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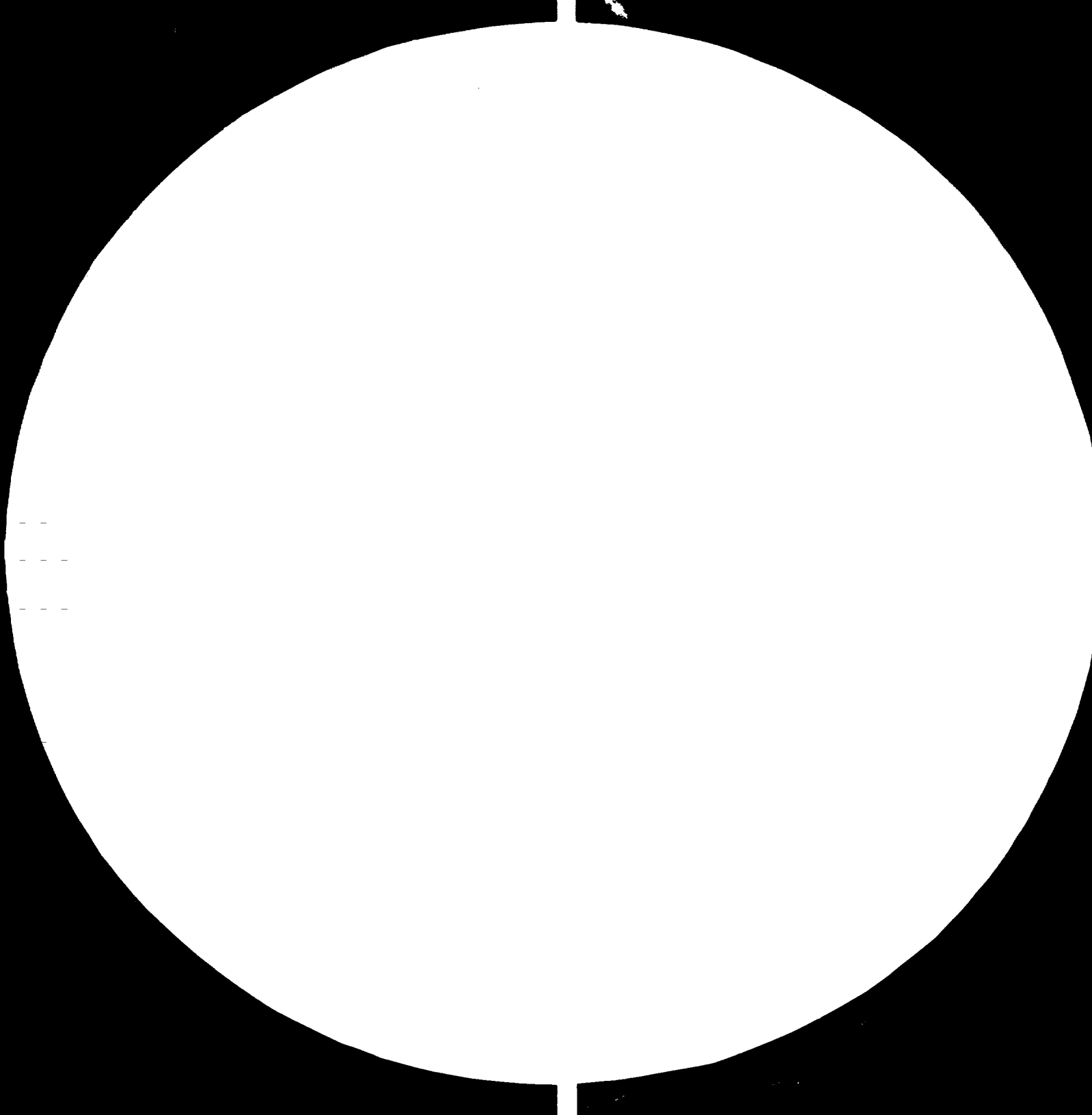
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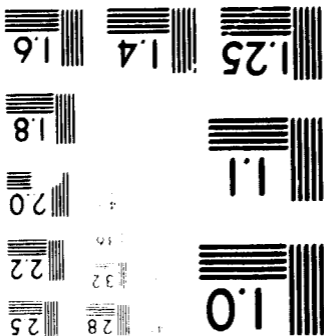
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ENGLISH

