with,resulting in a cash gain to producers, and no loss of benefits are the two practices, individually registering all copra producers, and the practice of first and second payments. The elimination of these two practices could result in growers getting $US10-US$15/t more for their copra. Both in Western Samoa and Solomon Islands the copra boards operate without individual identification of growers and on one single payment at the moment of acceptance of copra by the boards. Both operate in effect a single bank balance cum stabilization fund into which go a year's profits plus fund contributions or out of which comes losses or fund payments. These would require changes to the legislation which should take place as a matter of urgency.

Another practice which is not directly costing the copra producer, but which is borne by the taxpayers generally is that of over-grading of copra. The present system which is administered by the Department of Primary Industries has in fact four grades: first, second, third and reject. The accepted grades are each separated by a price margin of K4, which is not related to the difference in cost of producing these grades. The copra is not sold according to these grades, but in fact all are mixed together the result being in fact an average of all grades. This study therefore recommends that the present system be reviewed, taking into account the costs of production of the various grades of copra, the standards of the grading service and the price paid for various qualities of copra, with the aim of instituting a system which is more effective, less costly and more simple than the existing system.

This report would also recommend that the region press for a system of payment for quality both for copra and oil. Then depending on the prices decided, so each country could aim for a quality to get the best price while taking into consideration the conditions in the country. It is a salutory lesson to learn that while Fiji is in theory maintaining a strict grading system not dissimilar to that in PNG, the quality has been gradually deteriorating.

MARKETING OIL PALM PRODUCTS

The oil palm scheme at Kimbe was the first one established in PNG. It consists of small holder growers, a nucleus estate jointly owned by Harrisons and Crossfield and the PNG government, and a separate company owning the mill, with the same shareholders as the nucleus estate. As it is established, the mill company is assured of a profit which is not related to movements in the world price for oil palm products. The plantation company and the small holder growers thus have to take greater fluctuations in prices than they would have if the mill were also taking some of the brunt of these. This also has the effect of considerably lowering the risk of H & C in the venture. It is recommended that the government take this into account in any future negotiations, where the opportunity may arise to alter this agreement to more evenly spread the risk between the mill and growers.

This mission is also in favour of the two other measures aimed at stabilizing fluctuations in oil palm products prices. These are, the establishment of a stabilization fund for growers, in much the same way as for copra. This fund should probably aim to have in reserve about K34 ton f.f.b. This would be something equivalent to the copra fund. This study is adamant that the fund should apply to plantation production as well as that from small-holders, otherwise the effect of the scheme would be far less, and certainly unfortunate jealousies would arise in times of high prices.

MARKETING OF OTHER PRODUCTS

Coconut shell charcoal, and its further processed form, activated carbon, seem to have reasonable prospects if they can be produced at low capital and management cost, yet at a good uniform quality. So far this has not been able to be achieved in PNG. although it has been tried several times.

Coir and coir products have also been tried several times in PNG, and are currently under trial again. Certainly the industry will not be able to compete with South Asia imports. It would be a useful cottage industry if a reasonable standard of production could be achieved.

From time to time small quantities of whole coconuts have been exported from PNG, largely to Australia. This trade is currently being revived into Australia, and sales are expected to reach 4m nuts(equivalent to 800t copra) in 1981, from half this quantity the year before. Currently supplies are from Western Samoa to Australia, and Tonga to NewZealand(at the steady rate of 700,000 nuts/year) but with the active promotion campaign mounted in Australia, supplies from these two countries may be inadequate to meet demand and other sources may have to be found. This will not be a huge market, but as prices paid can be up to three times that of productive resource than their coconut palms. Nuts would have to be of a good size (less than 5,000 to the ton of copra), be in good condition (no dry nuts) and be supplied regularly.

Two animal feed mills have commended in recent years in PNG and now produce some 40,000 tons of feed per year, about 80% of the market. The Lae mill uses some 4,000t of locally grown maize and sorghum per year and mill run, a by-product of the company's flour mill, however negligible amounts of copra meal have been used, and then only in pig food which is only 10% of its output. The company in Lae, which produces about 25,000t of feed per year stated that they could use some 500t of copra meal per year. The Port Moresby plant, on the other hand, which also produces predominantly poultry feed has asked the copra mill to supply it with about 4-5,000 t per year. This quantity would amount to about 30% of the poultry ration, which we understand (from the Tonga government studies on a feed mill) is the maximum desirable amount. The same source has suggested that pig feed may contain up to 50% copra meal. Up to these limits, then it would seem desirable to utilize as much copra as possible provided this is cheaper than substitutes. If all animal feeds were to be produced in PNG and the above proportions of copra meal used, the quantity utilized could be about 20,000t per year. This could have the side effect of more back loading of coastal ships from Rabaul to Lae and Port Moresby.

