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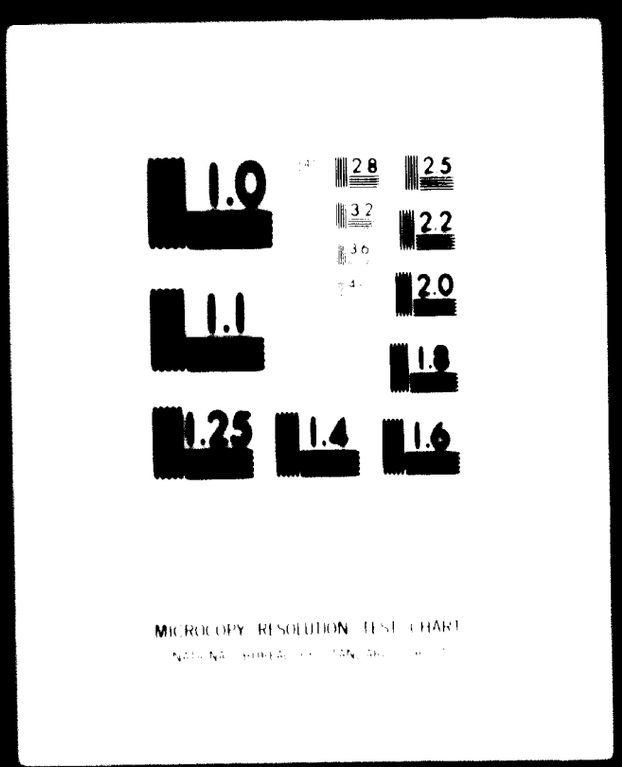

05362

Distr.
RESTRICTED
UNIDO/IPPD.114
25 June 1973
ENGLISH

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

A SURVEY OF INDUSTRY AND ITS POTENTIAL IN WESTERN SAMOA

FINAL REPORT

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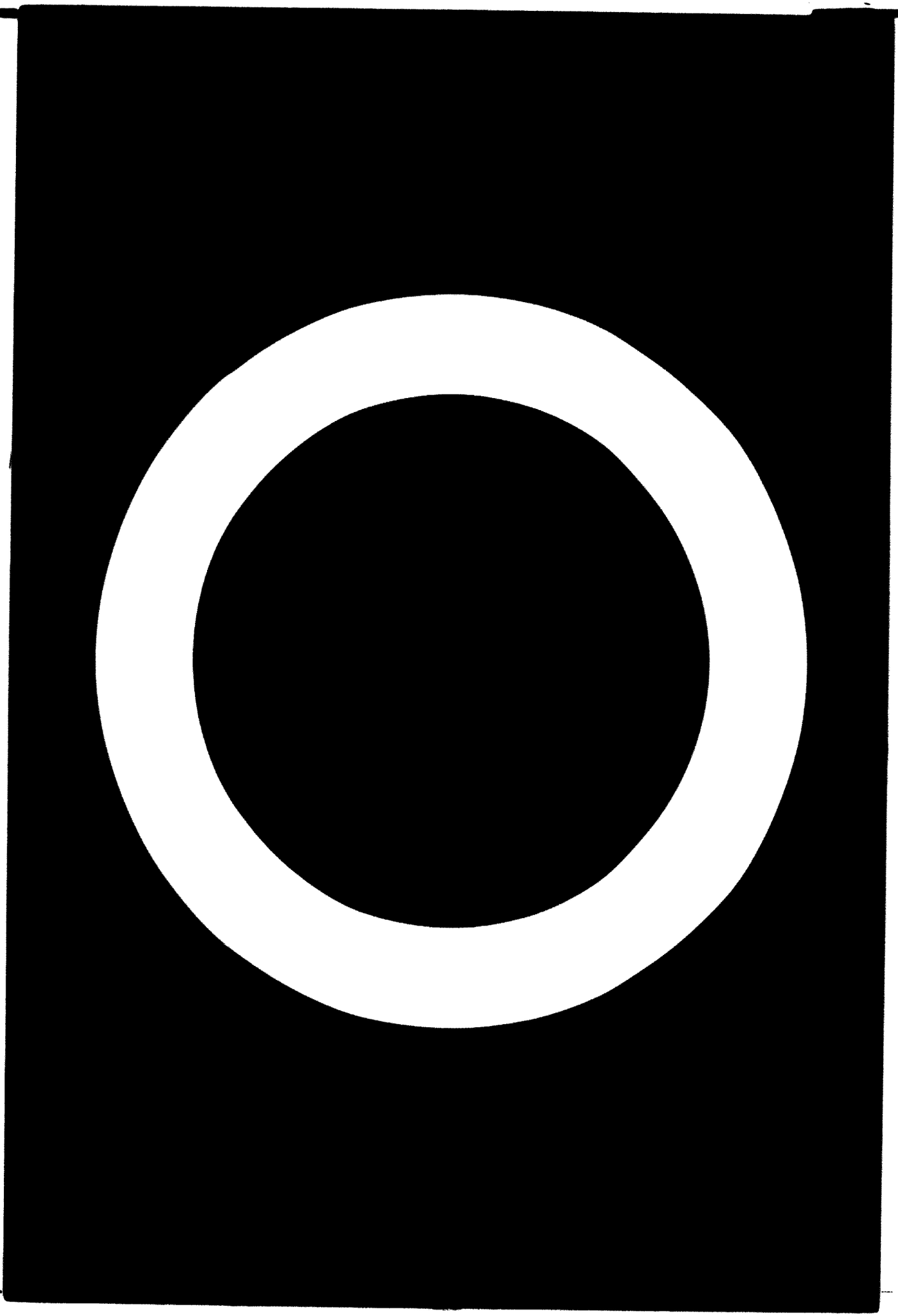

ACKNOWLEDGEMENTS

During their three-month stay in Western Samoa (September - December, 1972), the members of the UNIDO Mission met and exchanged views with various members of the Government, including H.E. the Prime Minister, numerous officials and managers of industrial firms and foreign experts. The names of these persons and their functions are listed in Appendix I. The Mission was welcomed invariably with warm courtesy and an earnest desire to cooperate.

The Mission also received valuable advice and help from UNDP's Resident Representative and his staff. Finally, there were many friendly contributions from the field experts of the United Nations family. To all of the above, the members of team wish to express their sincere gratitude.

SUMMARY

The objectives of the Survey Mission were as follows:

1. To assess the present industrial situation in Western Samoa.
2. To ascertain and analyse Western Samoa's capacity for industrial development.
3. To identify suitable industries for establishment in Western Samoa and formulate guidelines for the selection and granting of incentives to those enterprises which might require them in their early stage of development.
4. To investigate the advisability of direct government investment in industrial ventures.
5. To formulate safeguards against industrial pollution and measures to be taken to preserve the environment and ecology.
6. To recommend incentives and measures necessary to encourage those industries selected as being the most beneficial to Western Samoa.

In the limited time available the Mission tried to do full justice to most of the above points and to come up with an "action-oriented" report not only recommending various projects considered feasible but also providing practical guidelines and details for their implementation.

Although Western Samoa benefits from a number of advantages favouring its industrial development, there are certain constraints on its growth including among others:

1. Lack of basic data
2. Small-scale of the internal market
3. Lack of known mineral resources
4. Insufficient national planning on the sector and subsector level
5. Shortage of managerial talent
6. Geographic isolation

In order to help overcome these constraints the Mission has made a number of policy recommendations. One of the most important of these is the creation of an Industrial Monitoring and Appraisal Unit which would compile basic industrial data, evaluate the progress being made in the industrialization process and pinpoint bottlenecks and problems encountered in various sectors.

Secondly, the Mission recommends a complete revision of the Government's incentives scheme. Income tax and related concessions should be abolished, and industries should be grouped in the following four major categories, each enjoying a specific set of incentives tailored to its characteristics and needs: local industries supplying the local market, local industries attempting to export, tourist industry, and foreign and local industries to be located in the proposed export processing zone, itself an important incentive. In order to verify the viability of the proposed export processing or "free" zone, to be jointly planned with an industrial estate on the same general site at Vaitele, the preparation of a feasibility study by a follow-up mission is recommended. This mission should also formulate details for a rural industrial estate on Asau.

Thirdly, the Mission feels the necessity for a substantial upgrading of the Samoan Finance Corporation by taking on a number of important functions in the industrial area, such as the promotion of industries and joint-ventures and acting as a controlling body of the industrial estate/export processing zone complex. This would require the services of an expert in industrial banking operations who would recruit additional short-term experts as specific problems arise.

Other recommendations are the retention of a trade promotion officer, permanent exhibits of Samoan products, an adviser in contract negotiations, various training programmes and overseas fellowships and intensified regional cooperation.

As to infrastructure, the following recommendations were made:

1. Provision of adequate cold-storage facilities
2. Introduction of [illegible] and telecommunications services
3. Improvement of port and airport facilities and the possible introduction of an air freight shuttle service between Faleolo and Pago Pago
4. Creation of an electric power rate structure

Finally, the Mission made numerous recommendations concerning specific industries. A division was made between major industries, requiring considerable financial and manpower resources with a relatively large impact on the national economy and minor ones with less impact and greater possibilities for the private sector. Because of the specialized know-how required and the need for guaranteed markets most of the former would be best set-up on a joint-venture basis, with a partner from an industrially advanced country. The major industries and the relevant proposals are as follows:

1. Coconut, copra and oil - An extensive feasibility study of the entire industry to determine whether further Government efforts in the promotion of additional coconut growing are warranted or whether a gradual supplement or replacement by other crops such as oil palm may be more advantageous.

2. Fish - An intensification of efforts to establish large-scale fishing and processing operations; an investigation into the possibilities of large-scale turtle raising.

3. Animal feeds - A prefeasibility study covering feed formulation and equipment.

4. Pineapples - Renewed efforts towards the establishment of a pineapple industry.

5. Beer and alcohol - The establishment of a local brewery.

6. Tourism - The preparation of a Tourist Master Plan.

7. Meat and meat products - Establishment of poultry and pig farming on a commercial basis as well as a large-scale cattle industry.

8. Bananas - Efforts to prevent the industry from deteriorating further; concentration on supplying the domestic market.

9. Cocoa - No major efforts to expand the growing area.

10. Crop diversification - Intensification of commercial production and processing of various promising crops (based on FAO's work) on an experimental basis and the initiation of export marketing tests.

The following are the Mission's proposals concerning minor industries:

1. Flour and bakery products - The establishment of a flour mill.
2. Dairy products - The establishment of a milk reconstituting plant.
3. Wood products - Government encouragement to local enterprises to manufacture basic building components and knock-down furniture.
4. Handicrafts - Stricter quality control and efforts to achieve a removal or reduction of duties in importing countries.
5. Coconut charcoal - Establishment of a small-scale export industry.
6. Machinery and engineering - The creation of general maintenance and repair services in the proposed industrial estates.
7. Concrete products - Establishment of a facility for basic concrete products.
8. Boat building - Development of a suitable small fishing craft.
9. Printing industry - The production of stationery.
10. Tannery - A feasibility study for a leather tannery.

The details for the above recommendations are spelled out in Chapter 7. UNIDO could provide assistance in the implementation of most of them. Obviously, not all proposals can be realized. The most vital and urgently needed actions are evident from the report. The best order of priority for the other projects should become apparent through the work of the Industrial Monitoring and Appraisal Unit and the Samoa Finance Corporation.

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1.0 SCOPE OF WORK

A proposal to undertake an industrial survey of Western Samoa was submitted by the Samoan Government to the UNDP Regional Office, Apia, in mid-April 1971. The project was subsequently presented to UNIDO, as the relevant United Nations agency, for detailed planning and execution. Mainly because of organizational problems the survey did not commence until the latter part of 1972, when the appointments of Dr. I.F. Fairbairn, economist for the South Pacific Commission (Noumea), as Team Leader, and Mr. R. Jofré, industrial engineer (Chile), were finalized. After briefing in Vienna they arrived in Apia on 21 September to begin the field work; during the last month, on 19 November, they were joined by Mr. P.H. Kruck, UNIDO staff member. The field stay ended on 16 December 1972 and was followed by debriefing in Vienna from 22 January to 2 February 1973.

The terms of reference for the industrial survey team were as follows:

1. To assess the present industrial situation in Western Samoa, in particular:
   a) the contribution made by the presently established enterprises to the national economy in terms of direct employment and job linkage, value added and local purchases;
   b) the major problems encountered by these enterprises;
   c) the impact of the Enterprise Incentives Act and its administration; the effect of other government policies and measures such as tariffs, the consequences of an absence of government action in certain areas, e.g. provision of industrial estates, specifying degrees of local participation in foreign ventures.
2. To ascertain and analyse Western Samoa's capacity for industrial development in the context of the accessibility and trends in external markets, the size of the internal market and the natural resources, skills and capital available.

3. To identify individual industries which would be suitable for establishment in Western Samoa and to formulate guidelines for the selection and granting of incentives to those enterprises which require them in their initial stages. The particular method used in industry selection should be outlined in detail so that it might be readily adopted for future practical application in local project selection.

4. To investigate the advisability of direct government (or its agencies such as the Copra Board and the Western Samoa Trust Estates Corporation) investment in industrial ventures.

5. To formulate safeguards against industrial pollution and measures to be taken to preserve the environment and ecology.

6. To recommend incentives and measures necessary to encourage those industries selected as being the most beneficial to Western Samoa. The recommendations should include a comparison of the incentives used in other countries and their effectiveness. All relevant measures such as the impact of tariffs, fiscal and monetary policies as well as the provision of industrial estates, housing and infrastructure and export promotion activities should be included.

The wide-ranging nature of the tasks set before the survey team is clear from the above and the Mission would be the first to acknowledge that it may not have done full justice to all aspects of the terms of reference. To a large extent any deficiency in this regard was unavoidable as a large proportion of the Mission's time had to be devoted to the basic task of collecting and collating key statistics on the industrial sector and national resources which are either non-existent or only inadequately recorded. However, in the main the Mission can claim to have fulfilled those tasks contained in its terms of reference which it considered as being the most vital for industrial development in Western Samoa at the present stage. These relate especially to points 2 and 3 above, an analysis of the country's capacity for industrial development and the identification of individual industries which would be suitable for establishment in Western Samoa.

In preparing the final report the Mission has been mindful of a request made at the outset by the Western Samoan Government that the survey should not be just another academic exercise of little practical significance but rather that it should be "action-oriented". In the light of this request the Mission has, where appropriate, provided practical guides and details considered necessary for the implementation of particular projects, which upon examination, appeared feasible from an industrial viewpoint. Furthermore, the step was taken during the final stages of the survey to present the Mission's preliminary findings to key people in government service and private industry, including the Prime Minister and the Minister of Finance and Economic Development. This was considered essential in order to gauge local response at this point in the survey and to discuss ideas which would help in the final preparation of the report.

Obviously, many of the gaps in the present survey will be remedied in time, particularly as some of the suggested follow-up work is undertaken. In the meantime it is hoped that the information and recommendations contained in the Mission's final report will make a useful contribution to the planning and promotion of industrial development in Western Samoa.

2.0 BASIC INFORMATION ON WESTERN SAMOA

Western Samoa is located between latitude 13° and 15° south and longitude 168° and 173° west. The total area of the island group is 1,097 square miles, of which approximately 1,095 square miles are accounted for by the islands of Upolu (433) and Savaii (662). There are, in addition, seven small islands, five of which are uninhabited. Western Samoa lies 2,613 miles from Hawaii, 2,700 miles from Sydney, 1,800 miles from New Zealand, 793 miles from Fiji and 80 miles from Pago Pago.

The islands are of volcanic origin and rise fairly steeply from the ocean floor to a height of 3,600 feet above sea level in Upolu and 6,100 feet in Savaii. Coral reefs surround most of the coasts, though in places they have been buried by lava rock. The average width of Upolu is 16 miles and of Savaii 27 miles; both are approximately 47 miles long.

About 40 % of the topography of Upolu and 60 % of that of Savaii are characterized by a rugged and mountainous interior, the remainder being a fairly extensive lowland coastal belt which, in places, is broken by ridge and hill country. These coastal lowlands (up to 750 feet above sea level) average about one mile in width and generally rise fairly gently to the foothills and mountains. Vegetation on the coastal belt tends to be dominated by tree crops such as coconut, cocoa, breadfruit and basic subsistence crops such as taro and ta'amu. In the higher foothills and mountains there is a transition to rain forest, only small areas of which have been cleared for cropping and cattle raising. In elevations of around 5,000 to 6,000 feet on Savaii, rain forests give way to mixed mountain forests encompassing areas of dense low scrub.

The basic soil forming materials in Western Samoa are olivine basalt and related volcanic materials. Coral, sand, alluvium and egite also contribute to soil formation, particularly in the lowland areas. Latosolic conditions predominate due to prevailing weather conditions.

The climate in Western Samoa is maritime-tropical. Throughout the year temperatures range from 72°F to 86°F with humidity being above 80 %. The prevailing winds are easterly. Rainfall averages 112 inches in Apia and well above this in the more exposed regions of the south and east coasts. The wet season occurs from December to March, though rainfall is comparatively heavy all year round. The country is vulnerable to occasional hurricanes, the last one of serious dimension being in 1966, and a degree of drought, especially on the drier side of the two main islands.

Around 563,120 acres (80.6%) of the total land area in Western Samoa is customary land, the rights over which are vested in the Crown as Trustee and administered in accordance with Samoan customs and traditional rights. Control of this land resides with village chiefs (matai) who, as heads of extended families, carry the responsibility for administering the land for the benefit of the group. Of the remainder of the land, about 78,360 acres (11.2%) are owned directly by the Samoan Government and 31,360 acres (4.5%) by a government-owned corporation, the Western Samoa Trust Estates Corporation (WSTEC). Freehold land amounts to only 26,240 acres (3.7%).

2.1. Natural Resources

2.1.1. Agriculture

Only some 150,000 acres are presently utilised in productive village land and commercial agriculture, while more than 540,000 acres are natural forests and lava fields. Land surveys have shown that land under agriculture, including cattle, could be substantially increased. An idea of this potential can be gained from the following table taken from a government report, "Pre-investment Study for Road Development", prepared by Australian consultants. The potential land available for the development of cattle ranching is particularly notable.

Table 2.1

Area of Potential Land Use			
	Approximate Acres ('000's)		
Land Use Type	Upolu	Savaii	Total
1. Intensive agriculture without coconuts and cocoa	9.0	1.1	10.1
2. Intensive agriculture with coconuts	77.6	130.4	208.0
3. Intensive agriculture with both coconuts and cocoa	40.0	39.9	79.9
4. Intensive agriculture with cocoa	4.8	8.3	13.7
5. Integrated coconut plantations and cattle grazing	19.4	17.3	36.7
6. Cattle ranching	63.9	96.1	160.0
7. Permanent forests	15.8	61.7	77.5
8. Watershed reserves	58.6	54.1	112.7
9. Lava fields	-	28.2	28.2

Source: Government of Western Samoa, Pre-investment Study for Road Development, 1972.

The importance of agriculture can be judged from employment figures shown in Table 2.2. The dominance of village agriculture, a sector operated by Samoans working on family lands normally under the authority of a matai and producing a combination of cash and subsistence crops, is very clear. Family holdings are small and productivity tends to be low, reflecting poor methods of husbandry and a minimum of capital investment. The proportion of cash crops accounted for by small-scale village agriculture currently averages about 75 % (80% for copra, 60% for cocoa and 75% for bananas). Commercial agriculture is dominated by persons of European origin and in this sector farming techniques are generally of a high standard.

Table 2.2

Economically Active Population - 1966		
	Number	%
Primary sector	22,062	71.1
of which: Village agriculture	(19,929)	(64.3)
Manufacturing and construction	1,364	4.3
Commerce	1,768	5.6
Transport and communications	842	2.6
Government administration and protective services	1,945	6.2
Professions (teachers, clergymen, nurses)	2,442	7.8
Others	771	2.4
TOTAL:	31,194	100.0
As % of:		
Total population	23.6	
Age group 15 and over	48.8	

Source: Department of Economic Development, Apia

2.1.2. Forestry

About two-thirds of Western Samoa, equivalent to 710 square miles, is under forest. The main potential for commercial timber lies in the mid-altitude zone (1000-1500 ft above sea level), but even here the composition of the forest is highly variable with respect to exploitable timber. Valuable timber species, as are found for example in comparable altitudes in Fiji, Papua New Guinea and the Solomon Islands, are absent. Furthermore, there is a low stocking of merchantable timber per acre and an extreme variability in density and composition. Soil deficiency and depletion, wind damage, and past occupation of some of this area are responsible for this pattern. The main species currently being commercially milled are ifi-lele, tamanu, teak and mamalava. No extensive plantation of exotic trees exists.

Attempts to tap the forestry resources in Samoa on any scale are fairly recent. Potlatch-Samoa Inc., a subsidiary of a United States company, commenced operation in 1970 but has yet to achieve its full projected target of 15 million super feet of timber annually. This company has a long term lease over about 70,000 acres on Savaii, of which about 1,200 acres are to be cut annually. Two smaller companies exist, one in Savaii and the other in Upolu.