REVIEW OF THE VEGETABLE OILS AND FATS INDUSTRIES SECTOR OF THE
PACIFIC REGION^{1/}

DP/RAS/79/031

COUNTRY REPORT ON TONGA

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

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

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RECOMMENDATIONS

- 1) Accelerate replanting of coconut trees with emphasis on intercropping.
- 2) Agriculture Department to promote growing of Peanuts.
- 3) Copra Mill
 - (a) Urgent action to be taken as regards sorting out the management problem of the Company on a permanent basis. Changing present ownership might have to be considered.
 - (b) The processing cost of US\$100/ton of oil seems to be excessive and detailed study needs to be made.
- 4) Soap Factory
 - (a) The factory could be improved by making the soap by the semi-bailed process which would improve the quality of soap and reduce costs.
 - (b) The manufacture of coconut oil based shampoos could also be started on a small scale.
- 5) The parings produced by the Dessicated Coconut plant could be dried and the oil extracted used for soap manufacture.
- 6) Investigate feasibility of manufacturing animal feeds incorporating maximum percentage of copra cake.
- 7) As a region to press for establishing a futures market for copra and coconut oil.
- 8) UN assistance be given to study the costs of the copra mill in order to reduce the processing costs and to provide expertise in soap making to improve quality and reduce costs.

If a Regional Coconut and Coconut By Products Expert is stationed in the Region this could be one of his functions.
- 9) Loading facilities be improved at Pangai.
- 10) That Tonga get Australia and New Zealand to agree to take set quantities of Tongan products on a long-term basis.
- 11) That Tonga and other island countries initiate a trade declaration to promote trade and production in the region.
- 12) The island countries press for payment of copra based on description.

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 countries themselves, and for specific follow-up action, both 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/SPEC 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 objective of this regional project is the promotion of regional self-sufficiency in production, processing and related agro-industrial development in 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 materials and the 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 objective: The immediate objective 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 - 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 unnumerable ways.

TONGA

Population	:	96,500
G.D.P. per capita (1977)	:	T\$278 = US\$309
Land Area	:	699 sq. kms.
Sea Area	:	700,000 sq. kms.
Geography	:	Consists of 3 main island groups: Tongatapu'eua, Ha'api and Vava'u. There are 170 islands in the Tonga group of which 36 are inhabited.
Agricultural Production	:	Coconut is the main export crop and is about 70% of the exports.
Total Production of Oils and Fats	:	8,000 M.T.
Total imports of oils and fats	:	500 M.T.
Total exports of oils and fats	:	7,900 M.T.
Per capita consumption of oils and fats (food uses)	:	5.0 kgms per annum
Per capita consumption of soaps and detergents	:	3.9 kgms per annum

Note: Above figures for 1979 excludes fresh nuts and invisible fats consumption.

Coconut

Coconut represents the mainstay of both the subsistence and cash economies of Tonga. Exports of Coconut Products is about 70% of the total export value.

Estimated yield/hectare = 0.46 mt. of copra.

The Agriculture Department is doing a replanting programme and quite rightly feels that greater emphasis should be given to intercropping to increase the cash yield of the farmer, as otherwise there is a serious danger of the coconut industry being neglected to the detriment of the nation.

Other Oil Bearing Crops

It is interesting to note that Groundnuts (Peanuts) has been grown successfully in Tonga, and no figures of production are available but estimated to be about 100 tons per annum. There is a small export of Groundnuts (9 tons in 1979). This would be very useful crop to develop to make available a soft oil for possible future manufacture of cooking oils and fats like margarine etc.

Experiments are being conducted with Soyabean this might be more difficult to promote to the small farmer, as the inputs are high.

Another crop which could be worthwhile is Maize as this would be very useful if a animal feed industry is started.

OIL MILLS OF TONGA LIMITED

The oil mill consists of 1 Super Duo Anderson Expeller capable of expelling 34 mt. of copra per 24 hours i.e. a total capacity of 10,000 mt. of copra per annum. The plant was installed in 1979 and cost T\$750,000. The Company is jointly owned by Commodities Board (60%) and an Australian Company Claudius (New Hebrides).