Final Comment

The other item which merits comment and we believe is a serious drawback to economic development in PNG and indeed throughout the region, is the mutually suspicious attitude with which governments and large companies (not necessaril multi-nationals, but in many cases so) view one another. It is easy to see how this has arisen: in the past these large companies have had an unfettered existence, with encouragement from the colonial powers to undertake the necessary private sector functions in the islands; now the newly independent states in their bid for economic independence are trying to encourage indigenous national enterprises and are inclined to regard the companies as running contrary to this aim. The companies on the one hand have the business skills and capital which the government may lack, but on the other hand are conservative in changing to the new post - independence mood. We believe that all productive elements in the economy are necessary and the way to get the larger companies to participate more fully, and in line with government aims is for there to be more discussions between the two groups, and for the government to take greater shareholdings in these companies. This may be as recommended above by the Copra Marketing Board investing in the oil mill, or as is more usual in PNG by the National Investment Development Authority taking shares in companies, and re-selling to individual citizens on an investment trust basis.

SHIPPING

Internal shipping in PNG is at two levels. There is the "coastal" service which links up villages, plantations and small centres, with the main ports, and the "main ports" service. Both are catered for reasonably adequately although the services are somewhat expensive partly because of outdated vessels. The government and private companies are engaged in internal services.

Some updating of vessels is currently being undertaken, for example the Burns Philp company has ordered four new barge-type vessels with front loading ramp to carry about 200t each. These are to cost about Klm. each and have special features designed for PNG conditions, such as 9' draft, 3 t capacity winches and facilities to enable loading/unloading to proceed during rain. One of these vessels was due to arrive a week after our visit. Two similar vessels are already successfully operated by the other major coastal shipping company in the New Guinea islands.

There is no immediate intention to bulk handle cargo, such as copra in wire bins, but these new vessels would be suitable for this. It is likely that their usage will naturally follow. Already, much of the copra delivered to the Toboi depot of the Copra Marketing Board, where bulk handling facilities are available, is in bulk. This is both from plantations in tip trucks, and by villagers in utilities.

The overseas shipping services to PNG are handled by at least eleven lines. These fall into three groups: those that service the PNG - Europe route. They are the Bank Line(copra, palm oil and other cargo, especially coffee and cocoa).Pan Ocean Line (coconut oil),Polish Line (soon to carry copra cake) and the Columbus Line(general cargo, but interested in coconut and palm products); those that service Japan and South East Asia, especially Singapore. They the NYK and Mitsui Lines (both carry copra); those servicing the South Pacific they are the Pacific Forum Line (general cargo), the Compac consortium (cocoa and timber), the Sofrana Line (general cargo) the PNG government Shipping Corporation(which also services West coast USA) and the Copra Board has recently chartered a vessel from South Sea Freighters to carry 6,500t of copra to the mill in Palau, Micronesia.

The European service is the traditional outlet for PNG exports, and has the advantage to PNG coconut and oil palm producers that it carries much of the coffee and cocoa crops also (about 75,000t) which greatly improves its ability to pick up copra in smaller quantities, than it would have otherwise been worthwhile. However its freight rates are about $US20/t greater than those to Japan and South East Asia, so more and more cargo will be diverted to these areas. Rates to Japan are also cheaper than to Australia, which tends to preclude sales of coconut oil from PNG to Australia, although Australia is interested in PNG oil. The Japanese service has the advantage to the Copra Board, that it will call at the smaller depots. The Polish Line is actively trying to solicit business throughout the Pacific, and is to ship PNG copra cake shortly. However this line has not had the long period of successful service such as the Bank Line has, and the combination of price cutting and the difficulties of loading copra cake may militate against success of this company.