As part of the Government's effort to develop forestry resources a Forestry Act was passed in 1967 and a Forestry Division was established in the Department of Agriculture to implement policies contained in the Act. In this regard the Government adheres to a policy of sustained production by means of rehabilitation and replanting to ensure a continuous supply of timber. A pre-investment survey concerned with problems of forest research, regeneration and afforestation was initiated in 1971.

2.1.3 Animal husbandry and fishing

The potential for development in this field is considerable, especially for cattle for which, as previously noted, a total of 160-200,000 acres is available for grazing. The number of poultry in the country is apparently large, though no statistics are available. However, poultry are raised mainly by Samoan villagers essentially for purposes of home consumption and tend to be poor in quality due to the absence of any attempt at scientific breeding and management. The same appears to apply to pigs. A commercial approach in respect of both these fields has only reached the infancy stage.

Fishing is practiced widely by Samoan villagers, mainly for subsistence: canoe fishing in the reefs and lagoon waters is most common, though a large variety of marine food is collected by hand, mostly by women, within the reef area. Deep sea fishing has been neglected in the past but the Government is now making an effort to encourage the exploitation of pelagic resources by the establishment of a Fishermen's Association and related measures. This is vital, given the clear

evidence of over-fishing along the reefs, the deficiency of fresh fish in the territory, and the apparently rich fish resources available in the ocean around Samoa.

2.1.4. Tourism

Western Samoa has a number of natural advantages in this area: a pleasant climate, availability of a broad range of scenic attractions and the distinctive Samoan culture. On the other hand, Western Samoa suffers from poor transport connections, partly reflecting the fact that it does not lie on the main air routes. Accomodations and related facilities have also been inadequate. Despite the latter deficiencies, the tourist industry is developing rapidly both in terms of the number of tourists and improvements in local tourist facilities. Rather than going all out to develop tourism the Samoan Government has preferred to pursue a policy of "controlled tourism" in order to avert some of the more disruptive aspects of this industry.

2.1.5. Energy

Under the Government's Electricity Supply Scheme electric power is provided by two hydro- and five diesel-generating plants. Total capacity is 5.31 MW, of which hydro-generating plants account for 1.17 MW and diesel-generating plants for 4.14 MW. Additional power is generated by a number of privately owned diesel plants. Total production of electric energy in 1971 totalled 11.2 GWh. This was distributed between about 13,000 consumers the majority of whom use less than 200 KWh per year (an estimated [illegible], including factories, hotels etc., accounting for half of the total consumption). Consumption of electricity has been growing at an annual rate of 14% in recent years. Future demand is likely to grow at a rate of 12 to 15% per year.

A survey of the country's hydro-power potential and needs was completed in 1972 under financial support of the Asian Development Bank. The Survey identified new possible sources, particularly Vaipu, and examined possibilities for the extension of existing power plants. However, further appraisal work on hydro-power potential is necessary and in the meantime the Samoan Government has elected to rely on diesel power for any additions to present capacity.

2.1.6. Minerals and Oil

The only material having any possibility of commercial exploitation is calcium calcinate from coral rock. Bauxite and beach sands containing titanium exist but are too small in quantity to be economical. No evidence of oil has been found.

2.2. Human Resources

The Samoan population is fairly homogeneous. The ethnic composition in 1971 was 89% Samoan, 10.1% part Samoan, 0.5% European and 0.4% others. Among the part Samoans, the German and Chinese elements are fairly strong. Total population was recorded at 146,461 in the 1971 Census (November), of which 105,700 (provisional) reside on Upolu (including the islands of Manono and Apolina) and 40,761 on Savaii. Density of population per square mile is 238 on Upolu and 60 on Savaii, while the national figure is 131. A ratio in terms of density per square mile of coastline would probably be more meaningful, since there is an overriding concentration of population on the coast. The corresponding figures are 706 for Upolu, 273 for Savaii and 495 overall. The population of Apia, the commercial centre and port of Western Samoa, is estimated at 30,000.

A striking feature of the Samoan population is the unusually high rate of growth. Table 2.3 shows that over a period of a single generation from 1945 to 1971, the population had more than doubled. This reflects a high crude birth rate (41.6 per 1000 in 1971) combined with a low death rate (8.0 per 1000), the latter in turn reflecting steady improvements in health facilities. The difference between the actual rate and the natural rate of increase, which has been steadily widening, is due to continuing emigration, particularly to New Zealand and American Samoa. Another notable feature of Samoa's population is the unusually high proportion of children and young people. The proportion of the population under 15 years of age was recorded at 51% in 1971, while less than 30% were 25 years and older. This pattern is the result of the high level of fertility and the large number of emigrants.

Table 2.3

Population Growth 1945 - 1971

Census dates	Total Population	Average annual increase (%)	Net emigration	Average annual increase (%)
1945	68,197	-	-	-
1951	84,909	3.7	- 610	3.6
1956	97,327	2.8	2,303	3.2
1961	114,427	3.3	3,368	3,9
1966	131,377	2.8	7,460	3.9
1971	146,461	2.2	8,970	3.3

Source: Department of Statistics, Statistical Yearbook, 1967

Conscious of the problems presented by rapid population increase the Government has recently initiated a family planning programme based essentially on the recommendations of a UN/WHO Mission in Western Samoa in 1969. Financial support has been obtained from UNFPA and a National Family Planning Committee has already been formed and a Family Welfare Centre established as one of the headquarters for the project. Experts on family planning have been made available by WHO.

Education in Western Samoa is mixed. It is generally adequate at the lower levels, however, less so at the upper secondary and tertiary levels. About 39,000 students are enrolled in Mission and Government schools. The participation rate in the 5[illegible] years age group is 79% (1970) which compares with a rate of 26% at the 15-19 years age group. The total number of Government schools (1972) was: 123 primary schools, 17 intermediate and junior high schools, 3 secondary schools, a Teachers Training College, a Trades Training Institute and an Agricultural College. The Missions run 44 schools, of which 27 are primary, 11 intermediate and junior high and 6 secondary. The South Pacific Regional College of Tropical Agriculture is located at Alafua. Education is not compulsory.

Health conditions are generally of a high standard. This is mainly due to a long-standing Government policy of providing health services and facilities on the widest possible basis. Life expectancy is about 61 years for males and 65 years for females. There is a central hospital in Apia which is to be redeveloped and modernized, while district hospitals have been established throughout the rural areas. A contributing reason for the high standard of health is the high level of per capita food consumption due, for one thing, to the ready availability of subsistence foodstuffs such as taro, ta'amu, bananas and breadfruit. However, there is a significant degree of malnutrition among pre-school children, particularly in the more densely populated, land-short villages of northwest Upolu.

2.3. Government

Western Samoa gained its independence in January 1962 from New Zealand, which had assumed control during the First World War. The chief legislative body is the House of Assembly comprised of 47 members elected triennially. The Assembly is responsible, among other things, for electing a Prime Minister who in turn is empowered to form a Cabinet (currently 8 members). Members of the House are elected by matai suffrage except for two members representing an "individual roll" who are elected by universal suffrage. (This roll comprises those members and their families who are registered as "free" voters at the time of independence.) There is also a Head of State and a House of Deputies, the latter being essentially a review body consisting of three members. Both the Head of State and the representatives to the House of Deputies are elected by the Assembly, though the present Head of State, who is one of the original joint-heads appointed at the time of independence, is permitted to hold office until his death.

2.4. Economic Situation

No attempt has been made to compile Western Samoa's national income on a systematic basis but provisional estimates for selected

years are available based on the work of one of the writers of this survey (Dr. I.J. Fairbairn) and that of the Department of Economic Development, Apia. These estimates, shown below, suggest a per head ratio of WS$ 115* in 1970 which rises to about WS$ 150 if account is taken of subsistence production. Further adjustments for indirect taxes and personal remittances from overseas would result in a national income figure at market value of approximately WS$ 165 per head.

Table 2.4

Monetary sector gross domestic product
(WS$ million)

Agrioulture sector	1965	1970
Agriculture	3.2	2.7
Commerce	6.8	8.6
Manufacturing	0.1	0.6
Tourism	0.1	0.3
Government	2.4	3.1
Missions	0.9	1.1
GDP at Factor Cost	13.5	16.4

The above table shows that GDP rose by 21% during the period, while a number of sectoral changes of interest took place, for example the decline in agriculture and the growth in manufacturing incomes. Despite the recorded expansion in aggregated income, it would appear that income in real terms and expressed on a per head basis declined over the period. An examination of the respective statistics indicates that consumer prices (Apia) rose by an estimated 10% during 1965-1970 and population by 15%. Lack of detail on national income precludes the making of any reliable judgement on the trends in national income for the earlier period, though it is probable that real income per head has been following a downward trend due to such factors as conditions of stagnant agriculture, declining prices for copra and cocoa, lack of industrial development and rapid population increase. Again due to the lack of statistics it is not

* At the time of writing (January 1973) WS$ 1 = US$ 1.49

possible to assess the rate of savings and capital formation or the rates of private overseas capital flows.

Consumer prices were relatively stable until 1971 when they rose by 4.4% (the average for the previous decade was about 2%). This rate has accelerated to the current figure of 7.7% (eleven months up to September 1972). Although the reason for the current inflation has yet to be established, it is probably due to the effect of recent rises in freight rates and imports. A contributing factor to the rise in import prices was the recent increase in tariff levels on a range of foodstuffs, motor vehicles and motor bikes. Furthermore, the influence on the demand side, emanating from what appears to be rapidly expanding purchasing power in the hands of the general public, has undoubtedly played a part in accelerating the increase of prices.

Western Samoa's balance of payments for 1965 to 1971, shown in Table 2.5 below, reveals an increasingly heavy dependence on capital inflows, especially on private account. Large deficits recorded on commodity trade have only been partially offset by a favourable balance of invisibles, chiefly personal remittances from Samoans overseas and tourist receipts. As the table shows, the comparatively substantial size of private capital inflows is a recent phenomenon and basically reflects the quickening pace of the domestic development effort in relation to the exploitation of forestry resources, tourism, construction and manufacturing, though building and related capital projects undertaken by local churches have also contributed to the inflow. Capital inflow connected with the development of timber-milling and production of veneer by Potlatch Inc. has been a major factor of this flow in the recent period.

Table 2.5

Western Samoa: Balance of Payments 1969-1971

(in WS$ 1000)

	1969	1970	1971
Current Account			
Net balance on trade	-2,544	-6,324	-4,910
Net balance on invisibles	+2,044	+2,669	+2,881
Balance on current account	- 500	-3,655	-2,029
Capital Account			
Private	+ 532	+2,967	+1,677
Government	+1,410	-1,037	+ 699
Net change in official foreign reserves	-1,444	- 438	- 267
Errors and Omissions	+ 2	+ 89	- 80
Balance on Capital Account	+ 500	+3,655	+2,029

The pattern revealed by the table is not long-standing. Prior to the mid-1960's and going back to the early post-war period, the balance of payments situation appears to fall into two phases. The first extends from the immediate post-war period to about 1960 when typically large surpluses on commodity trade accompanied by deficits on invisibles were recorded regularly. Very little flowed either way on capital account except for an occasional year. The next phase which extends from about 1960 to the mid-sixties is essentially transitional. Western Samoa moved to a position of being a net importer on commodity account and increasingly dependent on reserves built-up during the earlier phase since the rate of capital inflow appears to have been small.

The outlook for Western Samoa's balance of payments is reasonably bright for the immediate term. Coora and particularly timber production are rising strongly and are likely to continue to do so over the next few years. In view of this, total exports are expected to increase from year to year, despite poor prospects for cocoa and bananas, and proceeds from tourism and personal remittances from overseas are likely to rise

steadily. The net inflow of capital, though continuing to be variable, will probably increase in response to continuing Government efforts to promote economic development through financial support from international lending and aid-giving organizations coupled with developments in the tourist and manufacturing sectors.

2.5. The Industrial Situation

Western Samoa's industrial sector has developed impressively in recent years. This performance has been due largely to policy measures and actions taken by the Government in an attempt to initiate and reinforce industrial development as part of its overall strategy of promoting economic growth. Some of these measures may be summarized as follows:

- a reversal during the mid-sixties of official policy relating to foreign investment in Samoa from one of subdued opposition to that of active encouragement;
- the creation in 1964 of an Economic Development Secretariat (in place of an Economic Development Committee created in 1961), whose main purpose is to establish the foundations for the preparation of development planning;
- the establishment in 1965 of the Department of Economic Development (thus supplanting the Secretariat) following the enactment of the Economic Development Act in the same year;
- the introduction of a Five-Year Development Programme covering the period 1966-1970;
- the enactment of an Enterprises Incentives Act (subsequently amended in 1969) providing taxation and related financial concessions to approved industrial projects.

Details on the general structure and related parameters of Western Samoa's industrial sector are shown in Tables 2.6 and 2.7. These tables were compiled from the results of a general business census conducted by the Department of Statistics in 1969. The overriding importance of small-scale enterprises (many no more than backyard, semi-handicraft

units) is clear from Table 2.6. It is evident from Table 2.7 that industrialisation in Western Samoa is very much at the elementary stage, involving industries with simple technology and minimum capital and managerial requirements (apart from public utilities such as electricity). This table also confirms the dominance of the construction sector.

Table 2.6

Industrial Establishments by Size, 1968

Size No. of Persons	No. of Establishments	No. of Employees
1-4	23	35
5-9	9	47
10-19	14	190
20-49	9	266
50 and over	1	187
TOTAL	56	725

Source: Department of Statistics, Annual Statistical Abstract 1970, Apia, p. 51

Since 1968 Western Samoa's industrial structure has broadened somewhat, though the basic characteristics noted above remain fundamentally true. With particular reference made to manufacturing activities, a number of enterprises operating along modern lines have recently come into operation. These include the enterprises involved in the production of sawn timber and veneers (on a relatively large scale), cabin bread, cakes and related products, sausages, jandals cane furniture, badges and promotional jewellery. New enterprises about to be established may also be noted: paints, plastic products, industrial gases and precision engineering. Another project involving the manufacture of concrete products is under consideration. The results of the 1971 Census to be published in 1973 will help to give a more up-to-date picture of the size of Western Samoa's industrial sector. The national income estimates given in Table 2.4 provide some idea of the magnitude of the industrial establishments, excluding the manufacturing activity, for these years.

Table 2.7

Industrial Establishments by Economic Activity 1968

ISIC Code	Economic Activity	No. of establishments	No. of employees	Salaries and wages of all employees (WS 100)
311,312	Food	12	69	23.3
313	Beverages	2	45	26.2
322	Wearing apparel	11	32	5.4
331	Wood, wood products	2	37	25.6
332	Furniture	6	55	20.5
342	Printing and publishing	6	79	62.3
361	Other non-metallic mineral products	1	9	3.2
352,381	Non-industrial chemicals and fabric metal products	2	38	17.9
410	Electricity	1	43	36.8
420	Water work supply	1	37	13.8
500	Construction	11	267	129.2
290	Other industries	1	14	4.4
	TOTAL	56	725	368.6

Source: As for Table 2.6

3.0 INFRASTRUCTURE FOR INDUSTRIAL DEVELOPMENT

The infrastructure supporting industrial development of Western Samoa is surveyed in the present chapter. For reasons of time, only facilities closely related to industry are included, i.e. the electric power industry, internal and external transport, and financial institutions. Being beyond the scope of this report, no attempt was made to assess such aspects as housing, education or other important infrastructure services.

3.1. Electric Power Industry

3.1.1. Present Situation

In 1972 the total generating capacity in the country was roughly 5.3 megawatts (MW). The public electricity supply is provided by the Electric Power Scheme, a branch of the Public Works Department. Its capacity in the dry season or wet season varies. The total installed capacity is as follows:

2 diesel generators 1.6 MW each	capacity	3.2 MW
1 Hydrogenerator		1.0 MW
1 Diesel generator		0.3 MW
1 Diesel generator		0.3 MW
1 Diesel generator		0.5 MW
	TOTAL	5.3 MW

During the dry season firm capacity is as follows:

1 Diesel		1.6 MW
1 Hydro at minimum flow		0.4 MW
3 Small Diesel		1.1 MW
	TOTAL	3.1 MW

During the wet season there is additional firm capacity due to full flow of the hydro generator (+0.6 MW), giving a total of 3.7 MW. One Diesel (1.6 MW) is kept in reserve.

Apia and its surroundings up to Faleolo and Fagalii are interconnected with an electric network. The price of energy is 3 1/3 sene per KWH. No differential tariff scale is applied. Included in the cost of electric power is a duty paid on diesel oil. Suppression of this duty would drop the tariff to 2.75 sene per KWH. Energy consumed has increased at an annual rate of 14 % as shown below:

In 1966	-	0.720 million	KWH
In 1967	-	0.803 "	"
In 1968	-	0.907 "	"
In 1969	-	0.975 "	"
In 1970	-	1.120 "	"

Energy is used mainly for lighting purposes, the main clients being the government and private homes. The grid derives no major burden from industrial users. Currently high tension transmission is via 22.2 KV and low tension transmission via 415/240 V.

3.1.2. Prospects

An electric power development programme is in the planning stage. So far, an increase in diesel generating capacity of 1.5 MW yearly is contemplated for 1973, 1974 and 1975, adding a total of 4.5 MW to the generating capacity. Besides this increase in capacity, an additional investment on transmission lines will take place. By 1975 the electric network will cover approximately 400 KM of lines. The total investment will be about WS$ 1.8 million, including the three diesel units (WS$ 200,000 each).

3.2 Transport

Western Samoa consisting of a group of islands, the most important mode of transportation for its manufacturing industries is general cargo shipping. Air freight has been of little significance so far, although air transport services for passenger use are of importance for the further development of tourism. International transport in or between the islands is of importance, but not as critical as in other countries, due to the high concentration of economic activities in Apia and now in Asau (on Savaii island). The development of Savaii will probably increase the traffic by sea between Upolu and Savaii.

3.2.1. International Shipping

It is the general opinion in Western Samoa that shipping freight is expensive and not very reliable. Nevertheless, the shipping services are frequent, the following lines arriving on a regular basis in Apia:

Union Steamship Co.
The Bank Line
Nedlloyd Line
Daiwa Line
Tonga Copra Board Line
Pacific South East Line
Pacific Navigation Co.
Pacific Islands Transport Line

Troubles arising with the shipping of fresh fruits cannot be attributed to an irregularity of services but to the lack of refrigerated storage facilities in Apia.

Freight rates between Western Samoa and ports in Europe, USA, New Zealand, Australia, Japan etc. are high, due in part to the small volume of shipments. The following are the rates for some important products and prospective routes:

To the Pacific Coast of USA (Pacific Islands Transport Line)

a) Lumber: US$ 61 - per 1000 board feet

b) Veneer: US$ 38 per long ton (or 40 cubic feet)

c) Refrigerated fruits: US$ 156.8 per long ton

d) Frozen fish: US$ 156.8 per long ton

e) Canned goods: US$ 41 per long ton (or 40 cubic feet)

f) Fish meal: US$ 37 per long ton

To Japan (Daiwa Line)

a) Lumber: US$ 86.20 per 1000 board feet

b) Refrigerated fruits: US$ 150.65 per long ton (or 40 cubic feet)

c) Canned goods: US$ 63.35 per long ton (or 40 cubic feet)

To Australia (Pacific Navigation Co.)

a) General cargo: A$ 35.70 per long ton

b) Refrigerated fish: A$ 129.80 per long ton

c) Refrigerated fruit: A$ 52 per long ton

d) Lumber: A$ 91 per 1000 board feet for lengths between 20' and 25'
A$ 86 per 1000 board feet for lengths up to 20' plus
12½% if sector is greater than 144 sq. in.

To New Zealand (Union Steamship Co.)

a) General cargo: NZ$ 27.38 per long ton (weight or measure)

b) Refrigerated fruit: NZ$ 34.06 per long ton (weight or measure)

c) Refrigerated fish: NZ$ 124.32 per long ton (weight or measure)

d) Canned goods: NZ$ 22.24 per long ton (weight or measure)

e) Lumber: NZ$ 56 per 1000 board feet for lengths from 29' to 25'
NZ$ 71 per 1000 board feet for lengths up to 20'

To Europe (Nedllyod Line and Bank Line)

General Cargo: f 15.85 per metric ton (or cubic meter)

3.2.2. Inter-island shipping

Inter-island shipping, including shipping between Savaii and Upolu and between Western Samoa and Pago Pago is carried out mainly in wooden ships. The need for the acquisition of a ferry boat for 200 passengers and 20 vehicles for use between Savaii and Upolu is

recognized by the Government. The type of ship to be used for carrying freight between Western Samoa and Pago Pago, where prospects for increasing trade are foreseen, must be considered. For instance, the feasibility studies for some new factories in Apia call for a study of shipping facilities. In view is the development of a brewery, a wheat mill, poultry farming and timber products, which would demand future ocean cargo capacity.

3.2.3. Apia and Asau Harbours

a) Apia Harbour

Apia Harbour in Upolu is the main harbour in Western Samoa. At present it is adequate in size. The wharf warehouses are overcrowded, however, and additional warehouse space is required. The Copra Board is building a warehouse for completion in 1975 of about 20,000 sq. ft, of which 10,000 sq.ft are required for the packing and storage of fresh fruits. For this purpose a study of cold storage facilities is recommended.