The mill had been running from mid 1979 till mid November 1980. In 1979 it had an operation loss of about \$500,000 and in 1980 an operating loss of about \$150,000. From November, 1980 till the time of visit (2nd March 1980) the plant is not running owing to some internal problem. This problem is expected to be resolved shortly and the plant will then be restarted. During this period the copra is being exported.

In 1979 the quantities processed in the plant were:

Copra	-	8,266 mt.
Coconut Oil	-	5,281 mt.
Copra Meal	-	2,679 mt.

and the total processing cost was about T\$84 (US\$100) ton of oil = T\$52 (US\$62) ton of copra.

Comments

1) The mill appears to be running at normal efficiencies of

extraction, but the processing cost of US\$62 per ton of copra appears excessive and warrants a detailed examination to enable a cost reduction exercise. Unfortunately no details were obtainable.

2) The joint ownership of the mill by the Commodities Board and the Australian Company does not appear to be a success as there does not appear to be complete co-operation.

The mill had been shut from November 1980 owing to an internal management problem and though it was stated that this problem would be resolved and the mill started in end March 1981, till May the plant had not started.

The entire system of management and existing contracts have to be examined critically and sorted out if this stopping and starting the mill is to be avoided in the future.

Animal Feeds

The pig and poultry in the homes are generally fed with fresh coconuts which could in the long term be replaced by copra cake. Imported feeds are used in commercial farms and if an animal feed industry is started copra cake could be used to about 40%.

Estimated Demand for Copra Cake

(a) Domestic Consumption

Assuming 20% of the domestic consumption of nuts is for livestock we have

Copra equivalent for livestock	=	960 mt/annum
Equivalent Copra Cake	=	335 mt/annum.

(b) Imported Animal Feeds = 800 tons for 1980

Assuming 40% replacement with copra cake we have
 Copra cake requirement = 310 mt/annum.

Hence maximum demand in 1980 = 655 mt. of copra cake per annum.

At present only about 25 tons of copra cake per annum is being sold locally. This quality is being sold without any active marketing as buyers have to come to the mill for purchases. If it is available in shops and in the rural areas copra cake could become more popular.

There is also scope for an animal feed industry as the imported feed is of a fair tonnage (800 tons) and the rate of growth is about 100 tons/annum.

Dessicated Coconut

Dessicated Coconut manufacture was started in 1962 and the plant is now running at its maximum capacity of 1,000 mt/annum on an 8 hour shift basis. A new plant capable of

producing 3,000 mt/annum is being installed presently at a cost of about T\$2,500,000 inclusive of buildings.

The parings obtained are now used for feeding pigs but consideration should be given to dry this and use it for extracting oil for the soap industry and thereby produce some savings. The FFA of the oil produced would be higher than the normal Coconut Oil but this will not affect the soap making process, in fact the quality of the soap will be marginally better as the Parings Oil has a higher Iodine value (about 15-20) as compared to normal Coconut Oil (about 10).

The tonnages of Dessicated Coconut produced are as follows:

1976	-	950 M. Tonnes
1977	-	1,020 Tonnes
1978	-	810 Tonnes
1979	-	1,050 Tonnes
1980	-	955 Tonnes

SOAP MAKING

The soap factory was installed in 1977 and consists of 2 Hander Expellers (Type H-54), Copra Cutter and 2 Filter Presses, for the production of oil. The soap is made in a crutcher by the Cold Process, run into soap frames and cut into bars.

At present only Laundry soaps are produced and is supposed to be running profitably. Experiments are being done to produce Toilet soaps by adding perfume and colour and for this purpose they have obtained a small hand stamper from New Zealand.

Tonnages of laundry soap produced are as follows:

	<u>Tonnes</u>
1977 (First trial)	2.1
1978	58
1979	61
1980	42

It is extremely creditable that the Board is systematically embarking on these projects and the following suggestions are made:

- 1) The Cold Process of soap making has the following disadvantages:
 - (a) Reprocessing of scrap (off cuts) soap is not possible;
 - (b) Correction of high/low caustic is difficult;
 - (c) Time cycle of soap making is longer.