The compac consortium and the PNG government line both service the PNG - Australia route. The Pacific Forum Line, PNG Shipping Corporation and Sofrana appear to be the main links with other island countries;these are not extensive. The PFL originates in New Zealand thence Fiji ports, Honiara, PNG ports and back to New Zealand. The PNG Shipping Corporation's route originates in PNG thence Honiara, Kiribati, USA coast and back to PNG. With the Sofrana Line the route originates in New Caledonia, thence PNG ports, Honiara, Vila, possibly Fiji, New Zealand, and back to New Caledonia. Thus PNG is linked with only the Solomons, Vanuatu, Kiribati andFiji by existing shipping. The PFL reported that their ship on this run, the "Forum New Zealand" was running profitably, and trade was building up as a result. The vessel is about 80-90% full on the northern leg but only 20-25% on the return leg of the voyage. The same situation applies to Sofrana. Thus any proposal for a copra mill in the Solomons, including copra to be milled from Kieta, may be in a position to negotiate cheap back loading rates with the PFL or Sofrana. Similarly copra cake may be exported to Fiji which has recently reached a position of shortage of cake.

REGIONAL CO-OPERATION

It would not be true to say that the idea of regional co-operation had not yet occurred to PNG. Indeed, PNG is one of the voting owners of the Pacific Forum Line which was specifically established to promote trade within the region. For the purposes of PNG, however, the PFL only enables it to import from the Solomons and Fiji and not to export to any other Pacific island country. Thus while the PFL was specifically created to promote inter-island trade, it is in fact catering for trade, (on this route) between PNG and New Zealand. This has the advantage, however, of being a profitable route, and does offer the possibility of back loading, at cheap rate, copra to the Solomons from Kieta, should a copra mill be established in the Solomons, and copra meal to Fiji.

PNG, as one of the larger countries in the region, does have the resources, both financially and in trained manpower, that many of the smaller countries do not have, and in that way could be said to have a responsibility to take a leading position on regional co-operation. There are several ways in which this concept could be positively promoted.

Above, and in the chapter on consumption and marketing, the concept of supply of copra from Kieta to a mill in the Solomons was discussed. If that concept is agreed to by both governments, then a detailed feasibility study needs to be undertaken.

Likewise, the possibility of an oil palm kernel mill in PNG, but also drawing on supplies from the Solomons would be another positive way of benefitting both countries, whereas if this sub-regional co-operation does not take place, then perhaps neither country will be able to successfully undertake these projects.

To satisfactorily implement either of these projects, it is believed that the purchase of second hand mills will be necessary. As stated above, some of the major international lending institutions, the World Bank and the Asian Development Bank will not lend on second hand equipment. It is possible, however, that this attitude may be changed if the island countries approach the banks with a regional voice to submit that this transfer of technology is a once only movement which is critical for the future of the coconut industries of several of the islands. We hope that this study will provide a basis for a national development of comprehensive milling facilities in the island countries. We further recommend that a study be made of all copra mills in Europe, and any elsewhere which may be for sale, to enable a regional proposal to be put to the banks. Should this approach fail, it would provide the necessary data on which to base requests to European countries for transfer of their mills to the Pacific.

This study recommends, that in line with a world-wide trend in many major commodities, futures trading markets be established for copra, coconut oil, copra cake palm oil, palm kernels and palm kernel oil. Pressure for such a move could most effectively come from the island nations acting together. As a first step towards this it is suggested that the matter be discussed in a regional seminar on the subject, possible at a meeting of the Asian Pacific Coconut Community with oil palm representatives invited.

Most island countries in the region sell their copra on a London price basis, and most get a quality bonus of 1%, yet the quality of their copras differers enough to suggest that in some cases this quality is not adequately rewarded. Moisture (affecting yield of oil), free fatty acid and colour (affecting cost of refining the crude oil) are the three most important characteristics concerned. This study would recommend that the region press for payment of copra sent overseas based on its laboratory-tested description at point of delivery, and to provide information to support this move, a regional investigation be made of copra quality, and this be related to the cost of further processing. This would also be a necessary study to guide those countries which are now carrying out a multi-grading procedure and wish to know whether this should be continued, or a simplified system instituted.

PNG should investigate the possibility of copra cake sales to Fiji livestock feed industries, possibly utilizing cheap backloading rates on PFL or Sofrana ships.