The depth of the port poses some problems for future operations because of the increasing size of ships. The problem of handling the container trade must also be solved in the near future in order to benefit from potentially lower shipping rates. A general rise in shipping rates for non-containerized cargo is now becoming evident. To encourage commercial shipping operations, some dry-dock facilities for fishing boats should be provided in the near future.

b) Asau Harbour

Plans to build a new harbour at Asau on Savaii have not been fulfilled, due to an underestimation of the difficulties in the dredging of the Asau channel. Channel dredging was to provide a 200 feet wide by 32 feet deep approach to the Asau wharf. Under contract revision at the end of December 1971, however, the channel was reported to have a depth of 25 feet with one point being only 22 feet deep. The Government is reviewing the requirements for the further deepening of the channel.

3.2.4. Internal Transport

a) Roads and Bridges

A Road Development Programme is in progress. The total length of the road network in 1971 was 212 miles. Main efforts are being placed on the improvement of the road uniting Apia and the Faleolo Airport. Work on bridges and roads is also being carried out on Savaif island. A complete report on road development has been finished and is available for planning projects. Some penetration roads have been under work during 1972 (20 miles of plantation access roads).

b) Buses, trucks and cars

There are some 1000 trucks and buses in Western Samoa. Private cars, taxis and government cars amount to some 2000 units. In general, attention should be drawn to the need to reduce the number of makes of vehicles to a minimum in order to facilitate the supply of spare parts and improve service.

It is suggested that an agreement be made with 1 or 2 makers, in order that the number of imported makes be limited, giving them import rights combined with servicing obligations.

Another suggestion is to standardize public transport buses, eliminating those with wooden bodies, which are fairly dangerous.

3.2.5. Air Transport

The main commercial airfield is Faleolo Airport, with a 5500 foot runway capable of receiving medium size jet planes, such as the BAC-1-11. The Government-owned Polynesian Airlines operates two new HS 748 (Avro) and a DC-3. There are daily flights between Western Samoa and American Samoa, weekly flights between Western Samoa and Fiji and between Western Samoa and Tonga.

Western Samoa is connected with the main overseas air networks at Pago Pago International Airport in American Samoa and at Nadi International Airport in Fiji. Two small domestic airlines operate daily flights between the islands of Upolu and Savaii.

3.3 Postal and Telecommunication Services

3.3.1 Postal Services

Postal services seem well managed and reliable. However, the fact that the Main Post Office in Apia does not provide continuous service presents a considerable drawback to the further development of industry and tourism. Especially necessary will be continuous postal service to the proposed free zone. Eventually, a branch office at the free zone should be considered.

3.3.2. Telecommunications

Telecommunication services are also discontinuous at present.

a) International Telephone Services

Overseas telephone services are available Monday through Friday, 8 a.m. to 4 p.m., and on weekends from 8 a.m. to 12 noon. This situation is unsatisfactory for the country's further development. A 24-hour overseas telephone service should be established, perhaps using existing facilities in Pago Pago. Because of the short distances involved it would be relatively easy to link Apia with Pago Pago using microwaves.

The Mission recommends a feasibility study and negotiations with the Government of American Samoa, in order to provide 24-hour overseas telephone services as soon as possible.

3.3.3. Radio Communications

Telegram services are operated via radio waves. The Overseas Telegram Office is open from Monday to Sunday. Should a system of microwave transmission between Western and Eastern Samoa be established, this would be a much more reliable basis for overseas telegram services than radio. The problem should be considered together with telephone communications.

3.3.4. Telex

There is no telex system in Western Samoa. This is a major drawback to industry and tourism. The proposed micro-wave system between Upolu and Tutuila should also be used as a basis for the establishment of telex services in Western Samoa.

3.4 Financial Institutions

Until now facilities for providing development capital for the country's incipient industrial sector have been virtually non-existent. The Bank of Western Samoa (the country's sole bank, owned jointly by the Samoan Government (45%) and the Bank of New Zealand (55%), with capital of $ 500,000) has tended to pursue a lending policy very much in keeping with orthodox trading bank practices. Its advance/deposit ratio is currently at a level of 78%, but over the past decade it was typically around 50%. To some degree the lack of suitable lending outlets has been responsible for this situation, but the main reason seems to be an inbuilt policy of caution on the part of the Bank which has tended to treat Western Samoa as being little different from any other of its various branches in New Zealand. One of the Bank's regulations, stipulating that 30% of funds (deposits and notes) must be kept in overseas reserves (U.K. Treasury Bills, Government Bonds and working balances), has also been relevant.

Partly in response to continuing criticism, the Bank introduced term lending in 1970 in an attempt to provide some flexibility in its lending activity. Under this scheme loans may be made for approved economic projects for a period of up to 10 years, 5-6 year loans being the most common. Amounts presently committed under term lending total $ 420,000, of which 30% are in "building and construction", 30% in "hotels", 30% in "other commerical buildings"and 10% in "agriculture".

A Development Fund, established by the Government in 1966 with an initial capital of $ 20,000, has operated to date exclusively as a lending agency supplying short and medium credit to the agricultural sector. The funds under the control of this organization have been

raised progressively to the present level of $ 350,000, over half of which has been loaned to persons engaged in "mixed farming". Other financial institutions found in Western Samoa are a Post Office Savings Bank, a Public Trust Fund, a Savings and Loan Society, the National Provident Fund, a few credit unions and about 26 agencies of foreign insurance companies, but none of these "financial" intermediaries have played any part in industrial development to date.

Notwithstanding the present shortcomings in Samoa's financial sector, there are two developments which are likely to bring about a radical transformation of the whole financial picture. The first of these is the reorganization of the Development Fund under technical assistance from the Asian Development Bank, which is scheduled to take place early in 1973. The Fund is to be converted to a body tentatively entitled the Samoan Finance Corporation which will have an initial capital of $ 500,000 and enjoy power to borrow both from local institutions and international lending agencies such as the Asian Development Bank. As it is anticipated that 25% of loans will be channelled into industrial ventures, the establishment of the Corporation will help to fill part of the gap existing in that sector. Another vital function envisaged for the Corporation is the undertaking of project evaluation as a basis for loan authorisation.

The second significant development is the establishment (1972) of the National Provident Fund (NPF). This body assumed control of funds (totalling $ 2.3 million at the time) previously held under the New Zealand Superannuation Scheme and it will collect an estimated $ 1 million in local contributions within a year or two. Based on a charge of 5% on salaries (to which the Government contributes a further 5%), it is potentially a powerful source of development capital. Though as yet it has not commenced lending, the fund intends to lend large amounts on a long-term basis. The minimum amount it is prepared to lend is $ 20,000, but there is a possibility that this limit will be reduced so as not to penalise worthy projects of smaller magnitude.

The Fund is pledged to pursue a policy of flexibility in its investment activities; it can lend to the Government, to the proposed Development Corporation, and to private entrepreneurs. In addition it is also empowered to participate directly in business ventures by purchasing equity holdings and engaging in leasing activities which can play an important role in industrial development.

The Mission is pleased to note the above developments and implications they are likely to have for the future. The establishment of the Samoan Finance Corporation, with its access to the Asian Development Bank and other international financial bodies, and the NPF with its capacity to accumulate large amounts of funds, will significantly transform the financial situation in Samoa, most likely causing it to no longer be a major constraint on industrial and related developments. The major problem may well become one of achieving an optimum allocation and utilization of available capital funds; for those in control it will be necessary to devise policies which are flexible and imaginative in relation to the distribution of funds. Nowhere is this as necessary as in the area of loans to Samoan village planters, the majority of whom would not be eligible for a conventional loan because of lack of personal assets which could be used as security. A dynamic approach is also necessary in relation to the development of natural resources, such as fisheries and cattle which, by their very nature, are long-term projects often carrying considerable risk.

The question of interest rate policy will need some consideration. The Development Fund has been lending at rates of about 5½%, and with future access to "soft loans" from the Asian Development Bank, it is capable of maintaining this rate. Indications are, however, that it will bring its rate into line with most other Development Banks, following its proposed reorganization. The rate which the NPF contemplates charging on risky ventures is in the order of 8-9%, a level which will make it somewhat uncompetitive with the cheaper finance forthcoming from the proposed Finance Corporation. It will be necessary to strike out a pattern of interest rates which will achieve a degree of balance and ensure that the substantial financial resources under the control of the NPF do not lie unnecessarily underutilized.

4.0 INDUSTRIAL SECTOR SURVEY

4.1 Food Industry (ISIC 31)

4.1.1 Introduction

Official estimates of monetary GDP for 1970 (excluding imputed rentals recorded at WS$ 3.9 million) indicate that agriculture accounted for 21% of the total. This figure does not however do justice to the contribution of this sector to the national product. For one thing, 1970 was a bad year for agriculture (agricultural exports fell from $ 4.4 to $ 3.2 million), but production in this sector has since recovered strongly; and for another, the estimates do not take subsistence production into account, mainly taro, ta'amu, coconuts, fish and other marine resources which would substantially raise the overall contribution of this sector. Taking these factors into account, a more realistic proportion for agriculture would be in the order of 30-35%.

Reference to national income data given earlier (Table 2.4) suggests that even allowing for the poor performance in agriculture in 1970, the proportion of GDP originating from agriculture has declined - a familiar pattern in developing economies. The reason for this is the growth that has taken place in other sectors, principally housing construction and manufacturing, but it is also due to a fairly static condition in agriculture itself, especially in the case of bananas and copra, though the latter appears to be entering a new growth phase based on the result of development efforts in the recent past. It is reasonable to assume that subsistence production has been growingbut at a pace below that of population.

In the absence of a time series on the main agricultural products, reference can be made to exports. Table 4.1 shows the volume of exports for the three main crops for 1965-1971. Since these crops typically account for 90% of the value of exports, the trend revealed by the table, excepting the recent upsurge in copra, is discouraging.

The Government has been making strenuous efforts to promote increased production of these three crops, particularly in relation to small-scale village growers who dominate in the production of copra and bananas, but success has been mixed. Some of the problems encountered in this effort are outlined in the following section dealing with individual food crops. A few other agricultural products have developed into useful exports, notably taro, raw coconuts and annatto.

Table 4.1

Export volume of Copra, Cocoa and Bananas

	Copra (tons)	Cocoa (tons)	Bananas (case)
1965	12,370	2,991	481,565
1966	14,017	2,723	61,983
1967	7,405	3,116	95,490
1968	12,623	2,587	94,327
1969	14,550	3,017	219,391
1970	9,619	2,442	200,727
1971	17,781	2,590	247,631

Imports falling under the categories "food and live animals" accounted for a value of $ 2,709,000 or 28 % of total imports of $ 9,614,000 recorded for 1971. "Beverages and tobacco" accounted for a further $ 529,000 or 5 %. Table 4.2 below shows the major food and beverage items imported for 1971, amounting to 25 % of the territory's total imports. A notable feature of the table is the dominance of a few products, for example fish, flour, meat (including poultry and pork), sugar, and ale and beer which between them account for a total of $ 1,989,500 or 21 % of the territory's total imports (and 81 % of the imports listed in the Table). The size of these particular imports reflects the absence of these industries in Samoa (or the limited development to date), and at the same time gives a lead as to size of the local market for purposes of import substitution.

Commodities showing the highest rate of growth, according to the table, are bacon and ham, eggs, ale and beer, processed fish and fresh

TABLE 4.2

MAJOR FOOD AND BEVERAGE IMPORTS 1965-1971

	1965		1966		1967		1968		1969		1970		1971	
	Value ($000)	Volume	Value ($000)	Volume	Value ($000)	Volume	Value ($000)	Volume	Value ($000)	Volume	Value ($000)	Volume	Value ($000)	Volume
6. Beans and Peas (lbs)	10.0	(23,867)	13.0	(22,704)	12.8	(22,040)	11.3	(22,615)	13.0	(24,229)	22.7	(33,309)	19.7	(38,542)
9. Biscuits (1) cabin bread	36.0	(2,382)	21.2	(832)	30.9	(1,255)	35.6	(1,615)	37.5	(1,771)	50.4	(2,169)	46.7	(1,814)
(2) n.e.i.(cwt)	31.0	(1,245)	4.6	(314)	2.7	(198)	1.1	(78)	3.1	(163)	7.5	(499)	5.5	(347)
10. Butter (cwt)	50.9	(1,941)	52.4	(2,122)	62.6	(2,066)	61.0	(2,394)	60.8	(246)	76.4	(2,958)	93.2	(3,470)
16. Eggs (dozen)	1.2	(3,880)	1.0	(1,827)	3.6	(9,325)	5.2	(17,940)	7.1	(25,270)	6.5	(21,180)	5.5	(8,275)
17. Flavourings	4.6	-	5.0	-	3.3	-	12.6	-	14.1	-	18.4	-	18.5	-
18. Fish (1) Fresh or frozen	40.9	(4,521)	20.3	(2,187)	30.9	(3,890)	27.1	(2,378)	27.2	(2,950)	29.8	(2,476)	41.6	(3,233)
(2) Other (cwt)	271.5	(30,638)	220.3	(23,374)	284.6	(30,701)	302.5	(31,428)	308.6	(27.851)	329.8	(29,337)	414.2	(41,528)
19. Flour (cwt)	268.4	(71,784)	437.0	(105,832)	209.3	(49,733)	337.7	(76,741)	401.3	(85,575)	349.7	(66,375)	374.7	(77,575)
24. Ice cream (gallons)	40.5	-	38.4	(24,912)	38.2	(22,443)	22.6	(16,981)	18.0	(16,678)	14.7	(12,797)	20.0	(17,710)
28. Meat (1) Fresh or frozen	166.8	(14,599)	238.9	(14,420)	199.6	(17,369)	201.2	(20,147)	216.4	(20,664)	298.4	(23,103)	339.5	(29,347)
(2) other (cwt)	417.7	(15,705)	447.5	(15,233)	315.3	(10,924)	120.5	(7,446)	185.7	(9,455)	406.2	(16,191)	385.8	(13,662)
29. Milk (cwt)	69.9	(3,849)	130.0	(8,914)	68.4	(3,702)	60.1	(4,857)	59.7	(4,657)	65.9	(5,216)	65.3	(4,542)
30. Sugar (cwt)	217.0	(60,412)	216.7	(60,737)	202.4	(57,977)	223.0	(66,423)	245.7	(67,875)	289.0	(73,273)	264.4	(77,870)
31. Rice (cwt)	107.7	(18,066)	293.7	(44,216)	65.2	(9,293)	178.0	(23,434)	163.4	(21,905)	133.1	(15,702)	124.4	(16,393)
38. Tea (cwt)	15.1	(31,458)	17.0	(36,124)	16.4	(39,276)	13.8	(32,491)	17.4	(43,106)	20.0	(51,396)	20.1	(52,116)
60. Ale and beer (gallons)	125.8	(201,621)	97.7	(152,821)	87.9	(133,736)	134.5	(91,836)	123.0	(208,376)	121.1	(208,376)	169.3	(319,520)
21. Food for infants	4.9	-	6.1	-	5.8	-	17.7	-	23.8	-	26.0	-	30.0	-
TOTAL	1867.7	2257.8	2257.8		1649.9		1765.3		1919.8		2182.1		2438.8	

or frozen meat. These products expanded by at least 30 % over the six-year period, or at an annual rate of 4.5%. The sharp drop in imports of cabin biscuits and the more moderate fall in ice cream reflects commencement of local production in these areas during the period.

In the following section several sectors of the food industry are analysed in considerable detail and several recommendations for future action are set forth. Although not part of UNIDO's responsibilities as such, the recommendations - by the very nature of the subject - often tie in closely with agriculture. Thus, experience in many other developing countries has shown that isolated agricultural development can become an economic failure if it is not properly combined with the establishment of suitable processing industries for the production of semi and/or fully processed agricultural goods with an added value. An essential prerequisite for this is a thorough analysis of both the domestic and export market potential.

4.1.2. Coconut, copra and oil industry

The potential land resources suitable for coconut planting amount to 97,000 acres. At the present moment it is estimated that 55,000 acres are planted with coconuts in full production. Most trees, however, are more than 60 years old with a low and declining yield. An extensive replanting and new planting scheme was therefore introduced in 1966. Up to the end of 1971 a total planting of 46,000 acres had been carried out. This leaves a balance of 51,000 acres for 1972 - 1975, or 12,750 acres per year. It takes 12 years for a new coconut tree to come into full production, a rather long-term investment. The planting scheme is subsidized by the government in cash, fertilizer, planting materials etc., equivalent to approximately WS$ 11 per acre.

Copra exports are handled by the Copra Board, which buys copra at fixed prices from merchants and farmers. The world export prices for copra are subject to cyclical fluctuations and have been declining

during the last decade. The average export price since 1964 has been WS$ 136.1 per long ton, which is somewhat higher than the average world market price of WS$ 127.4 during the same period. It appears that there will be a further downward price trend for copra, mainly because of the declining demand for lauric oils due to their substitution by synthetics. A projection of copra exports for the period 1970 - 1990, prepared as part of the Second Five-Year Plan, reveals that the major export effect of the planting scheme will not appear until the early 1980's because of the long time lag of 12 years per coconut tree to come into full production. The analysis also indicates that the 30,000 tons of copra, which is the smallest economic capacity for a coconut oil plant, will not be produced until 1981, even under favourable conditions.

From a national and commercial cost-benefit point-of-view, copra is not attractive compared with other potential crops which could be grown in Western Samoa. This is the conclusion of a comparative agricultural cost-benefit analysis which was prepared as part of the Second Five-Year Plan.* Net profit for a new plantation using hired labour under prevailing wages in Western Samoa is extremely low:

- WS$ 6.30 per acre assuming an average yield hypothesis, and
- WS$ 15.80 per acre assuming a high yield hypothesis.

Employment and balance of payment effects are small compared with certain other crops. These considerations, however, do not take into account any inter-cropping between coconut palms and other crops, nor cattle grazing on coconut groves. This aspect would of course make coconut more attractive than indicated above, but experience in this field is still rather limited.

In addition to copra, coconuts can be processed into coconut oil, copra meal, or desiccated coconut. Furthermore, fibre can be derived from the husks and the coconut shell can be processed into charcoal. These aspects are analysed in more detail in the following section.

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* "Some notes on the Economics of Agricultural Development in Western Samoa". Department of Economic Development, 1970.

Coconut oil

Copra has a high content of oil, which can be used for producing margarine, cooking oil, lard, soap and chemical compounds such as plastics, fatty alcohols, fatty acids and their derivatives, detergents etc. The maximum extraction rate using modern mills is 63 %; the extraction rate for smaller mills using old equipment is around 52 %. A modern coconut oil mill must be based both on pressing and solvent extraction; only when employing the latter can the residue be further processed into high quality animal feed for cattle, pigs, chickens etc. The price of coconut oil follows closely the price of copra. During the period 1956 - 1967 the price ratio of coconut oil to copra ranged from 1.52 - 1.69, but if allowance is made for the 63 % oil extraction rate, the price ratio of coconut oil to copra expressed as oil equivalent is in the range of 0.943 - 1.100 during the same period.* The price of coconut oil extracted from copra is therefore almost equivalent to the price of copra. The residual copra cake and meal represents an additional source of revenue. These aspects are analysed in more detail in the following section. Presently, there is no modern coconut oil processing facility in Western Samoa. WSTEC, however, is extracting oil for soap production on a minor scale. Another existing installation is small and obsolete.

Copra cake and meal

Having a low protein content copra cake is mainly used for fatting animals. Copra meal can be used as a component for cattle and other feeds. Copra meal is produced in small quantities by the WSTEC Soap factory, as a by-product of the oil extraction. The yearly production is estimated at 50 tons. On the domestic market, copra meal is sold at WS$ 69 per long ton, and in New Zealand at WS$ 40 per long ton. The latter is considered to be the world market price.

It is estimated that copra cake and meal account for around 5 % of total world trade of oilseed cake and meal and other vegetable residues. The share of world production and trade of ECAFE countries is estimated at around 75 %.

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* Source: FAO, Coconut Statistics, No.1/8 p.50-52.

Desiccated coconut

Desiccated coconut is shredded dried coconut meat; it is widely used throughout the world for making cakes, candies and various confectionery products. Western Samoa's production and export of desiccated coconut in 1970 and 1971 was almost negligible, amounting to only WS$ 27,724 and WS$ 38,959, respectively. Desiccated coconut was landed in New Zealand at NZ$ 9 per CWT compared with Western Samoa's production cost of NZ$ 12, which may be due to obsolete production equipment. The world market for desiccated coconut appears stable. Export prices obtained between 1962 and 1966 averaged US$ 272 for the world as a whole and US$ 278 per metric ton in ECAFE countries. The Philippine dumping price in New Zealand, however, is US$ 215 per metric ton. It has been reported that a US company was willing to establish a factory with an annual capacity of 1,500 tons in American Samoa. However, there is a shortage of raw materials.