Hence it would be worthwhile for the Board to consider making soap by the Hot Semi Boiled Process. This could initially be done by jacketing the crutcher and heating the jacket by steam or by circulating oil heated in another tank. This would eliminate all the above disadvantages and would lead to better controls particularly for Toilet Soaps.

- 2) For Toilet Soap manufacture it would be advisable to weather bars for a few days before stamping so that the T.F.M. (Total Fatty matter) of the soap would be higher and there would be less shrinkage as well.
- 3) For toilet soaps better quality control would obviously be necessary.
- 4) For exports of 100% coconut oil soaps it should be kept in mind that in some people not used to these soaps there is a possibility of itching/burning and hence special additions might have to be incorporated.
- 5) Manufacture of Coconut oil based shampoos could be considered as investment cost is negligible.

6) The soap factory had installed oil milling equipment when the Oil Mill was not in existence, but now that there is an Oil Mill, it would be cheaper to obtain their oil requirements from the mill instead of running their small expellers.

CONSUMPTION OF FATS AND OILS AND FUTURE MARKET TRENDS

Tonga produces about 8,000 t of vegetable oil (in oil equivalent terms) and imports a further 500 t (in oil equivalents) of oils, fats, butter, margarine, dripping and other fats, oils and soaps. The production is largely coconut products and a small quantity of groundnuts.

Exports in oil equivalent terms are about 7,900 t largely in the form of coconut oil and copra cake (at the time of our visit this was copra, as the copra mill was closed temporarily).

The subtraction of exports from the combination of production and imports gives Tongan human consumption of oils and fats (in oil equivalents) as about 600 t (6.2 kg per head per annum).

Human use is divided into food use of about 484 t (5.0 kg) and non-food (soap and cosmetics) of about 115 t (1.2 kg).

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 make it easily the largest source of oil consumed in Tonga, 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 half, the water wasted, the "meat" is grated and the "cream" extracted with the residual "meat" being discarded or fed to livestock.

However this is part of the culinary tradition of Tonga, and importantly, involves no cash outlay. As prices of all foodstuffs rise, it is likely that the bulk of the population (villagers owning coconut groves) will consume more coconuts to substitute for foods which have to be bought.

Tongan consumption of fats and oils is moderate for developing countries, but based on experience elsewhere, as incomes rise, the consumption of fats and oils is likely to rise even faster. This extra intake is likely to be partly in the form of greater consumption of coconuts, as mentioned above, but also as edible fats. Given a preference this most likely would be animal fats, however margarine would also be acceptable and could be made using a major component of coconut oil. This could be supplied from Fiji thereby aiding regional development.

LOCAL MARKETING OF COCONUT OIL

A small extraction plant producing coconut oil for cooking purposes (the price at T\$1.90/kg is not competitive with dripping at T\$1.54/kg) is not finding ready acceptance of its product. This reflects partly price partly a taste preference for dripping, but also that frying using oils and fats is not a major type of cooking in Tonga.

The same factory which produces the coconut oil for local consumption also has begun marketing a coconut oil skin lotion. This type of preparation is being produced elsewhere in the region and so will not be a major export there. It is also being marketed on a trial basis in Europe. This may gain some acceptance, particularly with the move in developed economies towards natural products but its lack of efficiency in preventing sunburn compared with synthetic preparations would not ensure a large market. Labelling could be improved with the use of an oil resistant paper which doesn't go translucent if oil contacts it.

MARKETING COPRA, COCONUT OIL AND COPRA CAKE

The Commodities Board is the sole authority for the purchase and sale of copra in Tonga. It sells the copra to the mill on a contracted formula based on cif Rotterdam price of copra. The Board also determines the price paid to the copra producers and the present purchase price of copra is T\$200 per mt.

The price of copra sold to the mill is based on the following:

Price of copra	=	80% of Rotterdam cif price of copra
Oil price	=	Cif Rotterdam less US\$50 for freight less ½% insurance plus 2% premium

All oil is exported to Australia under a contract with the Australian partner of the Tongan oil mill. In this market, Tonga could supply 6,000 t of oil (at full factory capacity), Tongan oil is completely dependent on market forces over which it has no control. The coconut oil market is also part of the total world market for all oils and fats and thus, for example, a large increase in soya bean oil production will ultimately affect the coconut oil market. However Tongan production does have the advantage over most other producers of producing an oil low in ffa (about 0.75%) and while not necessarily resulting in a very much higher price (2%) may mean that it finds a ready place in a highly competitive market.