Unless positive steps are taken to site industries in the islands, and many as suggested above, will be on a regional basis, the existing pattern of development is likely to become intensified i.e. trade between the islands and outside industrialized countries rather than trade between the islands. Under this system,development of industries in the islands is always discouraged unless special measures are taken to promote industry. These measures have so far not met with a good deal of success if measured against effective local control and ownership.

To encourage trade within the region, it is recommended that PNG and other island nations included in this study initiate a trade declaration to promote trade and production in the region on a more co-ordinated basis than presently. The declaration could be used as a basis on which trade in, and production of, specific items could be discussed between island countries, and as a stronger negotiating force when dealing with the non-island SPARTECA agreement countries of New Zealand and Australia and with other trading partners around the world. In particular, such a declaration should request New Zealand and Australia to more fully implement the intention in the SPARTECA agreement that these countries use their Trade Commissioners to investigate markets abroad for island products. Presently this is done on a limited scale, but needs positive promotion.

VALUE OF EXPORTS & IMPORTS - K'000 f.o.b. port of shipment

	1978	1979
Exports of Domestic Produce	504,496	629,970
Re-exports	45,860	56,914
Total Exports	550,356	686,884
Imports	478,298	561,555

VALUE OF EXPORTS OF DOMESTIC PRODUCT TO SOUTH PACIFIC ISLANDS K'000

	1978	1979
Fiji	130	85
Kiribati & Tuvalu	57	18
New Caledonia	10	6
Vanuatu	92	13
American Samoa	5,008	8,061
Solomon Islands	190	241
Western Samoa	21	23
	3,798	4,647

VALUE OF MAJOR EXPORTS 1979

K'000

	Total Value	% TOTAL
Cocoa Beans	60,872	9.7
Coffee Beans	124,996	19.8
Copper Ore	288,065	45,7
Coconut Products	60,712	9.6
Palm Products	15,435	2.5
Others	79,890	12.7
	629,970	100.0

EXPORTS OF PALM PRODUCTS - TONNES

	1979	1980
Palm Oil	34,527	33,925
Palm Kernels	3,700	4,820

1979 Value of Exports & Country of Destination

Coconut & Palm Products K' 000

	Copra	Copra Oil	Copra Cake	Palm Oil	Palm Kernels	Total
Australia	-	747	-	-	-	747
France	3,375	-	-	-	-	3,375
Germany	454	544	435	2,465	-	3,898
Guam	4,638	-	-	-	-	4,638
Japan	16,360	-	-	169	994	17,523
Korea	1,003	-	-	-	-	1,003
Netherlands	2,201	2,432	1,425	7,859	-	13,917
Singapore	809	-	92	-	-	901
U.K.	3,904	15,778	-	3,948	-	23,630
For Orders	5,419	-	-	-	-	5,419
Italy	-	1,098	-	-	-	1,098
Total Value	38,162	20,599	1,951	14,441	994	76,147
% of Total Exports	6.1	3.3	0.3	2.3	0.1	12.1
Tonnes	90,880	30,822	18,420	34,527	3,700	178,349

IMPORTS OF SELECTED ITEM - JANUARY - SEPTEMBER 1980

	Tonnes	K'000
Margarine Table	170	189
Margarines Cooking	395	347
Other Fats	1,836	1,452
Vegetable Oils	657	646
Butter	768	885
Ghee	27	28
Tallow	1,200	484
Toilet Soaps	774	1,058
Laundry Soaps	3,221	1,232
Detergent Powders	1,796	1,809
Mashes	4,663	1,009

COPRA PRODUCTION IN TONNES

(Based on receivals into CMB Depots)

	1978	1979	1980
Port Moresby	7,259	7,456	7,156
Alotau	6,288	6,991	6,556
Samarai		521	499
Lae	1,869	2,681	2,041
Finschhafen		182	361
Madang	20,950	24,100	20,606
Wewak	2,065	3,071	3,043
Lombrom	1,516	1,694	1,409
Kavieng	14,869	15,014	13,299
Namatanai	3,336	3,882	3,853
Rabaul	17,129	20,418	14,224
Toboi	41,766	42,204	44,437
Kimbe	7,018	7,449	8,330
Kieta	13,130	14,802	13,019
Buka	8,686	9,737	9,546
	145,880	160,201	148,379

INTERNATIONAL PRICE OF SELECTED OILS AND OIL SEEDS, 1969 - 1981 (US $/M.T.)