Fibre

The fibre derived from coconut husks is suitable for matting, carpets, brushes, brooms, sacks, rubber coated fibres, hardboard etc. The best fibres, suitable for the mechanized production of the above, come from the husks of not fully matured coconuts. In Western Samoa, however, coconuts are collected as they fall from the trees, which means that they are fully ripe and not as suited for a mechanized fibre production. The yield is only around one CWT per 750 nuts. Some fibre has been exported to New Zealand at NZ$ 100 per long ton from a small factory, but exports from Ceylon were of a higher quality and a lower price, NZ$ 75 per long ton.

Charcoal

A small amount of charcoal is presently being produced from coconut shells. It is well suited for barbecuing. Coconut charcoal production could be taken up by any village and expanded for export to the affluent markets of Australia and the United States. It should be packaged in handy sizes for the retail trade, under an exotic label. The Trade Promotion Officer proposed in Chapter 6 could help to launch an inexpensive and relatively simple market test.

Coconut trunks

As a result of the coconut replanting scheme, a large number of trees are being felled each year. Coconut trunks (stems) are not suitable as a building material. Feasibility studies for the production of particle board from the coconut trunks have not been favourable due to the low export potential (low prices and high transportation costs). The trunks are difficult to burn and are beginning to pose environmental problems, littering scenic beaches and lagoons. Presently, there seem to be no industrial uses for this raw material.

Conclusions

The Mission has found that:

- coconut growing has had a long tradition in the Samoan economy and enjoys the confidence of the Samoan people;
- copra has been a major export item and local consumption of coconut has been substantial for many decades;
- from a national and commercial cost-benefit point-of-view, coconut growing is not very attractive. Other potential crops would have far greater advantages for the economy;
- since 1965 a coconut planting scheme is being carried out whose goal is 55,000 acres of replanting and 42,000 acres of newly planted coconut palms by 1975. It is noted that 12 years are required before a coconut palm comes into full production. The cost of the planting scheme is substantial, around WS$ 11 per acre for cash subsidy and material. However, it is important to observe that this investment seems to be made regardless of probable future developments in the industry;
- such future developments are likely to be a continued downward trend in the price of copra and by-products, as well as sporadic dumping. The main reason for this is an oversupply due to the development of synthetic substitutes;

- a preliminary analysis indicates that the minimum economic size of a coconut oil plant, including certain by-products, is 30,000 tons per annum. The raw material for that level of production will not be available until 1981.

With due consideration to the foregoing findings, the Mission recommends the following:

- The initiation of a comprehensive feasibility study for the production of coconut oil, copra meal, desiccated coconut and any other possible coconut by-products. Until the feasibility of processing coconuts and their by-products has been clearly demonstrated by such an analysis, the Government should not support any further efforts in this field. The study should be closely coordinated with the industrial economist (under recruitment) who will be attached to the Asian Coconut Community (ACC) in Djkarta, of which Western Samoa is a member.

- If the above feasibility study is discouraging it may be advantageous to either supplement or replace large-scale coconut growing by other crops. The extensive UNDP/FAO efforts in the field of agriculture, in progress for some time, should provide valuable leads. However, the Mission would like to emphasize again that an essential prerequisite in addition to favourable soil and climatic conditions, is the marketability of the crop either in its original state or after having been further processed.

- A good possibility might be the oil palm, the fruit of which could be further processed into palm oil and palm kernel oil. An advantage is that copra oil and palm kernel oil could be produced in a single mill. Furthermore, palm kernel cake is a high-grade component of animal feeds. However, it should be emphasized that oil palm growing can only be successful if it is launched as a large-scale industry with the processing plant as the focal point. However, the large output from such a costly investment requires guaranteed export markets.

A logical way to obtain such markets would be a joint-venture agreement with a large-scale user in Australia, Japan or elsewhere.

4.1.3. Cocoa

The total area under cocoa is about 20,000 acres, of which 3,000 are accounted for by WSTEC. About 40 % of export production, shown in the Table below, is derived from commercial plantations (including WSTEC and a few large-scale Samoan producers), while the remainder is attributed to numerous small-scale village producers. Cocoa growing expanded rapidly during the 1950s when world prices reached boom levels, but has since levelled off due to less favourable markets.

Table 4.3

Cocoa Exports

	Export (tons)	Average price per ton beans and shells (WS$)	Value (WS$000)
1965	2,991		
1966	2,723	442	1,209
1967	3,116	469	1,462
1968	2,587	493	1,276
1969	3,017	599	1,808
1970	2,442	424	1,037
1971	2,890	442	1,272
1975 Plan target	(3,075)	-	-

Source: Department of Economic Development, Apia

Table 4.3 provides a fairly accurate picture of cocoa production in recent years since only a small fraction of total production is consumed locally (in the form of a drink made from ground beans). The high quality of Samoan cocoa (ideal for blending) has enabled it to

earn a premium of about 20-40 % above the normal world price. However, the overall picture for this industry in Western Samoa is somewhat uncertain, particularly in view of the fact that world prices are unlikely to improve markedly. Feasibility studies conducted by the Department of Economic Development show that the rate of return on cocoa is poor in comparison with other crops. Among village growers it is apparent that very little effort is being put into maintaining and developing cocoa plantings: the general impression gained by the Mission is that this crop has been relegated to a minor position of little importance as a source of cash income. Recent attempts to reactivate the cocoa industry include the promotion of a high yielding variety, Lafi 7, capable of doubling and tripling current yields (typically 3 cwt per acre on commercial plantations, though Vaai Kolone, in the drier zone at Asau, gets as much as 7 cwt per acre). A Cocoa Board has also been established.

A recent study undertaken by an FAO consultant (D.B. Murray) confirms that the total area considered suitable for cocoa growing is about 75,000 acres. A considerable potential therefore exists for increasing production quite apart from improvements in productivity. Furthermore, UNIDO has confirmed that world prices for cocoa are likely to improve somewhat in the future because of increasing demand on the part of the big producers of chocolate products and that the demand for cocoa of the blending variety, which is produced in Samoa, is likely to be particularly strong. It may also be noted that some of the biggest plantations in the major cocoa producing countries appear to be closing down mainly on account of the cost-price squeeze. However, in spite of these considerations the Mission would like to advise against any major effort to extend the area under cocoa cultivation, for two reasons. First, the industry is currently unprofitable and it is unlikely that any increase in prices in the near future will change this situation given the continuing pressure of rising costs of domestic production. Secondly, it would appear that there are other agricultural possibilties, such as cattle, pineapple and taro, which are capable of making a more productive use of land.

The Mission, however, fully supports current efforts being made by the Department of Agriculture to achieve higher levels of production by means of improving productivity per acre of existing holdings. Productivity levels, potentially achievable by the replacement of existing plants by more productive varieties, could very well improve the viability of cocoa. Further, scope for improvement exists in encouraging village growers to adapt more up-to-date management and plantation techniques.

Nevertheless, even if the planting effort would warrant it, only cocoa butter, an intermediate product with little value added, could be produced locally while crops such as pineapple can be exported as a fully processed and high value consumer good.

4.1.4. Bananas

Bananas are produced mainly by a large number of small-scale farmers. Though no details are available, it is clear that the quantity of this fruit used for subsistence consumption exceeds the amount sold in the Apia urban market and exported. An estimated 3,000 acres were under banana production in 1971. The collection and marketing of this fruit is under the control of the Produce Marketing Division, a branch of the Department of Agriculture. Exports to New Zealand, the sole overseas market, are channelled through Fruit Distributors Limited, a New Zealand company which exercises a monopoly on the importation of bananas and other fresh fruits from the islands to New Zealand. Along with a number of other South Pacific countries Samoa has been accorded priority in filling the New Zealand market, estimated at just over 1.1 million cases per year, but has failed to sustain production at anywhere near the quantity which the New Zealand market is capable of absorbing. A major problem in banana export is inconsistent quality due to a lack of cold storage.

The pattern of banana exports can be seen from Table 4.4: while prices have been fairly stable, total production has been falling. For 1972, exports are unlikely to be above 100,000 cases.

The sharp drop in 1966 is due to heavy damage inflicted by a hurricane. Subsequent efforts to revive the industry, principally under the Five-Year Plans, have failed to restore production to the pre-hurricane level. Contributing to this relatively poor record has been the problem of leaf-spot and related diseases, the increasing local demand, especially in the Apia urban community, and a persistent disinclination to apply modern techniques of farming. The target set for the industry under the current Plan is to develop and then stabilize by 1975 an area of about 4,000 acres capable of producing 600,000 cases per year. This seems high in the light of current performance but is modest when compared to export levels achieved in earlier periods when, for example, over 800,000 cases were exported in 1958.

Table 4.4

Banana Exports

	Cases	Actual f.o.b. prices per case (WS$)	Value (WS$000)
1965	481,565		
1966	61,983	2.55	158
1967	95,490	2.73	260
1968	94,327	2.75	269
1969	219,391	2.75	606
1970	200,723 *	2.75	535
1971	247,631	2.15	535
1972		2.22	
1975 Plan target	(600,000)		

* These are cases of mixed weight; during 1970 the total weight of cases was reduced from 72 lbs to 50 lbs.

Source: Department of Economic Development

The banana situation appears to call for a drastic new approach if these plan targets are to be achieved. The Mission urges the Samoan Government to consider carefully the proposals recently made by the UN Regional Transport Survey regarding the production and marketing of the fruit. Another possibility is to give greater

encouragement (e.g. by means of quota allocations) to large-scale commercial growers in order to provide an element of stability in supply, among other things. It is noted that this movement is already taking place to some extent as witnessed by the heavy plantings designed for export recently undertaken by WSTEC, the Christian Congregational Church and the Methodist Mission. Finally, the return to growers appears somewhat low compared to the retail prices of bananas in New Zealand and even in the local market. Therefore, ways by which prices paid to growers might be improved should be examined. The production of a cheaper local case for packing to substitute for imported ones from New Zealand, a project which is presently being looked into by the Department of Agriculture, is one possibility whereby any savings in cost could be passed on to growers.

Studies relating to the industrial potential of bananas have been conducted at the Food Processing Laboratory. The main lines examined are banana figs, alcohol and powder. However, given the uncertain situation of this crop the first consideration must be to save the industry from deteriorating further.

4.1.5. Coffee

Coffee is produced commercially by a number of plantations, mostly for local consumption. WSTEC appears to be the largest, producing on the order of 30 tons annually with 300 acres under cultivation. In 1971 WSTEC exported 10 tons of coffee and sold much of the remainder at its retail store in Apia, at about WS$ 0.80 per pound. Exports in 1971 totalled 20 tons valued at WS$ 10,400, but this figure varies sharply from year to year. (For example, nil was exported in 1970). The only overseas market available at present is New Zealand. Imports of 36 tons in 1971 valued at WS$ 10,307 suggest scope exists for the expansion of local production. The export potential of local coffee is limited, mainly due to flavour characteristics which would make it difficult to compete with established overseas brands.

4.1.6. Pineapples

Climate and soil conditions in Western Samoa are suitable for the cultivation of pineapples: soils are porous, light and acidic to the required degree; rainfall is not excessive and is relatively well distributed. Only about 70 acres are currently under this crop though the area may have reached as much as 150 acres a few years ago, when two pineapple canneries were in existence. The bulk of this crop is sold locally, but a number of the larger growers have built up a trade in fresh pineapples with Pago Pago, and, this year, also with New Zealand. For village Samoans, pineapples are essentially a garden crop which is either consumed or sold in Apia. The main varieties grown in this country are the Smooth Cayenne and the Ripley Queen. The former appears to have the best potential for commercial usage, which includes canning and freezing.

The potential output per acre is high. Trial experiments by the Department of Agriculture show that the planting of 17,000 plants per acre is feasible, which, taking account of non-fruiting, and an average size of 3-4 lbs, gives a possible output of 17 long tons per acre for the first crop. This is reasonable by world standards.

Samoa's future in the processing of pineapple seemed assured only a few years ago when two canneries were in operation - a predominately New Zealand owned company, Marketing Management (W.S.) Ltd., and a local company, Curry's Cannery. Early in 1971 the former was declared bankrupt and its assets taken over by a reorganized company which superseded Curry's Cannery; the new company is now in operation. The reasons for the failure of Marketing Management are worth examining for the lessons they might have for future development. The chief reason appears to be faulty management and a combination of circumstances outside the company's control, though undercapitalization also appears to have been an important factor. The company appears to have "dabbled" in too many lines instead of building firmly on a limited number of products; and it seems that too high a price was paid for the fruit (initially 3 sene then 2½ sene per pound).

Further, the company apparently alienated a number of growers who were then encouraged to sell to the other cannery. External factors also mitigated against Marketing Management - there was a prolonged shipping strike in New Zealand which held up supplies of new materials and equipment, while the 1970 winter crop was poor.

The Mission recommends that a renewed effort be made to establish a pineapple industry on a soundfooting capable of supporting a viable export trade. The emphasis should be both on the marketing of fresh pineapple, for which a useful market exists in New Zealand and American Samoa, and processed fruit in the form of juices, pulp, slices and pieces. This recommendation stems in part from the following facts outlined in a number of recent studies by FAO experts (A.W. Martin, J.M. Philippe and D.J. McConnel).

- Natural conditions are suitable for pineapple; with unusually high yields per acre, it is one of the most profitable crops in the territory both from a commercial and national point of view - a fact which has been corroborated by feasibility studies conducted by the Department of Economic Development. However, it remains to be demonstrated whether the present high local market price for fresh and canned pineapple can be sustained on the world market.

- Availability of markets: in the past Samoa has concentrated only on the New Zealand market which overall is relatively small. While this is a market which could be further developed (and in this regard Samoa should look at the possibility of gaining a degree of preference from New Zealand similar to that for bananas), a vigorous effort should be made to open up new markets. The best potential is offered by the importing countries of Eastern Europe.

- Neither high freight rates nor tariffs are serious barriers to these markets. The following figures of freight rates per ton (as of October 1971) indicate that rates to the large European markets are fairly low: NZ$31,60 to Europe;

NZ$ 49.20 to Japan; NZ$ 43.50 to USA; NZ$ 29.60 to Australia and NZ$ 25.60 to New Zealand. Import duties on processed pineapple, as with most processed fruits, are low. For example, no duty is levied on canned pineapple in the United Kingdom, Canada and Japan (but only in the case of those originating in developing countries); it is 10 % in New Zealand and NZ$ 0.75 per 1 lb in the United States.

- There is also evidence to suggest that traditional pineapple producers like Hawaii are coming under increasing pressure from rising labour costs and an unstable labour situation and are therefore seeking new sources of supply. Samoa has already received a number of enquiries from Hawaii in this regard.

These factors therefore suggest that Western Samoa enjoys a significant comparative advantage regarding a pineapple industry. Past failures in this field should not be taken as a guide to the future; they arose from such factors as poor management and control, and inadequate supply of fruit, all of which are remediable. Future development should be based on the following considerations:

- The establishment of a joint venture with an experienced overseas processing company, possibly through the offices of FAO or UNIDO; Samoan interest in such an enterprise should not be less than 51 %. An interested company could undertake a feasibility study into a possible venture with the immediate aim of producing a blue-print for development and market prospects. The overall aim should be to initiate a sizeable venture capable of producing up to 30,000 tons of processed fruit per year within a few years of operation. Such a venture could be located in the export processing zone/ industrial estate proposed in Chapter 6. This implies a total planted area of 1,200 acres, which would probably mean leasing either from WSTEC or the Samoan Government. The existing cannery would continue to be served by other private growers. The involvement of an overseas company would provide

technical know-how and marketing channels, essential if the venture is to compete effectively on the world market. In order to assure adequate supply and quality of fruit, it would be advantageous for the joint-venture enterprise to also run the plantation(s). Better plant varieties could be promoted and year-around harvesting might be achieved by artificial pollination, an alternative to using the cannery for other products during the normal off-season for pineapple.

The impact on the Samoan economy by the above proposal would include an investment in plant and equipment of around WS$ 200,000, an investment in the pineapple plantation(s) of WS$ 500,000, exports worth WS$ 2,500,000 annually and an employment of 400, equally split between the factory and plantation.

4.1.7. Other crops

Other crops which might have industrial possibilities in the territory are macadamia nuts, passion fruit, mangoes, guava, peanuts, limes, oranges and grapefruit.

WSTEC has about 200 acres under macadamia nuts on an experimental basis; these trees were planted in 1966 and have not come into full bearing as yet, but results to date have been disappointing. The quality of nuts examined so far is somewhat inferior to the Hawaiian variety from which the original plantings were taken, though it is believed that this may be due to faulty planting methods. At this juncture the prospects of this crop developing into a major industry as it has done, for example, in Hawaii, seem remote.

Experimental work conducted at the Government Food Processing Laboratory at Alafua indicates that products of quality can be produced from guava, passion fruit, mangoes and lime. The results of these experiments, as well as technical data on processing methods, have been assembled and published by an FAO expert who had been attached to the laboratory. The main possibility for guava is the making of guava nectar, a drink much in demand in Hawaii where there is a shortage. In fact this nectar has already been produced by a local

cannery a few years ago but had to be abandoned owing to marketing difficulties and limited sources of supply of the raw fruit. The quality of the product was also less than adequate for the purpose of competing on the international market.

The main industrial possibilities for passion fruit (passiflora edulis flavicarpa) are the production of pulp and as an ingredient for drinks. The skin could be used as a component for cattle feed. The return per acre from this fruit is fairly high, but since, at present, it is essentially a wild plant not grown commercially by anyone, regular supply is again a major problem. As it could be developed as a very useful export line, further work on the economic feasibility of this crop is urged. Mangoes in brine are being produced in small quantities by the Processing Laboratory for export to New Zealand for chutney making. Production of mango pulp for export will be initiated when deep freeze equipment on order by the Processing Laboratory is installed.

Peanuts and rice are two of the crops with which the UNDP/FAO Special Project at Togitogiga is currently experimenting. Of these two crops only peanuts are grown locally, though on a very small scale. Imports of rice totalled 818 tons, valued at $ 124,350 in 1971, and have been rising rapidly over the past few years. However, whether or not climatic and physical conditions are suitable in Samoa for rice growing will only become clear when the full results of the work at Togitogiga are known. Though the same conclusion also applies to peanuts, there seems to be sufficient evidence available to suggest that suitable conditions exist for further cultivation of this crop. Since production of peanuts on any scale would depend on the availability of an export outlet, a detailed market survey is required.

Taro and breadfruit, both major subsistence crops in Samoa (although taro is a major crop in the local market), also have some interest for industrial development. Chips from both these crops have been produced and marketed in Samoa by the local cannery in the past but appear to have been discontinued. Canned palusami (a Samoan delicacy compounded from young taro leaves and coconut cream)

have also been produced and exported to New Zealand, mostly for the Pacific islanders living there. Though these products appear to have failed as commercial ventures, they may well be feasible if problems relating to marketing and quality can be solved. Other possibilities for taro are the making of poi, which apparently is in big demand in Hawaii, and baby food based on taro powder.

The UNDP/FAO large-scale agricultural project in Western Samoa should, at this stage, be in a position to present detailed findings regarding production requirements, output and attractiveness from a national and commercial point of view. It is believed that the demand for the above products, being consumer goods, is relatively inelastic with regard to price and elastic with regard to income provided they are of adequate quality and supported by appropriate marketing arrangements. It is most likely that they are extremely attractive from a national and commercial cost/benefit point-of-view, although this remains to be demonstrated.

Based on the foregoing and the fact that the "opportunity costs" are almost negligible the Mission recommends an intensification of commercial production and processing of these crops on an experimental basis, for example on a WSTEC plantation. Simultaneously, the proposed Trade Promotion Officer should carry out export market tests. The need for extensive coordination between agriculture, industry and trade in this respect cannot be overemphasized.

4.1.8. Meat and meat products

The cattle and pig population of Western Samoa is shown in Table 4.5 below. The biggest enterprise in cattle is WSTEC, presently accounting for about 8,000 head of which about 7,200 graze on coconut plantations. The rest are distributed over at least a dozen ranges and numerous villages, typically running only a few head each. The estimate for pigs shown in the table may be too high; the number recorded in the 1971 Census was 36,000, the great majority of which belong to villagers. There are only three piggeries in the country, one a Catholic Mission, but together these account for no more than 150 animals. Poultry, for which the number is unknown,

is widely raised by villagers; there are only four commercial producers who account for a total of about 10,000 birds, though they have concentrated mainly on egg production and the selling of cull chickens.

Table 4.5

Livestock Population

	1968	1969	1970	Changes during 1968/69 %	Changes during 1969/70 %
Cattle	20,601	21,591	23,343	4.8	8.1
Pigs	41,641	42,967	45,111	3.2	5.0

Source: Department of Statistics, Apia.

Table 4.6 gives the total number of beasts slaughtered in recent years. This table is incomplete, especially in the case of pigs, as it records only those animals which have passed through official inspection. WSTEC is the leader in cattle, accounting for 2,200 of the total slaughtered in 1971, equivalent to an output of 1.1 million pounds dressed weight. WSTEC's current slaughter rate has been reduced to 1,200 beasts per year in order to build up stock.