Copra cake is a low priced by-product of coconut oil. At present it is mainly exported to Europe. This was some 3,000 t in 1980, but when the mill reaches full capacity, production could reach 4,000 t, of which perhaps 200-300 t would be used in a proposed local stock food factory and the rest exported. The market for cake in Fiji could well be investigated. About 25 t of copra cake are now sold locally at a subsidised rate to encourage domestic use.

The Board operates a stabilization fund. The floor price is T\$200/t, below which drawings are made from the fund to support the price to this level. When the price rises above T\$300/t, contributions are made to the fund. The price to the growers is on the basis of cif Rotterdam less transport and handling costs, and mill operation cost. Thus the mill, which is owned jointly 60% by the Board, and 40% by an overseas firm is to some extent shielded from price fluctuations. It is expected that the mill will make a profit when operating at full capacity.

The Board in its efforts at diversification/integration has very wisely embarked on the manufacture of dessicated coconut and laundry soaps.

MARKETING OF TONGAN SOAP

The soap factory is satisfactorily marketing its laundry soap, and its position should further be strengthened in the market if quality is improved as a result of recommendations made elsewhere in this report. The factory operations are soon to be extended to medium quality toilet soaps (63% TFM). These should be well suited on the basis of price and quality for the mass market in Tonga, however some marketing promotion is recommended (posters and demonstrations) as well as attractive packaging to ensure a rapid acceptance of the product. Tariff protection should not be necessary, but could be considered after a fair trial of the new soap on the market. This quality of toilet soap will not replace the type now imported, which is a high quality soap, which will continue to be used by those with a high income, even with steep price rises. However this latter is a relatively small market, which would not be worthwhile trying to compete with because of the cost of manufacturing. This high quality soap would continue to be imported, but in the interests of regional co-operation it could come from Western Samoa or Fiji where it is made.

MARKETING OF DESSICATED COCONUT

Tonga is presently producing about 1,000 t of dessicated coconut for export. Australia and New Zealand are important markets. This is a small percentage of the overall world market, a highly competitive one, very sensitive to quality and hygiene. The success of the current expansion of the plant to 3,000 t is very dependent on prospective markets for the product. Production in other parts of the Pacific is also expected to rise by about 500 t this year. This will certainly result in oversupply if it is attempted to put much of this on the Australian and New Zealand markets which are of the order of 6,000 - 7,000 t, and result in surplus to be marketed on the American and European markets. These latter are already adequately supplied by Sri Lanka and the Philippines.

MARKETING OF FRESH COCONUTS

Tonga has a steady trade in fresh coconuts to New Zealand, which ranged between 238,000 and 771,000 per year in the last five years. This trade can pay considerably higher prices than the copra trade, and is important for a small nation like Tonga. The Board should consider fresh nut collection from isolated and distant island groups, to absorb the higher transport cost. The trade wants large, sound, fresh nuts supplied reliably.

Australian fresh coconut consumption has recently been given a boost by some active consumer promotion campaigns, which have caused coconut sales from that one importer to rise five times in the last four years. This company will soon be looking for supplies in Tonga to augment its sources. The Board could do well to emulate this promotion campaign in New Zealand.

FUTURES TRADING, A MARKETING AID

A major trend which has emerged in many major world commodities in recent years is that of trading in futures.¹ "The futures market is basically an auction where contracts for future supply of commodities are traded. Contracts are bought and sold by members of the exchange on behalf of their clients. A futures contract is an agreement to buy or sell an amount of a commodity at a price at a future date. A futures contract should not be confused with a forward contract. A futures contract can be bought and sold on a futures market, whereas a forward contract is a private agreement between one buyer and one seller. Most futures contracts do not in fact result in physical delivery of goods. The whole purpose of the futures market is to transfer the risk of price movements from the producer and end user to speculators. In this way producers can use futures to secure a fixed price for a commodity. This is known as hedging. In the same way one may hedge against in currency exchange fluctuation". As yet there is no futures market in copra/coconut oil, but this report recommends that the countries of the region press for its establishment, and then take advantage of the opportunities it would give for stabilizing prices. Participation in future trading is a skilled activity, and in order to enable the island countries to make best use of such a facility it is recommended that a suitable consultant be asked to address a future meeting of the Asian Pacific Coconut Community on this subject. This is further discussed below in the chapter on regional co-ordination.