Year	Oils					Oilseeds	
	Coco Oil Phil/Indo. Cif. Rott.[2]	Soybean Oil Dutch fob ex-mill[1]	Palm Oil Malaysian 5% Cif. Europe	Palm Kernel Oil, Dutch fob ex-mill[3]	Sunflower oil, a.a. ex-Tank Europe	Copra Phil/Indo Cif N.W. Europe	Soybe U.S. 2 Yell Cif. Rott.
1969	347	197	173	306	213	202	107
1970	379	286	260	367	330	222	121
1971	353	304	262	336	374	190	132
1972	254	241	217	219	326	142	144
1973	513	436	376	506	481	348	290
1974	998	832	672	1,046	977	670	277
1975	394	563	433	409	739	256	220
1976	418	438	405	433	581	275	231
1977	578	575	530	620	639	402	280
1978	683	607	600	764	665	471	268
1979	984	662	654	1,064	762	673	298
1980	674	593	584	763	633	453	296
1981							
Jan.	614	545	625	629	690	433	323
Feb.	603	516	640	621	650	411	306
Mar.	574	535	620	605	650	393	305
Apr.	552	531	588	582	652	387	316

1) Prior to December 1970 = a.c. ex-tank Rott.

2) Prior to January 1973 = Sri Lanka cif. bulk. CIF Europe Ports

3) Prior to January 1972 = West African, CIF Europe Ports

Source: Cocomunity

WORLD TRADE - MAJOR IMPORTING COUNTRIES

SHIPMENTS OF COPRA INTO THE FOLLOWING COUNTRIES

(Metric Tons)

	1975	1976	1977	1978	1979
Belgium/Luxemburg	20,247	18,000	15,000	13,200	5,200
Denmark	21,274	42,931	20,095	22,400	18,300
France	63,879	71,582	61,000	52,100	55,700
Netherlands	166,691	148,500	74,000	78,700	57,700
Norway	11,000	15,000	13,000	10,000	15,600
Portugal	11,100	17,000	25,900	24,300	18,200
Sweden	38,505	38,600	41,600	37,000	13,000
United Kingdom	28,988	21,545	25,598	19,100	22,074
West Germany	413,142	525,183	351,400	211,000	53,900
U.S.S.R.	29,000	9,800	19,900	9,800	14,500
Singapore	27,100	43,700	40,800	73,300	36,100 Est.
Japan	89,866	110,956	97,785	90,400	55,459
TOTAL:	920,732	1,062,697	786,078	641,300	365,933

Source: 1979 Annual Review Frank Fehr & Company Limited

Note: Main drop in imports is in Netherlands and West Germany. Total drop from 1975 to 1979 is 554,859 mt. Philippines drop in exports in the same period was about 650,000 mt.

PERSONS INTERVIEWED

1. Mr Kuma Aua, Assistant Secretary Commodity Policy DFAT
2. Mr Dave Stewart, General Manager, Copra Marketing Board
3. Mr J Grose Chairman Copra Marketing Board
4. Mr J Bai, Assistant General Manager, Copra Marketing Board
5. Mr Thomas H Kekeao, Assistant Secretary Industries Assistance Division/Branch DFAT
6. Mr Mahinda Wijenaike UNIDO
7. Mr L Solomon, Assistant Secretary Trade Relations DFAT
8. Mr John Shadlow, Chief Statistician Bureau of Statistics
9. Mr R C Doery,Policy, Review & Co-Ordination Branch, DPI
10. Mr J Thanabalsingham, General Manager,Melanesian Soap Industry
11. Mr R Elias, Factory Manager, Melanesian Soap Industy
12. Mr R A Gillbanks, Chief Executive, Harrisons & Crosfield (PNG) Limited
13. Mr Andrew Shepher, Agro-Economist, D.P.I. Port Moresby
14. Mr Bain-bridge, Acting General Manager, Carpenters Oil Mill Rabaul
15. Mr. Keel, Factory Manager, Carpenters Oil Mill Rabaul
16. Mr John Taylor, Shipping Manager, Burns Philp
17. Mr D LaBrooy, Shipping Manager Carpenters
18. Acting Officer in Charge, Business Advisory Office, Lae
19. Mr Bruce, Accountant, Associated Mills Limited, Lae
20. Mr C Taylor, Works Manager,Associated Mill Limited, Lae