Table 4.6

Livestock Slaughtered

	Cattle	Pigs	Total
1968	2,274	169	2,443
1969	2,852	103	2,955
1971	2,318	n.a.	(2,318)
1972	2,621	n.a.	(2,621)

Source: Department of Statistics, Apia

Local production of meat is only a small fraction of local market capacity. This is particularly so for beef which, on the basis of the above table, gives a figure of about 9 pounds per head per year.

As shown in Table 4.2, total imports of meat and poultry in 1971, both fresh and processed, amounted to 2,100 long tons with a value of $ 72 ,267. The volume of these imports increased by 40% during 1965-71, or 5.7% annually.

Western Samoa's potential for developing a large-scale beef industry has already been remarked upon. The area defined as being best suited for cattle grazing, principally the highlands above 2,000 feet, totalsabout 190,000 acres (approximately 77,000 for grazing without millable timber; 83,000 for grazing with millable timber; and 36,000 integrated, for both cattle and coconut). The present area under cattle is only 20,000 acres. A major project directed to the development of Western Samoa's beef potential is being implemented at a 1,000 acre farm at Togitogiga (on the south side of Upolu) under the financial and technical auspices of FAO/UNDP in co-operation with the Department of Agriculture. The aim of this project is to establish a nucleus beef breeding herd for supplying breeding stock to farmers, to demonstrate modern beef cattle and farm management practices, to conduct research into fertilizers and related aspects of animal husbandry and to provide training facilities for farmers. Loan finance has been secured from the Asian Development Bank for funding the importation of breeding stocks and other activities connected with the initial stages of the scheme. Other projects relating to cattle are being conducted by the Department of Agriculture at Vaea and Lemafa. Provided the targets for importing breeding stock and development of land are in fact achieved, a stock figure of between 180-200,000 heads should be attained by 1990, which should mean complete self-sufficiency in beef. Financial aid in the building of abbatoir facilities has been promised by the New Zealand Government.

Every effort should be made by the Samoan Government to encourage poultry and pig farming on a modern commercial basis. It is clear that there is a critical shortage of these meats and future demand

is likely to rise rapidly in line with the general process of economic growth and the projected expansion of the tourist industry in particular. There is also the pressing need for the improvement of quality.

Meat processing in Samoa is confined to the manufacture of sausages. Production is undertaken by a single firm, Pacific Meat Packers, which commenced operation in late 1971. Operations are carried out on a very small scale, using machines (one second-hand) worth less than $ 1,000 in total and employing about five persons. Local beef and pork are used, but mutton is imported; the current rate of production is about 500 pounds of sausages a day. This company intends to extend operations to small goods once it is a going concern. Basic problems facing the company were said to be the shortage and the expensiveness of local meats, and the gaining of local acceptance for its products even though it was selling for 35 sene a pound compared with 45 sene a pound for imported sausages. A further problem seen by the Mission was the need for more spacious premises and finances to purchase more adequate equipment.

The Mission recommends the establishment of a broiler industry on one hand and an animal feed industry on the other. An adequate feedstuff industry is also a necessary prerequisite for potential exports of meat and meat products. In principle, pigs and poultry should mainly be raised for domestic consumption while beef would make an attractive export item, especially to the practically infinite Japanese market. To obtain the necessary financing and know-how, Western Samoa might establish a beef processing enterprise, geared mainly for export, on a joint-venture basis with an experienced Australian or New Zealand firm.

4.1.4 Dairy Products

Data on Western Samoa's dairy industry is fragmentary. Apparently, only about 300 cows are being milked at the present time, though the dairy herd probably exceeds 1,000 head. The biggest producer is the Catholic Mission, which is currently milking about 120 cows out of a total stock of 850, producing 160 gallons a day for delivery mainly to the Apia urban area. The Government farm of Avele (about 100 head), women's committees and villages (together about 200 head) account for the remainder. Total milk produced in the country is estimated at no more than 500 gallons per day against an estimated national demand, based on minimum requirements, of about 5,000 gallons per day.

Steps to increase milk production are envisaged by the Catholic Dairy whose aim is to build up its herd to 1,500 head and by WSTEC which plans to establish a dairy at Falefa and build up stocks to a level of 600. The Methodist Mission also proposes to build up a 1,000 head dairy complex.

An ice cream factory visited by the Mission, Supreme Ice Cream, is currently producing about 6,000 gallons a month, - a rate somewhat above average for the year. Milk-based ice blocks are also produced. Two shifts are being worked, mainly to meet seasonable demand, and all major items of raw materials are imported, including milk powder from New Zealand. This business has apparently been very profitable: imported ice cream has fallen from 25 thousand gallons in 1966 to 17 thousand in 1971 as a result of local production. The current level of imports is still fairly high and in fact represents an increase over the 1970 figure (13 thousand gallons), so that the scope for expanding local production is still considerable.

There are only a few commercial producers of eggs and pullet chickens in the territory with a total stock of about 10,000 hens. From 1965 to 1971, imported eggs have risen from 3,000 dozen to 18,275 dozen. The biggest problem facing local producers, apart from villagers who rarely provide processed feed to their stocks, is the precarious feed situation. A shortage of feed, due perhaps to an overseas strike or late arrival of a ship, often means that a proportion of the birds

is lost. The high price paid for imported eggs, about 75-80 sene a dozen, and the value of the product as a source of protein highlights the need to develop this industry along commercial lines.

In view of the milk shortage noted above and the increasing protein deficiency among children, the Mission recommends the establishment of a milk reconstituting plant based on imported milk powder. Butter can also be imported at attractive prices from excess supplies in New Zealand. In view of the climate and limited land resources this approach seems more desirable than the creation of large-scale dairy farming.

4.1.10. Fishing

Western Samoa's total fish catch was estimated at 19 tons in 1970, by far the biggest proportion of this being from canoe fishing by villagers along reefs and adjacent coastal waters. In 1971 the total catch rose substantially to an estimated 220 tons, reflecting the commencement of operations by a large number of Village Fishermen's Associations. The catch for 1972 is likely to be lower than for 1971 due to the failure of many of these Associations (they numbered as many as 50 in 1971 as against about 20 which are still in operation now). The size of the annual catch is therefore small in relation to national demand and has meant a heavy reliance on imports. Thus in 1971 a total of 2,250 tons (both fresh and processed), valued at WS$ 455,800 and equal to 4.7% of total imports, was imported. As may be seen from Table 4.2, these imports have been increasing at a rate of 4% per year. Japan has been dominant as a source of supply, accounting for 2,000 tons in 1971; the next important suppliers were New Zealand (dominant for fresh fish) and American Samoa.

Various other marine products are caught around Samoa's coastal waters, among these being lobsters, clams, sea urchins, and a rich variety of marine growth. Due to a disturbance of their breeding grounds by increasing population along the beaches, turtles are becoming rather scarce. The total value of these products is not known; all but a small proportion which is sold in Apia or on roadsides is channelled into subsistence consumption.

Quite apart from a gross deficiency in supply, the current situation in fishing has a number of aspects which render it all the more critical as a source of development. An inspection of imports, for example, reveals that a large proportion of processed fish are of inferior quality; this includes canned herrings in tomato sauce which currently retail at about 27 sene for a 14 oz can, and canned mackeral at 20 sene for a tin of the same size. Both of these products are Japanese in origin. Furthermore, it is clear that resources of fish contained in the reefs and lagoons - the traditional sources of supply - are no longer adequate to cope with the needs of a rapidly growing population, as a big proportion of these reef areas have been overfished. The situation becomes all the more serious when it is considered alongside the mounting evidence of protein deficiency mentioned previously. For 1966 it was estimated that 3.4% of the children in Samoa suffered from this condition - a proportion which is now much higher.

Recent measures taken by the Government to develop the country's fishing industry, especially in the area of deep-sea fishing, include the establishment of a Fisheries Division under the Department of Agriculture and the encouragement of Village Fishermen's Associations based on the cooperative idea. The latter project involves providing technical assistance to integrated village groups in the building of motorized catamarans based on traditional Polynesian designs for the purpose of undertaking off-shore fishing. Capital to purchase a motor and related equipment has been provided by the Development Fund. Though the number of these Associations grew rapidly during the formative stages, as already mentioned, many have failed due, it is thought, to lack of sufficient capital [illegible] facilities. Other measures under consideration by the Government in this field are the establishment of a Fisheries Training School and the formation of a joint venture with an experienced overseas fishing organization. Experimental work on boat types and design and fishing techniques is also in progress.

Surveys of Western Samoa's fish resources have been conducted at various times by the SPC, UNDP, FAO and a number of overseas governments, notably Japan and the United States. These studies have focused, among others, on the potential supply of tuna, bottom fish, turtles, lobsters, shrimps, as well as on the availability of bait fish, which might be needed for deep sea operations. From these studies it has become increasingly clear that Western Samoa is located in one of the richest tuna areas of the world; estimates provided to the Mission by Government sources suggest that Western Samoa is capable of catching up to a minimum of 75,000 tons per year without danger of depletion - and that this can be done by venturing a little beyond the local continental shelf, say, a distance of 50 miles from shore. The main potential is the island skirting tuna - the skipjack ("bonito" or aku) and the small yellow fin; another major possibility is the big-eye tuna (atule).

It appears that Western Samoa is well-placed to exploit the apparently rich tuna resources and it is something of a surprise to the Mission to find that a more vigorous effort has not been made to develop this industry. The advantages, noted above, come from the fact that Western Samoa is located in what appear to be major breeding and spawning grounds for the skipjack and other tuna varieties. At a Fishery Conference held in Hawaii in 1966 estimates relating to the skipjack tuna were presented indicating a minimum catch of 150,000 metric tons per year in the warm waters south of Hawaii, without appreciable harm being done to the basic stock. This figure can be compared to the total catch (1966) in the Pacific region as shown in the table below. For Western Samoa, further favourable evidence is its recent observation of plankton in the coastal waters of Savaii by the Japanese vessel Kaiyo Maru.

Table 4.7

Estimated annual catches of a few major species of tunas in the Pacific Ocean ('000 metric tons)

	Albacore	Big eye tuna	Skipjack tuna	Yellowfin tuna	TOTAL
Surface fisheries					
Western Pacific	19.5	1.5	126.6	5.3	152.9
Central Pacific	-	-	4.1	-	4.1
Eastern Pacific	20.7	-	67.8	89.8	178.3
	40.2	1.5	198.5	95.1	335.3
Longline fishing Pacific wide	52.8	83.8	-	75.9	212.5
	93.0	85.3	198.5	171.0	547.8

Source: State of Hawaii, Proceedings of the Governor's Conference on Central Pacific Fishery Resources, Honolulu, (November) 1966, p.6.

Western Samoa's position is also strengthened by a number of other considerations. First, the fishing operations connected with the two canneries in American Samoa (Star Kist and Van Camp) have concentrated on the larger varieties of tuna - principally the albacore and yellow fin, using the long-line method. Supplies of these varieties have dwindled over the years in the waters surrounding Samoa, and so the Asian fishing boats involved, now mainly from Taiwan and Korea (the Japanese have virtually withdrawn due to low returns on their operations) have been forced to fish further afield - often thousands of miles from Samoa. (Van Camp, in consequence, is in the process of establishing fishing bases in the Kilberts and Ellice Islands, the Solomons and the Trust Territory, though canning operations will be restricted to Pago Pago.) For Western Samoa, this means in effect that the local supply of the smaller tuna varieties will remain virtually untapped, while there is no serious competition yet in American Samoa, for example. Another point to consider is the promising world market for tuna. Prices have been rising strongly over the past year: in Pago Pago, for example, prices offered by the canners per ton of fresh frozen tuna were US$ 40 in February 1971,

US$ 420 in October, US$ 460 in March 1972, and US$ 500 in May. Reflecting the buoyant demand for tuna Van Camp in Pago Pago is prepared to buy up to 30,000 tons of raw tuna annually from Western Samoa if it were available, while plans to double production capacity are under way. Also of interest for Western Samoa is the result of a preliminary survey by the United States vessel "Charles H. Gilbert" in May 1970, which confirmed the availability of bait fish. Supplies of local sardines and traces of anchovies were observed.

The Mission appreciates the current efforts being made by the Government to develop a viable fisheries sector but feels that the full potential of this sector has not been duly recognized. The world market for fish and related products is highly favourable. Studies undertaken by UNIDO suggest an increasing shortage of fish, possibly on the order of 7.8 million tons by 1980. One of the most sought after varieties will be tuna, a fact which is already being reflected in the strong rise in prices experienced over the past years, in spite of the fact that production has been increasing at high rates. In view of the foregoing the Mission recommends the following:

- stepped-up efforts to assist village fishing groups; one way is the provision of a Fishermen's Training School;
- the solution of a number of technical problems which presently act as bottlenecks to development; examples are the determination of the most effective fishing craft for catching skipjack and an adequate and reliable supply of bait;
- the intensification of steps for the establishment of large-scale fishing and processing operations on a joint-venture basis with an Asian or European firm. UNIDO could assist in carrying out a prefeasibility study and in finding suitable joint-venture partners. The ensuing detailed feasibility study should be left to the potential joint-venture partner, who would be unlikely to go into such a venture if it did not have all the prerequisites to succeed. The joint-venture partner would also provide

financing as well as export marketing and technical know-how for running the fishing and processing operation. Provisions should be made to train local fishermen and captains aboard the initially largely foreign fleet. A major concern should, of course, also be the supply of the local market, replacing most of the imports. A large cannery with an initial capacity of 20,000 tons of tuna would require an investment on the order of WS$ 5 million and offer employment to around 600 workers. Its export potential would be WS$ 10 million annually, and imports worth WS$ 0.5 million could be substituted. Within 3 to 4 years the plant's capacity could readily be doubled.

- an investigation into the possibilities for establishing large-scale turtle raising, along the lines of the very successful Grand Cayman Project in the Bahamas. The world market potential for turtle products is substantial. An information visit to Grand Cayman by a Samoan Fisheries official is suggested. UNIDO could also be of assistance here.

4.1.11. Flour and bakery products

Biscuit making in Western Samoa is confined to cabin or ship biscuits - a hard unsweetened biscuit believed to have been introduced by trading ships of earlier times. Production is represented by two local companies: Apia Biscuits and Sunshine Biscuits. The former was producing about 1,500 pounds of biscuits per day in October 1972, this rate being higher than for other months, while the latter company was operating at an annual rate of WS$ 80,000 in terms of sales. Employment in the two firms totals 30. With the establishment of local production imports of cabin bread have fallen from 119 tons, valued at WS$ 35,784, in 1969 to 17 tons, at WS$ 5,[illegible], in 1971 - so that import substitution in this area is almost complete. Both are small-scale operations, utilizing simple machinery (some second-hand). Yet, given the limited size of the local market there is evidence of significant excess capacity even judged in terms of a 40-hour week. A stronger effort to increase sales to Pago Pago, valued at only WS$ 1,098 in 1971, is suggested as a means by which a more intensive utilization of the plant may be achieved.

Bread manufacturing in Samoa is dominated by a single company - P. Meredith, whose main shareholders launched Sunshine Biscuits. The current rate of production by P. Meredith is 3,500 18 oz loaves per baking day (313 baking days a year), which is roughly about half of the total output of Upolu. There are about seven other bakers of varying sizes in Upolu, and another five or six in Savaii. For the Apia area bread-making facilities are adequate, but a poor distribution network in the rural districts suggest the existence of a substantial untapped demand.

A recent development is the establishment of a cake and doughnut making plant in Apia - Aunty Lanu's Cakes. Although its line is presently confined to cream sponges and several other small items, this seems to be a thriving enterprise, employing six persons. The company intends to branch out into new lines such as fruit pies. There also seems to be good possibilities for the production of sweet biscuits. Imports of sweet biscuits have grown rapidly from 62 tons in 1965 to 90 tons in 1969 - a 45% expansion. While the size of the local market suggested by these figures appears small the main potential would appear to be in the manufacturing of a few lines which have good prospects. Experience in Fiji suggests that one such line might be a coconut biscuit. Government support, possibly through the tariff mechanism, during the early establishment period might be considered.

Because of the demand for bakery products and the considerable and steadily increasing flow of imports, amounting to 3,680 tons and a value of WS$ 374,672 in 1971, the Mission recommends the establishment of a local flour mill. Apart from the direct benefits of such an operation, its by-products would provide an important input for a possible animal feedstuff industry.

A wheat mill with an annual production capacity of for example 5,000 tons of flour in a three-shift operation would require an investment of around WS$ 360,000 and employ approximately 25 persons. In full operation it would have a yearly positive net effect upon the balance of payments of around WS$ 170,000, assuming import substitution of flour of WS$ 430,000, import requirements of Australian wheat amounting to WS$ 310,000, and a minor flour export to American Samoa and Tonga of WS$ 50,000. However, in order to take advantage of low-cost bulk transport, the necessary handling and storage facilities would have to be built.

4.1.12. Vegetable oils and fats

Oil from copra is extracted on a small scale by WSTEC for use mainly in soap-making. Capacity of the oil extraction plant is 800 lbs per 8 hour day, with two shifts currently being worked. The meal obtained as a by-product is exported to New Zealand, totalling 36 tons in 1971. (WSTEC's extraction experience shows a yield of 60% oil, 38% meal and 2% impurities.)

The possibility of initiating copra-crushing on a large scale, for export, has been discussed earlier by the Mission. The need to consider the feasibility of oil palm as a possible basis for oil production and export has also been stressed. Any development envisaged in this general field will call for detailed feasibility studies, for which assistance could be provided by UNIDO. Such studies will need to consider both the direct and secondary effects of a sizable oil venture, such as its possibilities for production of perfume, cooking oil, detergents and meal for animal feed.

4.1.13. Soft drinks

Soft drinks are manufactured by two companies, Curry's Cordials and Apia Bottling, the latter under franchise with Coca Cola, and a number of other overseas companies. (All major items of machinery used are second-hand, but appear to be adequate.) A wide range of flavours are produced and total production now probably amounts to about 36 million fluid ounces per year, valued at about WS$ 220,000. Sales for both companies have expanded rapidly in recent years and are currently about 24% above sales in 1971. Since levels of per head consumption are still low by the standards of the affluent countries, market prospects are excellent. Total employment in this sector is 50.

A useful trade has been built up with American Samoa where sales of soft drinks to the value of WS$ 31,000 were recorded in 1971. The trade was abandoned by Curry's Cordials after Apia Bottling began price cutting. Despite the fact that soft drinks are now being produced in American Samoa, sales by the latter company are

maintained. This company believes that sales to American Samoa could be quadrupled if some assistance were received from the Samoan Government to make the effort worthwhile; this might take the form of tax rebates and reduced duties on imported raw materials such as bottles. These proposals merit some consideration on the part of the Government.

4.1.14. Beer and alcohol

No beer is presently produced in Western Samoa, apart from the illicit home-brew called fa'amafu made from imported ingredients. Beer imports are included in the category "ale, beer, porter, cider and perry" which were recorded at 201,621 gallons in 1965 and 319,520 gallons in 1971, giving an annual rate of expansion of around 8%. However, the potential market is probably much larger than suggested by imports for at least two reasons:

- the high growth rate of consumption is likely to continue and may even increase, given the high income elasticity of demand and the added impetus from an expanding tourist sector
- a local product would presumably be cheaper than imports.

Based upon an average annual increase of 13% the domestic beer demand is estimated as follows:

1971 12,000 hectolitres * (170,000 WS$ import value)
1975 20,000 hectolitres
1980 36,500 hectolitres

The demand for beer would be substantially higher than indicated above if the present Government monopoly of beer distribution were reorganized to make beer available in grocery stores. Furthermore, there is the possibility for exports to American Samoa, Tonga, Cook Island etc. American Samoa imported over 500,000 gallons in 1971 and seems to be handicapped in establishing its own brewery by a poor water supply and high labour costs.

* 320,000 British gallons

Because of the foregoing the Mission feels that the establishment of a local beer factory is justified. The total investment required is estimated at less than one million WS$. The main raw materials such as barley, hops, yeast and small quantities of rice, bottles and crowns would have to be imported.
The Mission recommends that Government initiates negotiations with a number of European beer companies for the establishment of a joint-venture to relieve Western Samoa of the complex technological requirements involved in producing beer. The size and feasibility of the venture would be clarified in such negotiations. Technical assistance in obtaining a joint venture agreement could be provided by UNIDO.

In regard to other alcohol products, the limited local demand is a big constraint. Imports of wines and spirits amounted to only 8,270 gallons, worth WS$ 22,000, in 1971. However, the possibility of producing alcohol from bananas, pineapples and other fruits may be worth looking into.

4.1.15. Animal feeds

An animal feedstuff industry does not exist in Western Samoa. Copra meal, a by-product of [illegible]'s oil extraction operations, is exported. Imports of feed for "animals and birds" have risen strongly over the past six years, reaching [illegible] tons, valued at WS$ [illegible], in 1971.

Discussions with officials of the Department of Agriculture indicate that the [illegible] supplying feed on a regular basis has been a major [illegible] in the development of commercial farming [illegible] especially in chicken [illegible]. [illegible] are difficult [illegible] as wheat meal, necessary for producing high quality feedstuff.