1. Taken from "Export Crops: Quarterly Review", Vol 3 No. 1, April 1980, Department Primary Industries, PNG.

SHIPPING

Internal shipping in the Tongan Group of islands is serviced by one overseas shipping line, three privately-owned Tongan lines and the government-owned Polynesian Shipping Corporation. The overseas line, Warner-Pacific Line is the only one which maintains a scheduled service, the others tend to move on when their holds are full. This rather erratic practice results in an inefficient service to customers, with perhaps several ships sailing close to each other, and then a considerable gap before another sailing. It would be advisable were the government to call a voluntary shipping conference of all five lines, to attempt to draw up a national schedule which would give a better service to customers. This should minimise long waits in port waiting for cargo and unnecessary competition on parallel lines. This could result in shippers estimating more accurately cargo carried and lower running costs, although fixed costs would remain the same. In addition it could result in some fuel savings for the country or a whole. Improved services should be able to be provided with possibly lower freight rates. It does seem as though the freight capacity is presently sufficient for the trade, as a new ship has been ordered for the internal service, which will have capacity for 350 passengers, but only 100 t cargo. If a voluntary conference does not have a positive result, then the government may have to take stronger action.

The average weight of copra shipping out of the island groups within Tonga for the years 1975-80, their percentages of the total Tongan production and the loading facilities are as follows:

<u>Group</u>	<u>Average Production (t)</u>	<u>% Total</u>	<u>Loading facilities</u>
Tongatapu-'Eua	5,243	47	wharf
Ha'apai	2,403	22	lighter
Vava'u	2,583	23	wharf
Niua	913	8	dinghy

It would seem to suggest that some improvements in the loading facilities are due at Pangai in the Ha'apai Group because of its relative importance as a copra producer.

Freight rates per ton¹ copra from the various island groups to Tongatapu (where the copra mill is situated) are currently as follows:

from Niua Group	T\$39.60
from Vava'u Group	24.36
from Ha'apai Group	21.82

While this study was not able to undertake visits to these groups, it is apparent from these figures that copra producers from these islands have significantly higher cost of getting their produce to the mill in Tongatapu, than producers on that island. In addition to a rationalised shipping service which

1. Warner Pacific Line.

may alleviate these transport costs somewhat, and the possible improvement of facilities at Pangai, copra storage facilities should be reviewed on the island groups with a view to increasing them in order to stockpile larger shipments of copra, so that Tongan copra surplus to the Nuku'alofa mills requirements could be loaded from these groups straight onto the overseas line for export. This would eliminate double handling at Nuku'alofa. It may necessitate formal declaration of more ports as export points.

The international shipping services at Tonga are handled by the Pacific Forum Line and Warner Pacific Line. The services provided are good but trade links within the region are limited. On current schedules, Tonga can import directly from Australia, New Zealand, New Caledonia, Fiji, Western Samoa and American Samoa. Trade with other countries would involve trans-shipment.

The Forum Pacific Line have two vessels calling at Tonga, one on the New Zealand run and one to Australia. These ships have a capacity each of 7,000 t in containers, some 1,680 of which (24%) is refrigerated, and each have a 500 t oil tank. There was some criticism of the vessels' suitability for the inter-island trade e.g., the ships cranes may not operate if there is a swell causing a sufficient sideways sway of the vessels at the wharf; containers each of 20m³ or 20 t capacity are not suited to small lots required by most island traders and producers (and New Zealand wharf handlers have an industrial dispute with the packers with the result that containers must be packed on the wharf by water waterside workers thereby raising costs prohibitively; this effectively limits the usage of containers to 'big lots'); such a sophisticated system as these ships offer, and the consequent high price rates charged, are not suited to the low cost trade to the islands; the vessels are more expensive to run and slower than expected; and, the lack of suitable hand-pan storage for containers, and subsequent quarantine difficulties in other countries. However the service offered by the line was said to be good.

The Pacific Forum Line reported that their ships were 80-90% full on the runs out of Australia and New Zealand, but only 20-25% full in the other direction. This situation is not likely to be changed by Tongan trade. It may well be that the type of service cannot be continued and that it may be replaced by a lower cost one. The difference in cost of sending freight by container or non-container vessel is illustrated by the cost of sending 20 t of copra from Nuku'alofa to New Zealand. By Pacific Forum Line this is NZ\$1,435 and by Warner Pacific Line this is NZ\$920 (64% of \$1,435). To add to this would be the higher cost of loading the conventional vessel but this would be somewhat offset by the cost of packing the container.

This study team fully supports the current proposal for an independent study into the PFL. It would further recommend that PFL enter into a formal management advice contract with a successful, reputable shipping line with no commercial shipping interests in the Pacific area. This would exclude those lines currently, loosely connected with giving advice to the Pacific Forum Line and which are actively operating within the region. A Danish line may be suitable for this purpose.

REGIONAL CO-OPERATION

It would not be true to say that the idea of regional co-operation had not yet occurred to Tonga. Indeed Tonga is one of the voting owners of the Pacific Forum Line which has been specifically established to promote trade within the region and in fact the Tonga Government owns the "Fua Kavenga" one of three vessels leased to the Pacific Forum Line. However copra, coconut oil and copra cake, all marketed by the government, are carried out of Tonga by the Warner Pacific Line. Perhaps this is an acknowledgment that regional co-operation is best achieved in several ways. This study is not saying that this practice must be stopped, but merely pointing out the fact that its continuance may result in the end of this regional co-operative shipping venture. It also seems unfortunate that Tonga has recently erected a new coconut oil mill, while Fiji's long established mills remain severely under-utilized. Regional co-operation is not an easy thing to achieve, but failure to give serious consideration to ways of fostering it may lead to national efforts failing as well as regional.

This report has mentioned measures which could be taken within the Tongan fats and oils industry in order to promote its development. This industry is largely dependent on the export trade for its coconut oil, copra cake and dessicated coconut. These products go to Australia, New Zealand and to some, extent, Europe at present, but in particular with the expansion of the dessicated coconut factory more trade will be going outside of the region. It is crucial that Tonga (in line with other island countries) extend the SPARTECA Agreement with Australia and New Zealand to get those two countries agreeing to take specific quantities of Tongan products on a long term basis under the present duty-free entry conditions. To do this it is recommended that Tonga and other island countries included in this study initiate a trade declaration to promote trade and production in the region on a more co-ordinated basis than presently. This declaration could be used as a basis on which trade in, and production of, specific items could be discussed between island nations, and as a stronger negotiating force when dealing with the non-island SPARTECA agreement countries of Australia and New Zealand, and with other trading partners around the world. In particular, such a declaration should request those last two mentioned countries 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.

This study recommends that in line with a world-wide trend in many major commodities, futures trading markets be established for copra, coconut, oil and copra cake, to aid in suppressing price fluctuations. 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, possibly at a meeting of the Asian Pacific Coconut Community.

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 differs enough to suggest that in some cases this quality is not adequately rewarded. Moisture (affecting yield of oil), colour and free fatty acid (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 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 lead to measures to simplify copra grading and relate prices-to-growers more accurately to cost of production. A copra inspection course applicable to the whole Pacific should be instituted. This becomes more necessary as greater trade takes place in copra within the region.

The Tongan coconut industry is facing continuing higher costs particularly as it is predominantly labour intensive in its production phase. It is unfortunate that advances here seem confined to increases in yield and improvement in quality, important though these may be and not in efficiency of cultivation and initial processing. The maximum efficiency which can be achieved in marketing is thus of crucial importance. This includes securing long term markets for the products of Tonga.