The feasibility of a domestic feedstuff industry depends largely on whether or not any copra crushing plant [illegible] sufficiently large size is undertaken, since [illegible] of any feedstuff mix produced locally. [illegible] a local feedstuff industry will also be facilitated [illegible]

large-scale meat and fisheries operations (though fish meal could of course be imported from American Samoa at a slight financial disadvantage). Apart from copra the other components would then be meat wastes, blood meal (WSTEC does not utilize blood at its abbatoir), tapioca, fish meal and maize.

A feedstuff enterprise, if and when established, could also undertake a number of other functions. For example, it could import one-day chickens, poultry farming implements, vaccines for chickens and pigs, pig farming implements, high quality stock animals (pigs and poultry), special feeds, minerals, vitamins and feed supplements.

As a first and necessary step towards the establishment of a domestic feedstuff industry, the Mission strongly recommends the initiation of a prefeasibility study for the formulation and industrial production of mixed feed. This could be carried out by a feed production specialist during a field stay of around two months. UNIDO could assist in securing such a specialist.

4.2 CLOTHING AND SHOES INDUSTRY (ISIC 32)

4.2.1. Clothing

A general comment seems to be in order here. Clothing usually is an answer to environment and is adapted to climate conditions. Tradition and religious credences also influence the way of dressing, especially that of women. In Western Samoa, weather conditions are such that only very little clothing is required to protect the skin from sunburn. On the other hand, the old traditions have clashed with new concepts introduced by European morals. The resulting compromise is the "Lavalava", or a piece of cloth worn tight at the waist of men and women. The Lavalava is a remnant of the old tapa cloth used by Samoans before the coming of Europeans.

Although there are some trends towards the adoption of foreign dress, "traditional" European clothing, as known in Europe, South or North America or the USSR, imposed by cold weather, morals, religion etc. are not common in Western Samoa. Males might or might not cover their breasts, depending on the temperature; pants, long or short, are seldom worn, and when worn, then almost only by the younger generation. In comparison, women wear "traditional" long garments, imposed by foreign ways of life during the last century.

Short skirts are worn only by school girls. Children generally use only a piece of cloth.

The two major clothing factories in Western Samoa, Island Styles and S.C. Percivel, were visited by the Mission. Island Styles produces textiles, prints (hand prints) and garments using Polynesian designs (some 50 designs are used at present). Colours are generally traditional Polynesian: brown, black and occasionally red (as in the typical "tapa" cloth made from the bark of trees and dyed with natural dyes). Island Styles also prints for a few local firms, e.g Burns Philp, and is now going into the production of ties, table cloths and gift packs (duty free).

Island Styles' current rate of production is 4,000 yards and about 400 garments (shirts and dresses) per month. The increase in production was some 80% in one year, due mainly to the increase in local demand. The factory employs 40 workers and is now operating one shift with occasional overtime. Present capacity will quadruple after a drying oven presently being built has been installed. This oven will also improve the quality of the goods.

Of the total production, 1,500 yards are exported to Pago Pago, which has no import duty on this type of product. Apart from Pago Pago, export markets have not been explored. Although most women over 15, which is roughly one-fourth of the population, wear Island Styles' designs, a dominant problem is the small internal market, a problem which can only be solved by further expanding its external market. However, it should be mentioned that in the case of mass produced clothing, this factory cannot compete with Hong Kong, Taiwan etc. on the world market. Therefore, to succeed in exports the management must share [illegible] [illegible] firms.

A considerable constraint on the increasing of exports is a lack of working capital. Some incentives could be set up by the Western Samoa Government in order to provide export credits. As Indian traders and competition, in general, give generous credit terms, exports to Fiji, for example, where Island Styles' designs are well accepted, cannot grow.

The second factory visited was S.C. Percival, which produces shirts, suits and trousers. It also has a laundry and dry cleaning section and a commercial department (Colgate Palmolive products, towel rolls, and an office cleaning and linen hiring service). These diversifications were the result of a decline in the garment business due to pressure created by competition from abroad. For instance, white shirts from Hong Kong are being sold at WS$ 1.50, while those of S.C. Percivel cost WS$ 2.00. It should be mentioned that this enterprise made use of the Incentives Act regulations by importing new machinery duty free in 1969. Some 6,000 shirts were produced during that year.

Some of the problems facing S.C. Percivel, as judged by the Mission, are:

- Inadequate training of the work force, not only from a productivity viewpoint, but also from a quality viewpoint. In contrast, one factory in Pago Pago is producing some 400,000 to 500,000 pants a year, mainly for export to the USA (5 Taiwanese girls were hired for 3 months for training purposes).
- Outdated designs, the designs being some 3 to 4 years behind those on the international market which changes every year.
- Poor materials, pertaining especially to threads, linings, etc.

A considerable problem in the future development of the local clothing industry is posed by the heavy imports by local merchants. This is a vicious circle, as a local product cannot compete with the design and quality of imported goods. Nevertheless, by taking a number of measures the industry could be improved and expanded. Thus the Mission recommends:

- The provision of technical training to workers and foremen in tailoring, design, sewing and manufacturing processes. UNIDO could provide a short term expert; 4 months should be adequate.

- Restriction of certain imports after achievement of competitive quality, both in design and finish. An understanding between the main producers should be reached with regard to internal price levels.
- Stimulation of exports through duty, tax and credit incentives. Advances for exports would provide financing for the purchase of textiles, dyes and materials.

4.2.2. Shoes and leather products

The shoe industry is represented by one small firm, South Pacific Industrials, making only jandals from rubber material imported from Japan. The process is simple: only one cutting and a small perforating press are used. With four employees sales are about 10,000 to 15,000 pairs per month, giving an average of about one pair of jandals per capita per year. An important point to note is that many Samoans, especially in the villages, go barefoot. The use of jandals, sandals or shoes has been restricted so far to the town of Apia, where European influences have been greater. For this reason (and the use of jandals) the internal market for shoes is very small. Moreover, imports have been increasing as seen from Table 4.8.

Table 4.8

Imports of Leather Sandals and Shoes

	1967		1968		1969		1970		1971	
Country of origin	Pairs	Value WS$	Pairs	Value WS$	Pairs	Value WS$	Pairs	Value WS$	Pairs	Value WS$
United Kingdom	1053	3199	736	2358	781	2374	1509	4013	1743	4311
Australia	1909	5836	344	2800	2255	6351	1034	3387	2135	4[illegible]
New Zealand	686	1657	1087	2761	395	1430	1756	3999	1636	3353
United States	1092	2654	1661	2591	1710	2771	1422	3579	750	2195
Fiji	-	-	-	-	-	-	-	-	913	2[illegible]
TOTAL	4740	13346	4428	10530	5741	13029	5728	14958	6577	16215

Source: Trade, Commerce and Shipping of Western Samoa

Thus, it can be assumed that the internal market for leather sandals and shoes represents only 6,000-7,000 pairs annually, valued at WS$ 15,000-17,000. Since the minimum economic size of a shoe factory is around 500 pairs per day, a factory for the domestic market cannot be justified. Successful exporting of shoes, on the other hand, requires highly efficient manufacturing facilities and sophisticated marketing knowhow, both not likely to become available without unwarranted efforts.

The export of tanned hides would offer better possibilities. Presently there is no tannery and about 2,000 salted hides are exported annually. As the cattle programme progresses and the targets for 1985 are met, a substantial increase in hide exports will be possible. However, in order to maximise the value added within the country, these hides should be processed as far as possible. Processing could be carried as far as finished and coloured leather or even extended to the manufacture of rough-cut soles and insoles for shoes.

Hides and skins are a by-product of the meat industry. Therefore, supply is virtually independent of demand. Between 1955 and 1968, world production of cattle hides expanded only by some 2.6% per year. Their prices started rising during 1971 and at present have more than doubled those of the period 1967-1970. It is hard to imagine a price drop when considering the increases in income and demand throughout most countries of the world. On the other hand, the number of cattle has increased from 1093 to only 1141 million head during the period 1966/67 to 1970/71, giving an annual rate of around 1.16%.

The tariff structure of most developed countries favours raw or rough tanned hides or leather and penalizes the more finished ones. Leather goods, with the exception of shoes, have a moderate duty of about 10-11% in the EEC countries and the United States.

Given the foregoing, the Mission recommends the initiation of a feasibility study to determine the viability of establishing a tannery at some future point in the cattle programme. Such a tannery would also provide the basis for the local production of belts, handbags, sandals and other leather products.

4.3 WOOD INDUSTRY (ISIC 33)

4.3.1. Lumber

As stated in the book "Western Samoa" (ref. Appendix III), "Western Samoa today possesses inherently poor forest resources which, unless rapid and coordinated preventive and remedial measures are taken, could disappear within two generations because of the ever-increasing demand for timber and cropland. The indigenous forest does not re-establish itself readily. Though certain of these species are amenable to utilization, the immediate introduction and testing of exotic species in representative environments is an urgent necessity. However, the propagation and growth of the successful introduction, either at village level or by government action, is not a simple problem." The Government has recognized the aforestated and has taken conservation steps by limiting exploitation permits to two foreign enterprises, New Samoan Industries Ltd and Potlatch-Samoa Inc., regulating at the same time the number of acres that can be felled per year. Soil studies have also been made and parts of the cleared areas have been reforested in order to avoid erosion.

The estimated forest reserves of Western Samoa are 250,000 acres, most of them on Savaii. In order to avoid soil erosion, 60% of the forest area is to be preserved, leaving only 100,000 acres for logging. The local timber market is estimated at roughly 4.4 million square feet per year. It is supplied by two logging companies, New Samoan Industries and Potlatch-Samoa Inc., and by imports. From 1970 to 1971 timber imports dropped from 2,021,370 super feet worth WS$ 320,355 to 1,578,673 super feet, worth WS$ 305,119, or by 36.5%. The 1971 target for imports was 1.8 million super feet, worth WS$ 360,000.

The largest lumber enterprise is Potlatch-Samoa, an affiliate of a U.S. company established in Western Samoa in 1967 with industrial operations starting in January 1971. Potlatch operations comprise the logging of some 1200 acres per year, a saw and planning mill and a veneer factory. The contract between the Government and Potlatch

to utilise the timber resources of Savaii was signed in 1967, the total concession being 77,000 acres. Initially, operations were started in the Asau area on 30,000 acres of Government land (of which around 18,000 acres are forest). It was expected that Potlatch would cut around 15,000,000 board feet per year (or approximately 1,500 acres) during the first five years and thereafter some 50,000,000 board feet annually. However, these expectations were frustrated by problems encountered in extending the Asua channel for a new wharf. Thus, during 1971, Potlatch was able to cut only around 400 acres (or approximately 4,000,000 board feet) against the revised target for 1971 of 8.8 million board feet. In spite of this, exports for 1972 and 1973 are expected to rise. The company's plant is working now at full capacity. It employs about 300 persons, making it the second largest industrial employer in Western Samoa after WSTEC. The company took advantage of the Incentives Act and will pay only a royalty per super foot for the next ten years (3 sene to the landowner and 1 to the Government). During 1971 royalties received from the lumber industry amounted to WS$ 32,118 for the Government and WS$ 8,283 for private owners (including those paid by other companies).

The areas cleared by Potlatch-Samoa have been partially replanted by the Government. It is expected to replant 400 acres per year, leaving 800 to be used for cropping. The replanted trees are exotic species, mainly red cedar (cidrella) and eucalyptus.

All of Potlatch's exports, virtually all of them going to its U.S. parent company, consist of high quality hardwood. The physical properties of Samoan woods such as A'amatia, Asi Vai, Malili, Mamala, Maota, Poumuli or Ifilele can be favourably compared with the North American white oak or black walnut. Prices of white oak and black walnut are some 50 - 100 % higher than those for softwoods such as fir or pine. Potlatch's exports, including veneer, totalled 2,287,754 super feet (or 5,250 m^3)* worth WS$ 197,114 in 1971, giving an average export price of WS$ 37.54 or US$ 57.60 per cubic meter.

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* $1m^3$ = 435.88 super feet

The shipping freight to the United States per 1,000 super feet is US$ 61, if packaged (Pacific Island Transport Line), or US$ 26.80 per cubic meter. US$ 15 per 1000 super feet, or US$ 6.50 per cubic meter, are paid to the local shipping line between Asau and Apia. Thus, the average landed price of wood in the United States would have been US$ 77.9 in 1971. Comparing this with the average CIF price in the United States of around US$ 200 per m^3 for treated and dressed hardwood, it is obvious that Potlatch's export prices are too low and not in the best interests of Western Samoa, especially once the company's tax holiday expires.

Potlatch-Samoa also supplies the domestic market through a Samoan company, Savaii Timber Ltd. 51% of the company's capital is owned by the Government, 24% by the manager and the rest by other Samoans. This is a well managed enterprise, whose monthly sales are around 200,000 super feet. It employs 30 persons. The management intends to move into the following fields:

- Mouldings and joinery (for doors, windows etc.). Expected sales about WS$ 70,000 per year. Investment WS$ 12,000. Employment 6 - 12 persons.
- Knock-down furniture, for export. Investment WS$ 20,000 for machines. Possible employment 50 - 60 persons. Markets: New Zealand, Australia and Japan.

The second logging operation, New Samoa Industries Ltd., is 55% Japanese owned and mainly serves the internal market. The company currently exploits about 500 acres annually on Upolu, the main species being mamalava (95%), tamani and teak. At its present rate of logging the company disposes of enough timber for 40 years. It produces mainly rough, unprocessed [illegible] timber. It has no dryers, and only some timber is seasoned for 3 months. Therefore, it is suggested that the company invest in drying facilities. To facilitate this, the company has applied for renewal of incentives. The company pays the same royalties as Potlatch. It employs 50 Samoans and 6 Japanese. The company is moving into the production of knock-down furniture for export and has already installed equipment (second hand) worth WS$ 2,000 for this purpose.

Another activity recently initiated by the lumber industry of Western Samoa is the construction of prefabricated houses. It is however only in the intial stages of planning, and only one model house has been built.

As there is no reason to import wood and because locally produced lumber is sold at a lower price than imports, the Mission recommends that timber imports be discouraged by the introduction of higher duties. Secondly, the manufacture of mouldings, windows, doors, frames and other basic building components as well as knock-down furniture, based on the material inputs available from Potlatch, are encouraged.

4.3.2. Wooden furniture

There are only two manufacturers of wooden furniture in Western Samoa, WSTEC and Samoa Construction. Most furniture is produced in small series or is custom built. So far, Potlatch veneer has not been used for local furniture, since all of it is exported. All materials (glue, formica, metal parts, etc.) except wood are imported. Samoa Construction makes wooden chairs, arm chairs, cupboards, desks, kitchen furniture, tourist items such as bowls and construction components such as windows and doors. The company is planning on going into prefabricated houses for the local market, creating a more efficient utilization of the factory. The prefabricated houses will be modular and it is hoped that they can favourably compete with those of the Japanese concern, South Pacific Enterprises Ltd., selling at about WS$ 5,000. Samoa Construction employs 15 workers in its furniture factory.

WSTEC cannot be called a commercial operation since it produces largely for government-owned enterprises, such as the new Casino Hotel. It employs 16 carpenters, 6 of whom are cabinet makers.

Small amounts of furniture are being imported, but these are negligible in relation to the total imports (about WS$ 16,000 in 1971). The Mission feels that there might be a good opportunity to set up a joint-venture production facility of high-quality furniture in American Samoa, based on components supplied from Western Samoa. If sufficient labour and materials (such as hardware, upholstery, etc.) are added in American Samoa so that the final product can be labelled "Made in American Samoa", the entire United States market would be accessible duty-free.

4.3.3. Handicrafts

With the emergence of tourism as a major industry, handicraft activities have assumed a new importance as an element in economic development. They are seen officially as a useful means by which Samoans, located in even the remotest districts, could participate in the development process. Furthermore, they are viewed as a means of preserving traditional skills and techniques. In regard to these considerations the industry has been relatively successful. A question of some interest for the future is the possibility of introducing a degree of mechanization in the production of certain handicraft items e.g. bowls and figures, as has been done in Fiji. The advantages of mechanization, where appropriate, lie in the saving of labour time (and, possibly, cheaper products arising therefrom) as well as in the stabilization of supply sources, a problem bound to arise with the expansion of tourism.

The Samoa Handicraft Corporation, formed in 1965, accounts for about half of the handicraft sales in the territory. Its sales have risen steadily from WS$ 55,000 in 1967 to 80,000 in 1971. On this basis, total sales would be on the order of WS$ 160,000. (Only part of this passes through Customs, whose records show exports of only WS$ 24,580 in 1971.) Handicrafts are also sold by the Mothers Craft Center, Aggies Store, Morris Hedstrom, Burn Philp and a number of other outlets in the Apia area, in addition to a large number of "street sellers" and those located at the new produce market. The biggest sales items are tapa, figurines (especially to Americans) and baskets (to New Zealanders). The main source of supply is the east coast of Upolu, though Savaii supplies all tapa. Over time, close contact has been built up with supplying individuals and groups, e.g. Women's committees, especially those having above-average skills in the making of certain products. These channels are often used to place orders or to regulate the supply of particular lines.

The two main problems facing the industry are the need for quality control and the need to develop export links. The quality of Samoan handicrafts is not particularly high when compared with those of other Pacific Islands. Furthermore, standards are easily eroded under the impact of an expanding tourist sector. The

Handicrafts Corporation, by virtue of its size, could help achieve higher standards of work by refusing to buy or alternatively paying lower prices for products of inferior quality. By encouraging handicrafts in schools, the Government could also help to improve quality. In many countries tariff barriers for Samoan handicrats are surprisingly high, as for instance 32½ % in New Zealand, and 40-50% in the United States. However, tapa and wood carvings are duty-free. The Mission recommends that the Government of Samoa make a strong effort to negotiate for the removal or reduction of these tariffs, which have no real economic justification since handicrafts by definition are non-competitive. A special effort should be made in regard to Hawaii, which would appear to offer the biggest potential for exports.

4.3.4. Fishing boats

In connection with the development of fisheries in Western Samoa, a project for manufacturing fishing boats, 5 tons each, is being developed by the Fisheries Section of the Department of Agriculture, Forestry and Fisheries. The boats would be built from wood and imported diesel engines. As the project is of a long-term nature (5 years or more) with a target of around 200 boats, attempts are made to train marine carpenters.

4.4. Printing Industry (ISIC)

The printing industry is represented by three enterprises: Apia Printing Works Limited, Samoa Printing and Publishing and the Government Printing Office.

Apia Printing Works Ltd is a small enterprise which started in 1956. It is mainly concerned with general printing and rubber stamp work for the local market (there is only about WS$ 1,000 worth of export business annually with Pago Pago), although there is also some specialised work being done, such as airline tickets and tourism advertising. The firm's machines are relatively new, including 1 typesetter, 2 printing machines and 1 guillotine.

The plant employs 13 persons, who were trained by the owner, and runs at 60% capacity on a 40 hour week; turnover is, however, fairly low. Wages are higher than normal. It is suggested that the firm might try to obtain more foreign orders.

Samoa Printing and Publishing Ltd, started in 1967, does commercial printing, binding and newspapers. Machines are generally new, including 1 offset machine, 2 letter presses and 1 intertype. Its main clients are commercial firms, the Government and newspapers, and it also has some foreign clients in New Zealand (for small labels). No colour work is done. Total employment is 24 people, and capacity utilization is around 80%. Sales of both enterprises are around WS$ 50,000 per year. The Mission suggests that some sub-contracting of book printing could be sought for overseas clients, especially for small runs.

The Government Printing Office produces exercise books, magazines, school journals, receipt books, passports, etc. for government bodies. Total employment is 25 people and the value of sales for 1972 was around WS$ 70,000. Five printing machines are operated at full capacity, 40 hours per week.

4.5. Chemical Industry (ISIC 35)

The chemical industry is represented only by the WSTEC Soap Factory which was established in 1966 and produces toilet and laundry soap as well as some copra meal as a by-product of coconut oil extraction. In 1971, production was 27,000 cartons of laundry soap and 2,240 cartons of toilet soap, some of which was exported to New Zealand. In that year sales totalled WS$ 1?,000 with a profit of WS$ 27,000. The original investment was WS$ 200,000. Copra pressing capacity is ½ long ton in 8 hours at a yield of 60% oil and 38% meal (two shifts daily). Total employment is 20 persons at a daily rate of about WS$ 1.50. The company's share of the local market (1971) was 98% for laundry soap and 40% for toilet soap, but this latter is expected to rise significantly this year in view of the increasing tariff level on imported soap.

Prices of local soap are 10 sene for a 5oz cake against 12 sene for imported cakes. Despite the fact that the soap section operated 16 hours, the packaging operation is underutilized, working only 3 weeks per month. The main problems facing this operation seem to be overseas competition and high duties on imported materials (tallow, sodium hydroxyde, colours, perfumes).

The Mission recommends the following:

- Improvement in product presentation (packaging) in order to be able to increase exports.
- Investigation of the possibilities of locally producing various perfumes and toiletries both for the domestic market and for export. Such an industry could be based on the abundant supply of tropical flowers and the expanding coconut oil industry.