TOTAL IMPORTS & EXPORTS - VALUE TS'000

	<u>IMPORTS</u>	<u>EXPORTS</u>
1979	26,210	6,268
1978	22,318	4,750
1977	17,697	6,207
1976	11,656	3,100
1975	12,963	4,380

IMPORTS AND EXPORTS FROM PACIFIC ISLANDS - TS'000

	1979		1978		1977		1976	
	Imports	Exports	Imports	Exports	Imports	Export	Imports	Exports
Fiji	1,347	888	1,290	177	1,079	117	610	181
Nauru	-	-	11	-	-	-	-	-
Vanuatu	-	-	-	2	-	2	-	-
W. Samoa	14	81	45	5	68	2	1	1

EXPORTS - TONNES

	<u>1979</u>	<u>1978</u>	<u>1977</u>	<u>1976</u>
Coconut No.	338,000	408,000	771,000	457,000
Dessicated Coconut MT	1,053	848	1,062	1,120
Peanuts MT	9	4	2	1
Copra MT	3,082	10,160	12,535	12,136
Copra Meal MT	934	-	-	-
Coconut Oil MT	2,281	-	-	-

IMPORTS - QUANTITY IN TONNES AND VALUE T\$'000

	<u>Butter</u>		<u>Margarine, Dripping & Other Fats</u>		<u>Oil & Fats</u>		<u>Animal Feeds</u>		<u>Washing & Toilet Soaps</u>		<u>Detergents</u>	
	Tonnes	Value	Tonnes	Value	Tonnes	Value	Tonnes	Value	Tonnes	Value	Tonnes	Value
1979	176	248	183	149	20 ^a	20	724	167	125 ^a	155	200 ^a	271
1978	199	261	240	171	26 ^a	24	610	133	115 ^a	116	200 ^a	225
1977	185	217	132	81	25 ^a	18	485	98	105 ^a	98	240 ^a	246
1976	161	149	140	53	25 ^a	10	300 ^a	54	80 ^a	61	n.a.	n.a.

a = Estimated

COPRA PRODUCTION FOR 1976/1980

<u>CENTRES</u>	<u>1976</u>	<u>1977</u>
Tongatapu	7,188	5,415
'Eua	444	352
Ha'apai	2,837	3,033
Vava'u	2,456	2,554
Niutoputapu	417	591
Niuafo'ou	<u>337</u>	<u>567</u>
TOTAL	<u>13,679</u>	<u>12,512</u>

- L/TONS

<u>1978</u>	<u>1979</u>	<u>1980</u>
4,325	2,910	5,055
153	185	186
1,281	1,994	2,868
1,855	2,544	3,507
422	495	342
<u>482</u>	<u>402</u>	<u>511</u>
<u>8,518</u>	<u>8,530</u>	<u>12,469</u>

IMPORT DUTIES

Butter	-	free
Margarine & Dripping	-	free
Anima & Vegetable Oils	-	15%
Livestock Feed	-	free
Soaps Toilet & Laundry	-	15%
Detergents	-	15%

WORLD TRADE - MAJOR IMPORTING COUNTRIES
SHIPMENTS OF COPRA INTO THE FOLLOWING COUNTRIES

(Metric tons)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	
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	Nett
Japan	89,866	110,856	97,785	90,400	55,659	
Total	<u>920,792</u>	<u>1,062,697</u>	<u>786,078</u>	<u>641,300</u>	<u>365,933</u>	

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.

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	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	Soybeans U.S. no. 2 Yellow 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	576	506	481	348	290
1974	998	832	672	1046	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	1064	762	673	298
1980	674	593	584	763	633	453	296
<u>1981</u>							
Jan.	614	545	625	629	690	433	323
Feb.	603	516	640	621	650	411	306
Mar.	574	535	620	605	650	392	305
Apr.	552	531	588	582	652	387	316

- 1) Prior to December 1970 = a.o. 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

Persons Interviewed:

1. Mr S Raghavan, Secretary, Ministry of Labour,
Commerce & Industries
2. Mr Masao Soakai, Managing Director, Oil Mills of Tonga
Limited
3. Mr Stewart, Manager, Oil Mills of Tonga Limited
4. Mr Sebastian Hurrel, Director, Commodities Board
5. Mr Siopo 'Amanaki, Manager, Copra Division
6. Mr Tom Simiki, Director of Agriculture
7. Mr A Gould, Government Statistician
8. Mr Paula Tavulo, Department of Agriculture
9. Mr Kevin Kane, Department of Agriculture
10. Mr Boral, Department of Agriculture
11. Mr Sanft, President, Chamber of Commerce
12. Mr Lulu Faupula, Manager, Union Steamship Company Limited
13. Captain Olsen, Manager Dr. Warner Pacific Line