4.6. Fabricated Metal Products (ISIC 38)

There are some 10 firms in the field of engineering and general machinery repairs and the production of metal furniture and machine parts, three of which were visited by the Mission.

4.6.1. Metal furniture and steel working

Grays Enterprise was established in 1970 as a family business. It produces imitation cane furniture from steel and plastic for the domestic market. There is also some woodworking machinery for making chair armrests and table tops for steel frame furniture. The company is also going into construction work, as subcontractors of kitchen and other built-in furniture in housing and hotel projects. Total employment is 6. Because of competition from real cane furniture, mainly from the Philippines, there seem to be no export possibilities.

Hansen and Berry, a branch of a New Zealand company, produces badges, cufflinks and promotional jewelry. Raw materials are mainly copper, some other metals and chemicals. The main reason for having started operations in Western Samoa were labour availability and low wage rates. There is a sales organization in Australia and the firm intends to branch out to the United States, inspite of high duties of around 45%. Annual sales to Australia and New Zealand

are totalling around WS$ 100,000. Total employment varies between 19 and 23 persons. Daily wages range from WS$ 1.50 to 2.00. The management, presently located in New Zealand, is interested in moving to Western Samoa. This would require financial assistance of around WS$ 20,000. The firm has found no difficulty in training local labour for the special skills required.

The Mission strongly supports the latter type of industry as it is 100% export-oriented.

4.6.2. Machinery and engineering

The main enterprises doing general engineering, machine shop-type work, repairs and maintenance are Gilberd I.E.P. Ltd., Morris Hedstrom and WSTEC Engineering.

As there was only one large factory (Potlatch-Samoa) built during the last 3 years, the market for engineering services has been rather unstable. Some improvement is likely due to the increasing hotel construction and the proposed docking facilities. The repair and maintenance field, especially for vehicles, is more stable.

Gilberd I.E.P. is mainly engaged in general engineering, but also manufactures such items as swings, clothes lines and corrugated water tanks. Considerable work is being done in well drilling and welding. The company is equipped to go into other types of work, such as building bus structures. Total employment is 12.

As part of the proposed industrial estates, the Mission recommends the establishment of metal working shops for the production of various basic items and the provision of general maintenance and repairs. Furthermore, attempts should be made to improve the rather poor situation in the automotive repair field by reducing the number of makes and granting import licenses only in conjunction with adequate servicing obligations. The likely establishment of a local fishing industry will also necessitate the provision of dry dock and repair facilities for the fishing fleet.

4.7. Tourism

The tourist industry in Western Samoa has developed against a background of some uncertainty regarding the desirability of promoting it as a major industry. Doubts arise mainly over the social and cultural aspects of tourism - the fear that it will destroy Samoa's traditional culture and attitudes, create social problems and lead to a slow but certain despoliation of the natural environment. On the other hand the economic benefits which tourism is capable of realizing are rarely questioned: its employment creating potential, the ability to earn foreign exchange and the impetus it gives to development in other sectors, including agriculture, construction and transport. This state of ambivalence is understandable and has been a factor in prompting the Samoan Government to adopt a policy of "controlled tourism", designed to avert some of the more destructive aspects of the industry. This policy implies the promotion of tourism in line with the country's ability to develop hotel accommodations of international standards as well as related facilities. Within the broad framework of this policy, the long-term objectives of tourism are stated to be: "to increase the number of visitor arrivals, their average length of stay and expenditures, develop tourist support facilities; encourage domestic investment in tourism; and to ensure that Samoan culture and tourism co-exist". It might be pointed out that extending the length of stay of a tourist does not necessarily lead to a maximization of his expenditures on a daily basis.

The development of tourism has been hampered in the past by poor air connections and inadequate accommodations. Western Samoa lies outside the main tourist stream and is essentially an "excursion point" from Pago Pago which has an international airport. While this situation is likely to persist as long as no further extension work on Faleolo airport is carried out (Faleolo airport was recently upgraded and extended to a point capable of handling aircraft such as BAC 1-11/475 and Boeing 727), overseas air connections have none-

theless improved greatly. Services consist mainly of about 26 Polynesian Airlines DC-3 and HS-748 flights a week to Pago Pago. There are three HS-748 flights to Tonga and one to Nadi, Fiji, per week, while Air Pacific also provides a weekly flight to Suva. Accommodations have been persistently inadequate. As of June 1972, there were only the following four hotels providing altogether an estimated 151 rooms (or about 270 beds): Aggie Grey (96), Apian Way (8), Casino Hotel (27), and Samoan Hideaway (20). At the time of writing, an additional 30 rooms appear to have been added.

Nonetheless, the rate of expansion in the number of tourists in Western Samoa has been striking, as shown in Table 4.9. Just under half of these visitors come from the United States, while about one quarter are American Samoans. The average visiting period is about three days; total tourist spending was estimated at WS$ 1.2 million in 1970, making it at that time Western Samoa's largest foreign exchange earner next to copra. With the improvement of Faleolo Airport, a vigorous expansion programme in the accommodation field and good prospects of more frequent overseas flights, the high value of expansion should continue in the foreseeable future. The almost certain introduction of jumbo jets at Pago Pago in the near future and the expected inauguration of Pan American flights between American and Western Samoa will also provide further impetus. By 1975 the number of tourists (excluding cruise passengers) should be of the order of 56,000 and tourist spending about WS$ 3.0 million. This exceeds the forecast of 40,000 made under the current Five Year Plan.

Table 4.9

Inflow of Tourists into Western Samoa

Year	Tourists	Cruise Passengers
1965	5,400	n.a.
1966	7,900	n.a.
1967	9,800	n.a.
1968	11,900	n.a.
1969	15,200	641
1970	20,300	939
1971	25,000	2,393

Source: Department of Economic Development, Apia

Prospects of a continuing heavy inflow of tourists have triggered off a vigorous programme of hotel building and extension work in which local participation has figured prominently. Hotel and resort projects already approved or under consideration, together with the main investing parties, are listed below:

Table 4.10

List of hotel projects approved or under consideration

Name of hotel	Owner of promoter	Rooms
A. Approved:		
Tusitala (replacing Casino)	Samoan Government and Naviti	100
Apian Way - extension	Croudace family	21
Aggie Grey - extension	Grey family	20
Tiafau	J. Curry	33
The Royal Samoa Hotel	R. Hadley	152
Samoan Hideaway - extension	H. Retzlaff	20
Return to Paradise	Seagai Faumuina	50 - 100
b. Under consideration		
West Coast	WSTEC	100
Samoa Village Inn	Marist Fathers and Canadian Group	79
Lalovaea	Samoan Government	100
Lake Lanotoa	F. Wetzell	10 - 20
Vailele Beach Resort	Vaovasa - Manaia R.P. Phillipps	100
Travelodge	site not decided	100
Asau Hotel	Masoe Niko	50

Source: Department of Economic Development, Apia

Of the new hotels, the Tusitala and Lotopa are still under way and should be completed by mid-1973, while the building of the Royal Samoa Hotel was just commenced. The latter hotel represents a new concept in tourist accommodation in Western Samoa, being part of a multi-million dollar holiday resort offering luxury type facilities. It is to be built on a 60 acre tract of Taumeasina, near Apia, a large part of which is presently a swamp lagoon. In time at least another 100 rooms will be added.

Of the projects currently under consideration, the Lefaga Bay and Lake Lanoto'a proposals appear to have reasonbly firm chances of being realized, though the Mission has some reservations about the value of the latter project given its possible effect on the ecology of the area and the substantial public investment in roads and related facilities required to gain access. As of now, however, the completion of projects, currently or soon to be under way seems likely to saturate the anticipated demand for accommodations by the end of 1973. Tentatively, an additional 194 rooms (or 350 beds) will be completed, which means a more than doubling of the present number.

While the current boom in hotel building is encouraging from the point of view of filling a fairly long-standing gap, the Mission nonetheless feels impelled to draw the attention of the Samoan Government to some of the dangers inherent in the present situation. One of these is a possible over capacity which could reach serious proportions if the same pace of development were permitted to continue beyond, say 1973. Another is the pressure that rapid growth creates for basic inputs such as trained labour and agricultural produce as well as for supporting and complementary sectors like the construction industry. Problems will also tend to emerge in the provision of tourist-oriented support services such as cultural facilities, local transport and elements of Public Works. The Mission notes that, by and large, the Government is aware of some of these problems and has or is on the point of taking remedial measures. A report on the development of the visitor industry for the period 1972-1976 has already been prepared by an UNCTAD expert in Suva, E. Dommen. The report is being considered for a Tourist Master Plan, which could serve as the basis for the long-term development of the area. The Mission endorses the need for such a plan, and suggests that, besides taking some of the specific recommendations of the above into account, its terms of reference include the following:

- a synchronization of projected (and desirable) inflow of visitors with available hotel facilities;
- a demarcation of areas considered suitable as hotel sites bearing in mind the interest of village communities and the need for a certain degree of decentralization;
- an analysis of the likely situation in respect of overseas transport services;
- an analysis of required support services and activities such as construction, food, cultural attractions (folklore) and handicrafts with a view toward the maximization of domestic inputs;
- the establishment of policies and measures to achieve an optimum relationship between the growth of the tourist industry and the country's overall development, culturally and economically.

The Mission also recommends the extension of visitors' entry permits from the present three days to a minimum of two weeks and the provision of more adequate facilities for duty-free shopping. In order to encourage tourist spending the Mission urges a wider acceptance among the local business community of internationally common credit cards. Finally the Mission strongly urges the introduction of a turnover tax of 10% on hotel bills in lieu of the present bed tax. Such a turnover tax would be more acceptable for tourists since it is common elsewhere and would also be of greater financial benefit in terms of Government revenue.

5.0 CONSTRAINTS ON INDUSTRIAL GROWTH

Based on the information gathered by the Mission, Western Samoa has a number of basic advantages vis-a-vis many other developing countries which tend to favour its general development. These are, among others:

1. The country's appeal - the benign climate, lack of tropical diseases, and natural beauty make it a desirable place to live in.
2. Ample basic food resources - there are sufficient agricultural and sea food resources for the basic food needs of the population, which seems generally healthy and well nourished.
3. Good labour situation - there is an ample supply of labour with considerable manual dexterity and willingness to learn and work. Wages are low.
4. Stable government and society - there is no social unrest and the government seems favourably inclined toward foreign ideas and investment.
5. Existence of basic planning - basic planning and development institutions have been created. These have so far drawn up a general development plan and basic incentives legislation.
6. Sound economy - there is a good capacity for borrowing capital and a favourable balance of payments. Prices have been reasonably stable.

Nevertheless, the Mission has identified certain constraints on Western Samoa's industrial growth, as indicated below:

1. Lack of basic data - little, if any, up-to-date information is available on national resources and income. This makes an identification of the contribution of individual sectors virtually impossible. Furthermore, it results in a lack of pertinent information for potential investors.

2. Small scale of the internal market. According to the 1971 census, this market consists of only around 150,000 consumers, while income per head is low. This means that the minimum economic size cannot be achieved for most industrial ventures geared only to the domestic market.

3. Lack of known mineral resources. Available information does not indicate the presence of exploitable mineral resources.

4. Insufficient national planning - this pertains primarily to the sector and subsector level and has resulted in a lack of effective legislation and allocation of funds to achieve a sufficiently developed infrastructure for industrial growth such as industrial sites, docking and storage facilities (including cold storage), an electric rate structure, good telecommunications and technical skills. There is no extension service to provide advice and guidance to new industries and inexperienced entrepreneurs. Furthermore, there are inadequate export incentives.

5. Managerial deficiencies - there is a shortage of local people with the necessary training and skills to manage modern industrial and hotel enterprises, a constraint that will become increasingly serious as the industrial process gathers momentum.

6. Trade promotion - institutional facilities designed to help local industries in the field of marketing, contract negotiation, product promotion and purchase of raw materials and equipment are not available. Western Samoa's geographic isolation and inexperience in the industrial and export fields make such a service of primary importance.

7. Lack of regional planning - many of the neighboring islands seem to be faced with very similar problems as Western Samoa. Uncoordinated development efforts, such as the parallel creation of identical industries with the hope of exports to its neighbors, could bring unpleasant surprises.

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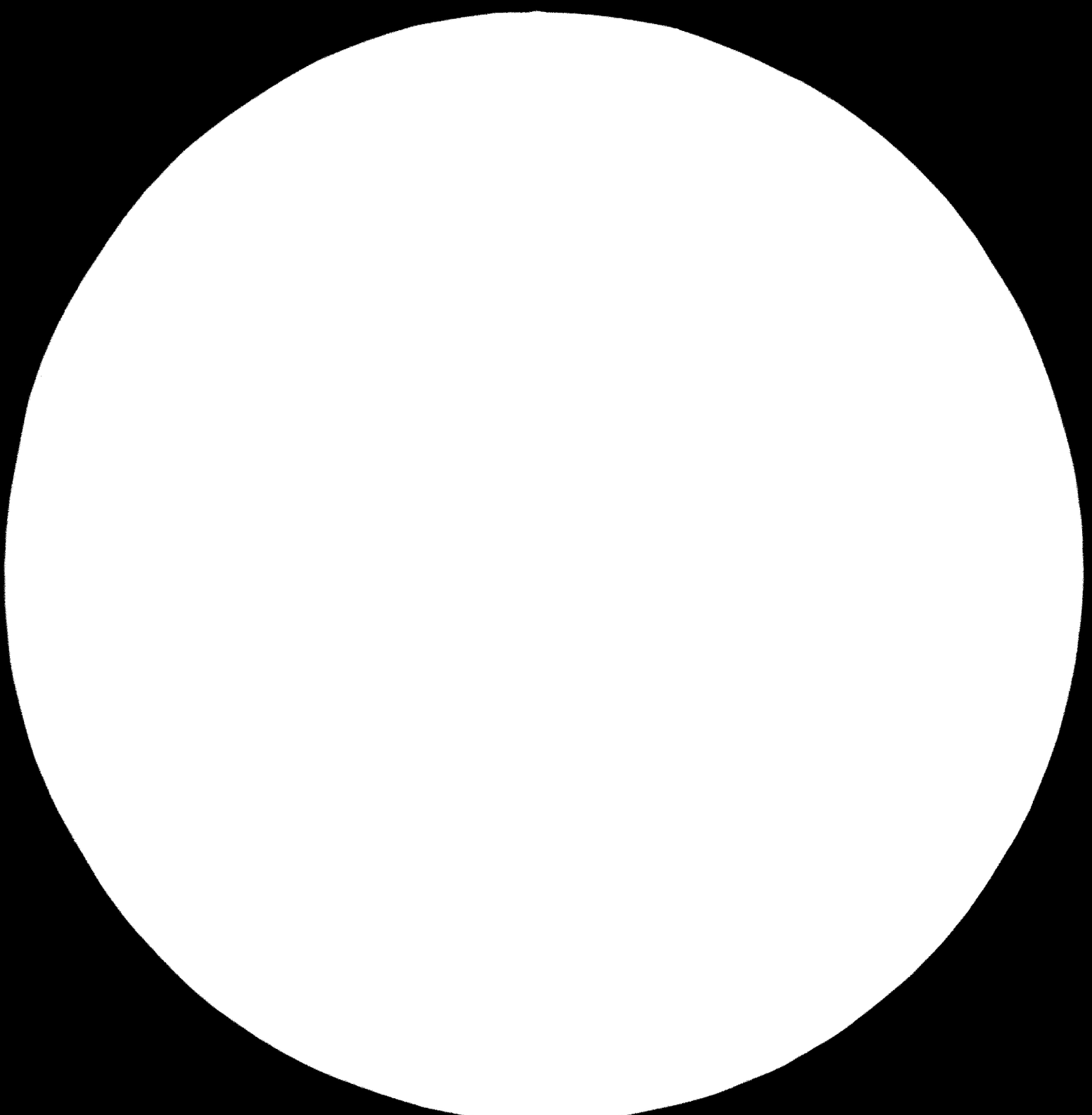

6.0 POLICIES FOR INDUSTRIAL DEVELOPMENT

The objectives of industrial development in Western Samoa are nowhere defined in detail. However, from information the Mission was able to gather from various sources these objectives would appear to be as follows:

- the creation of employment opportunities for a rapidly expanding labour force
- to achieve a more diversified economic structure, including the export sector
- to exploit with greater effectiveness the country's industrial potential so as to achieve a continuing improvement in the material living standards of the Samoan people
- to promote industries that can be shown to confer the greatest social benefits to the country in terms of employment, value added, balance of payment effects and backward and forward linkages
- to ensure that the local population shares significantly in the ownership and control of local industries and, generally, in the benefits accruing from industrial development
- to control and regulate the location of industry in order to avoid industrial pollution and other environmental problems associated with industrial development
- to promote export industries.

The above objectives have to be considered against the general objectives of economic policy in Western Samoa which, as set out in the Second Five-Years Plan (P.3), are:

1. The achievement of a much faster increase in economic growth through higher productivity and diversification of the agricultural sector.

2. The promotion of a more rapid and perceptible change in the structure of the economy through quickening the pace of development of the secondary sector.

3. The mobilisation to the maximum extent possible of all available capital resources through appropriate monetary and fiscal policies for financing balanced economic and social development programmes in the public and private sector of the economy

4. The creation of adequate opportunities for the gainful employment of new entrants to the labour force.

The principle aim of this chapter is to review existing measures designed to promote the industrial objectives outlined above and to suggest new policy measures which may be usefully implemented at the present stage of development. The following section will deal briefly with the existing set of financial concessions as embodied, for example, in the Enterprise Incentives Act. In sections 6.2 to 6.6 the Mission will discuss in detail other policy matters, including local participation in industrial development, a monitoring and appraisal unit, and an industrial estate/export processing zone complex.

6.1. Industrial Incentives

The main incentives designed specifically to encourage the establishment and expansion of industrial enterprises in Western Samoa are contained in the Incentives Act of 1965, as amended in 1969*. The Act is administered by the Department of Economic Development, though applications for incentives are considered by the Incentives Board before they are submitted to the Cabinet for final approval or rejection. The concessions available under the Act are:

1. an income tax holiday for a period of up to five years and renewable for an additional maximum period of five years. A carry-over of losses is also possible.

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* Enterprises eligible for incentives as specified in the Schedule of the Act (p.16) are:

- the processing of agricultural production
- factories of any description
- hotels and visitors support activities
- fisheries and fisheries development
- afforestation
- research and research development
- airline services

2. Relief from payment of import duty on raw material and capital equipment, as specified in the approval order for an enterprise. Draw-back arrangements exist for duty paid on the import content of exports.

3. Exemption of shareholders from income tax on dividends and profits paid by approved enterprises up to an amount not exceeding the total investment in the company involved.

4. Approved enterprises are exempted from payment of business and related licences during their tax holiday.

Government assistance to industry can also be obtained by means of tariff protection and by the use of discretionary powers exercisable by the Minister of Finance in relation to import duty concessions. On the latter the Minister has power to reduce the rate of duty on certain types of raw material not produced in Western Samoa (since 1972 this applies only to investment projects over WS$ 250,000). He also can grant duty-free imports to enterprises, which, strictly speaking, do not fall within the ambit of the Act (e.g. commercial poultry and pig raising). A range of concessions may also be given by Special Act of Parliament as was done, for example, in the case of the Potlatch timber project.

With particular reference to the Incentives Act it is difficult to determine whether it has achieved the objectives for which it was designed. Certainly, since the Act was introduced there has been an impressive increase in the number of enterprises established in the manufacturing and tertiary sectors. However, from the evidence which the Mission has been able to assemble it would appear that the importance of the Act in directly stimulating industrial investment has been exaggerated. From interviews with enterprises which had received benefits under the Act at some time or another, it appeared that only a few considered such benefits as being crucial in the establishment of the enterprise. Other considerations, such as long-term business prospects, profit potential and the like appear to have been more important. The fact that very few foreign-owned business ventures of any size have been attracted to Western Samoa

over the past few years also suggests that the Act may not have been as vital as often supposed. Apart from these considerations there are, in principle, sound reasons for believing that alternative forms of incentives are more effective in stimulating industrial development than the type of concessions embodied in the present act. The development of adequate infrastructure, capital market, labour training and a co-operative attitude on the part of the government are examples. Moreover, it is clear, for the reasons, among others, set out in Annex F , that the Incentives Act as it exists at present is becoming increasingly difficult to administer. It is for these reasons that the Mission feels impelled to recommend that the Act be drastically revised.*

In shaping its own thinking on the question of incentives the Mission has kept in mind the following considerations which appear to be appropriate for small-scale economies represented by Western Samoa:

- financial and related incentives, such as tariff protection, should be extended only to enterprises which appear to have favourable prospects of achieving economic viability as determined by established economic criteria (e.g. social cost-benefit techniques). Generally speaking, these will be "infant-industry" cases.** Indiscriminate granting of concessions will result in the establishment of uneconomic units and sub-optimal resource utilisation.

- a situation of a steadily improving infrastructure, broadly defined to include physical overhead facilities, labour training, credit availability, reasonable tax and land laws, availability of basic information on the economy as well as project evaluation

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* For the above reasons, among others, the only case for retaining tax holidays is its role of demonstrating the country's firm intention to accelerate industrial development, though the argument that Samoa should provide tax holidays so long they are available in neighboring countries which compete with Samoa for foreign investment may also have some importance.

** An infant industry can be defined as one which is not immediately viable judged on a purely commercial profitability basis (though social profitability will tend to be high due, for example, to externality effects) but has good prospects of achieving this state within a few years of establishment because of such factors as the realisation of economies of scale, benefits associated with "learning by doing" and market acceptance of its product.

facilities may constitute the most effective incentives to industrial investment and development. This is because a sound infrastructure and a generally favourable climate for investment tends to lower the risk element associated with industrial ventures - a factor which, ceteris paribus, will stimulate investment.

- for the above reasons, among others, it should be emphasised that Government financial concessions are given only on a temporary basis, normally to allow an enterprise to achieve a more competitive position as a result of lower unit costs.
- financial concessions should not contain too strong a bias against those industries (and associated techniques of production) which make maximum use of Western Samoa's abundant labour and certain types of natural resources.
- a programme of incentives should not be too complex both in content and administrative requirements but should be simple enough to be handled by local people with limited experience and knowledge in evaluating industrial projects.
- incentives should also be designed to confer some advantage to local entrepreneurs vis-à-vis foreign investors, especially in the small-scale sector requiring a minimum of technical and managerial expertise.
- specific measures should be provided favouring export-oriented industries in order to exploit international markets and to strengthen the balance of payments.
- in view of the need to promote regional co-operation and common development objectives financial concessions should not be too out of line with those available in neighboring island territories.

Given the above considerations combined with the present deficiencies of the Incentives Act (see above) the Mission recommends a complete revision of the Government's incentive scheme. In this, the Mission is in agreement with the Fiscal Review Team and the suggestion contained in its final report to eliminate income tax holidays and related concessions and replace these with the following:*

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* See Government of Western Samoa, Report of the Fiscal Review Team, 1971, Apia

1. Accelerated depreciation allowance for new equipment;
2. investment allowance on new industrial buildings;
3. reduced rate of import duty on all capital goods;
4. institution of selected protective tariffs to encourage further import substitution;
5. subsidized staff training.

Coupled with the above the Review Team recommended a simplification and a lowering of the existing company tax structure. Its proposals would provide a more permanent basis of incentives than those existing at present.

In addition, the present Mission recommends a separate incentives treatment for the following major categories of industry:

1. local industry supplying the local market;
2. local industry attempting to export;
3. tourist industry;
4. foreign and local industries to be located in the proposed export processing zone.

Local industries supplying the local market

Since the inception of the Incentives Act considerable improvements in infrastructure have been made. This in itself is an important incentive. In addition, the Mission recommends the establishment of industrial estates (described in detail in section 6.4), a reinvestment tax credit, deferred payments of import duties and improved borrowing facilities. The reinvestment tax credit should be granted for improvements and/or expansion of existing enterprises as well as for investments in new local ventures. The purchase of long-term Government bonds (for a minimum of five years) should also be exempted. A good possibility for issuing bonds seems to be the new Samoa Finance Corporation.

Local Industry attempting to export

In addition to the incentives to be granted above, this category should be accorded adequate supplier credit facilities. A direct

subsidy of exports may be considered in cases where international prices have been strongly influenced by "dumping" practices. The Mission cannot emphasise too strongly the importance of export promotion and urges the Government to undertake all possible efforts to create an export psychology amongst local entrepreneurs. This could be done through the periodic setting up of collective exhibits in international trade fairs as well as the creation of a permanent exhibit of local products either at the airport or in town, or both. Such an exhibit might possibly even be set up at one of the international airports nearby. Furthermore, the Mission urges the preparation of a directory of suppliers of export products and that consideration be given to the appointment of a trade promotion expert, possibly from UN sources, to be responsible for identifying and developing overseas markets.

Tourist industry

The Mission feels that the lack of competition in the hotel sector is by itself a significant incentive at the present time. In order to encourage a diversion of the profits usually repatriated by foreign-owned hotels the Mission recommends the application of the same reinvestment tax credits as above. To safeguard the environment and minimise pollution, strict government control and licensing of hotels should be required. In order to compensate for the disadvantages these requirements would present to local entrepreneurs vis-à-vis foreign hotel chains having their own staff of architects and technical experts, the Government should provide architectural assistance and possibly design subsidies. The Government should also help to procure the necessary operating management and initiate staff training courses.

Export processing zone

This requires the preparation of an attractive package deal based on what is being offered by similar zones elsewhere (see section 6.4).

In summary, the Mission feels that a lowering of the company tax rate should not be part of an incentives policy. In view of the complexity of many of the above aspects and the necessity to work out the details such as corporate tax rates, the Mission recommends that the Incentives Board solicit the assistance of experts specialized in taxation and export processing zones. In order to avoid a deterioration of the benefits to the respective countries due to excessive regional competition, efforts should be made to establish some common guidelines for incentives and tax rates.

Tariffs

In the last few years the tariff mechanism has been used as a means of protecting local industries against overseas competition. Nominal tariff rates applying in a number of cases are already high: this is true, for instance, for non-alcoholic beverages (40% commonwealth, 50% general); biscuits (40% for both); ice cream (36% both); soap and detergents (35%, 45%); and apparel (40%, 50%).*, While protective tariffs can act as a powerful stimulant to the industrial development the Mission would like to advise against relying too heavily on tariffs as a policy instrument. The indiscriminate use of tariffs can easily be self-defeating, producing serious distortions in the allocation of resources by protecting inefficient industries and by promoting artificial price levels. They also create a bias against export industries, especially in terms of raising the prices of basic factor inputs and attracting resources away from potential export industries. And in the particular circumstances of Western Samoa, the value of tariffs as a general instrument of industrial policy is restricted by the limited opportunities for import substitution. The Mission recognizes, however, that in special cases, in particular infant industry situations, tariffs can play a useful role in industrial development. Even so, tariff rates should not be set too high and should be granted only for a limited period, after which they should be removed altogether or phased out over a number of years, depending on particular circumstances.

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* The effective tariff rate, which represents the degree of protection in relation to value added, on these products would of course be considerably higher than the above rates due to generous concessions given in respect of import duties on raw materials.

The Mission also sees the need for the Samoan Government to undertake a detailed study of tariff policy in order to clarify its role in relation to industrial development. In this study the implications of a possible Samoan associate membership of the EEC should be considered.

On export incentives the Mission sees the proposed export free zone as the main incentive to export-oriented industries. Other measures suggested by the Mission to promote exports have been outlined above. The Mission sees no need, in principle, to provide a direct subsidy on export sales and it supports the present "draw-back" arrangements on imported raw materials used in the production of exports.

Other elements of industrial policy which the Mission would like to point out for Government consideration are:

- assistance to local entrepreneurs in the task of preparing feasibility studies of industrial and hotel projects. A revolving fund for pre-investment studies could be established which could be capitalized and repaid if the project were actually implemented.
- an examination of the so-called "regulatory" measures at the disposal of Government with a view of achieving closer integration with "promotional" measures as an element of industrial policy. Regulatory measures embrace such matters as the licensing of industrial projects, the registration of foreign investment and agreements on payments of know-how and management fees. A clarification of Government policy on these and related matters will tend to force foreign companies to comply with them without undue negotiation.
- ensure that the financial sector develops along lines favourable to industrial development. For this Government should provide assistance with financing provided by the Samoan Finance Corporation (when established) and by loans from the Provident Fund, institute appropriate tax incentives for the reinvestment of profit in new industrial projects or Government bonds, provide adequate saving facilities

for the general public and adjust interest rates to a level appropriate to Samoa's capital situation at any particular time.

- ensure that Government purchasing policy and that of new enterprises, including hotels, favour local suppliers in all cases where the local cost is less than, say, 120% of the imported price.

- to undertake training schemes appropriate to the industrial needs of the country. This would encompass, amongst others, repair and maintenance of cars and machinery, general managerial and hotel services.

- Government policy on foreign investments should ensure maximum local participation, encourage the training of local labour and managers and assist local suppliers. In addition, Government will need to guarantee the right of investors to repatriate profit and dividends on the investment that was registered with the Government and ensure that not more than, say, 25% of the foreign component of a project's financing originates from local borrowings. The Government's intention to negotiate bilateral double taxation agreements, where necessary, and investment guarantee agreements should be clarified.

- where it is apparent that certain industries have been over-generously treated in the past in the matter of financial concessions the Government should consider levying a special "corrective tax"; appropriate in this connection might be an export tax for timber and a turnover tax on hotel bills.

- to continue to promote a vigorous programme of agricultural development in order to ensure, among other things, a firm basis for industrial development, particularly in relation to agro-based industries.

Some of the Mission's recommendations made above, if implemented, would call for major changes in administrative machinery. Among these are the following:

- the administration of tax incentives (i.e. mainly depreciation) would now become the responsibility of the Department of Inland Revenue. This would leave the Incentives Board free to concentrate on the more basic tasks of project identification and evaluation as well as general industrial promotion.
- a considerable upgrading of the role envisaged for the Samoan Finance Corporation as outlined in section 6.5.
- the appointment of a trade promotion expert to undertake market studies and, generally, to promote exports.
- formation of a committee to formulate tariff policy as it relates to industrial development.

6.2. Local Participation

Western Samoa's industrial development in the past few years has been characterized by a growing realisation of the need to promote local participation in ventures involving foreign investment. This represents an aspiration which now appears to be fairly common among developing countries - a reflection of the fear of foreign companies assuming positions of dominance and power in particular sectors of the economy as well as the desire to ensure that a significant part of the benefits of industrial development accrues to the home country. Such a participation is also valued for the opportunity it provides for a degree of "learning by doing", especially in terms of managerial training and developing certain entrepreneurial skills and attitudes. For a small island community like Western Samoa, faced with limited resources and potential for extensive industrial development these fears and aspirations are understandable. In such a context the basic aim must be one of attempting to maximize the rate of economic growth within a framework that is consistent with the policy of promoting local participation to the fullest extent possible. Strictly speaking the outcome of such a policy may well be the achievement of a growth

rate that is lower than can be attained if, say, foreign investment were given a free hand. However, it seems apparent that the Samoan Government is prepared to accept this possibility as a price it is willing to pay for giving priority to maximising local ownership and control.

Attempts to promote local participation in foreign ventures have been made through the Enterprises Incentives Board which is responsible for administering the Enterprises Incentives Act (EIA). The Board apparently has power to insist that a proportion of the shareholding of a foreign enterprise applying for benefits under the Act be allocated to local shareholders. It can also specify what proportion this may be. This objective can also be implemented via the Business Licences Tribunal which is responsible for the issue (or refusal) of business licences in the territory.

Several techniques have been used by the above authorities (but principally the Enterprise Incentives Board) to engender local participation. First, there is the straight-forward insistence that part of the equity be reserved for local subscription, either local citizens or the Government, on a joint-venture basis. Arrangements recently made between the Samoan Government and two enterprises in the field of paints and industrial gases are examples. Both these companies will provide for 20% local shareholding initially and about 45% within a "reasonable" period of time. Another example is the Hotel Tusitala, currently under construction at the old Casino Hotel site, in which 75% of shares are held by the Samoan Government against 25% held by a Fiji investment company (Naviti). Two other methods used by the Samoan Government to promote local participation might be noted. One is through a "reversion" arrangement whereby after a certain period - so far taken to be an unusually long one of 60 years which is the maximum period that Samoan land can be leased - the enterprise concerned is taken over completely by the Government. This arrangement has already been applied to Hadley's Hotel project now under way, and to two other hotel projects under consideration which appear to have a firm chance of commencing.

The second technique is based on the "phasing out" principle as applied to the staffing of certain key positions which need to be filled at the initial stages by foreigners owing to the high level of skills and expertise required. In this case it is provided that foreign staff be phased out in time as more and more local people acquire the necessary training and expertise to replace them. Though applied to a limited extent to date this sort of arrangement seems highly suitable to the fisheries project recommended in this report.

In cases where the Government invests directly in an enterprise it generally does so with a view to holding this investment "in trust" for the Samoan people and of selling it to experienced local investors at some future time. (This also underlies the reversion arrangement noted above.) Active Government participation in the above sense is justified as few Samoans at this point of time have developed the expertise, let alone accumulated the necessary capital, to participate in the industrial process, either directly as entrepreneurs or indirectly as investors.

In pursuing the policy toward foreign investment, described above, the Samoan Government will have to tread carefully between the need to attract foreign companies that will be of benefit to the country and the desire to maximize local participation. It is recognized that industrial development in any meaningful sense depends largely on overseas capital, technical and organization skills, and marketing and distributing know-how - not only as a once-for-all phenomenon but on a continuing basis - and that a price has to be paid for this contribution, principally in terms of profit outflow and sacrifice of ownership and control. Furthermore, in respect of labour-intensive and export-oriented industries relying mainly on imported raw materials, i.e. the type that is normally regarded as being suited to establishment in an export processing zone, it is conceded that a high degree of foreign ownership, even up to 100%, might have to be allowed - a point which the Samoan Government appears to be willing to accept.

Despite the general validity of the above points in support of foreign ownership there are, by the same token, forces which tend to operate in the opposite direction. Thus, it seems clear that many foreign companies are prepared to enter into joint-ventures mainly in order to be in a position to provide capital equipment and raw materials on an ongoing basis and technical know-how and managerial expertise upon payment of royalties and franchise fees. In such cases only a low equity interest needs to be granted to the foreign company concerned. Furthermore, there are companies which adopt a fairly enlightened attitude toward the aspirations of developing countries and are prepared to participate in joint-ventures without insisting on a controlling interest or even a significant share of ownership and control. This attitude has been prompted to some extent by a recognition of the need for a significant degree of local participation in order to reduce and avoid any element of hostility or animosity against foreign-owned companies which could eventually lead to expropriation, i.e. in a sense a price for a "peaceful existence". It may also be noted that technical and financial assistance necessary for the establishment of certain industries is often available to developing countries as part of the aid effort by some donor countries. In this instance, it may not be necessary to have foreign ownership at all. Finally, it may be noted that many arrangements are available which allow the transfer of capital and technical know-how from the developed to the less developed countries without sacrificing the ownership of local industries or a significant proportion thereof. Examples are the use of debt capital, management contracts, donations of a proportion of the total equity to local people, and the formation of joint-ventures which provide for the local acquisition of ownership within a relatively short period of time, say from ten to fifteen years. "Phasing-in" arrangements to allow for local equity participation in ventures which for a variety of reasons may have been intially established either wholly or predominantly as a foreign enterprise should also be considered.

As for the rest, there is clearly a wide spectrum of industrial activities which require a minimum input of skills and knowledge from overseas, and where this is true, ownership should be over-ridingly, if not completely, local.

The Samoan Government will need to give thought to the basic questions concerning the proportion of local ownership to strive for in those sectors and activities which call for foreign investment. A list of possible "priority" sectors which seem to justify a high local equity content, i.e. sufficient to give a controlling interest, follows:

- tourism - both hotels and suppoting activities
- natural resources at both primary and processing levels
- transport
- light industries *

Except in the case of unusually large ventures, hotel building and management do not require a great deal of specialised technical know-how, though admittedly capital requirements are often large. (The latter will tend to become less problematic in view of Western Samoa's improving capital situation, as outlined earlier.) A high level of local ownership of ventures involving the exploitation and/or processing of natural resources is desirable both for economic and socio-political reasons. ** This also applies, though perhaps with less force, to the field of general manufacturing. In the case of transport services, which in Western Samoa tend to involve small-scale ventures, and light industries, one can justify a policy of complete local ownership given that capital and skill requirements are usually at minimum levels.

A related element of Government policy is the desire to ensure that ownership of local industries, including the local component of joint-ventures, is widely spread among the local population. Western Samoa's experience to date shows clearly that the ownership and control of the manufacturing and tourist sectors (not to mention the distribution and transport fields) are dominated by a small number

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* The term is used here to denote not only small-scale industries but also larger ones not requiring sophisticated technical skills and know-how.

** A major concession to a foreign enterprise in the field of natural resources has already been made in forestry, i.e. Potlatch-Samoa, a 100% American owned subsidiary. It is believed, however, that Potlatch is not adverse to accept local ownership to an extent of about 25%.

of individuals and family groups who generally have been those who have buit up capital funds and business experience in commerce. While this pattern has undoubtedly served the country from the viewpoint of industrial development it also poses problems from a number of angles. It can be argued for example that industrial organizations based on family connections and groupings are not fully effective as a means to promote and sustain industrial growth, prone as they are to nepotism, family squabbles and unwillingness to extend managerial functions to outsiders where it is judged necessary from the viewpoint of efficiency. But more important, perhaps, are the problems it creates in the sphere of social justice, especially in the sense of the excessive concentration of wealth and power in the hands of a few. Experience in other parts of the world suggests that this pattern is highly undesirable since it leads to increasing levels of inequity and, in extreme cases, to social disruption and upheaval. While Government policy must therefore aim to ensure that the investment activities of established entrepreneurs are not stifled it must at the same time attempt to promote the widest possible distribution of investment opportunities as part of the policy to uplift the economic status of the general population by the promotion of social justice and a more equitable distribution of income and wealth. As in the area of joint-ventures it is again a question of balancing economic and social objectives which, on the surface, appear to conflict. To widen the door for smaller investors the Government might well resort to powers exercisable by the Incentives Board and the Business Licensing Tribunal.

The Mission fully endorses the present Government policy of encouraging maximum local participation in ventures by foreign companies and of widening the ownership structure of local companies. In subsequent discussions of possible new industries to be established in Western Samoa the Mission will suggest the proportion of shareholding that might be taken up by the principal investing groups, the intention here being to provide rough benchmarks as guides for possible Government action. At this point, however, the Mission would like to stress the need for the Government to consider measures which it might take in support of the above policies:

- the undertaking of overseas loans specifically for the purpose of lending out to local entrepreneurs and investors
- devise a suitable mechanism aimed at facilitating borrowings by persons wishing to invest in joint-ventures and related industrial activities
- provide information and necessary technical services to local entrepreneurs and investors in matters related to the development and negotiations of projects, acquisition of overseas managers, contract negotiations and the like
- a consideration of alternative arrangements which could be used to tap overseas capital sources and technical and managerial know-how without an excessive sacrifice of ownership and control
- the Government should adopt policies favouring small-scale development in appropriate sectors in order to encourage local ownership and participation; tourism is one such area
- the Government should clearly emphasize the training and employment obligations of joint-ventures as well as the need to ensure a degree of local control, as distinct from ownership, by the appointment of experienced local persons as directors.

6.3. An Industrial Monitoring and Appraisal Unit

In order to overcome the almost complete absence of industrial data the Mission recommends the setting up of an Industrial Monitoring and Appraisal Unit responsible to the Director of Economic Development. This Unit would compile basic industrial data for which it would have to define the coverage, frequency, indicators, forms, etc. Based on this information it would evaluate the progress being made in the industrialization process. Of course, this Unit should be supported by the various governmental bodies responsible for specific sectors such as agriculture, finance, tourism etc. On the basis of periodic evaluation the Unit would serve a valuable purpose in the context of the Government's overall planning effort and would, moreover, be in a position to pinpoint bottlenecks and problems encountered in various

sectors and help to either initiate detailed studies of the specific problem areas or recommend remedial action. The Unit should also be able to advise the Western Samoa Government and various quasi-governmental agencies on basic problems of industrial development and policy.

To help set up this unit it is recommended that the Government request from UNIDO the services of one senior industrial economist. He should be well qualified in industrial analysis at the sector and and sub-sector level and also be able to advise on policies for industrial development. As it appears that a senior level Samoan economist capable of being trained within a relatively short period of time to fill this post is not presently available in the country the services of a foreign expert will be required for some years, although appointments for the post should be made on a two-year basis. However, provision should be made for several short-term fellowships to permit Samoans to spend time abroad for training purposes with a view to eventually take over the Unit's functioning from the outside expert.

In more specific terms the proposed industrial economist should be able to provide advise and guidance to the Department of Economic Development in matters relating to long-term industrial planning and more day-to-day problems of industrial development and to the Samoan Finance Corporation, scheduled to come into being during 1973. He should also play a major advisory role in the creation of the industrial estate/export processing zone complex proposed by the Mission. In these tasks, he should draw upon the assistance of short-term experts and consultants, where considered necessary, to assist with feasibility studies of individual projects and advise on other highly specialized industrial problems. He should also guide junior members of the Department of Economic Development in the collection of documentation and publications needed for the work of the Unit.

Several steps need to be tackled if the Samoan Government decides to establish the Unit. In the first place it must draw up terms of reference incorporating the type of assistance that the Unit is expected to provide to the Department of Economic Development, the

Samoan Finance Corporation and other governnment agencies. It will also need to define its functions in relation to data collection and monitoring, industrial planning, both short- and long-term, scale of operations and the level (i.e. micro-, macro- or project) at which it should concentrate. In this it is essential at the initial stages to define clearly the problem areas with which the Unit will be concerned and to determine basic industrial indicators for monitoring purposes. Once established, the Unit should be able to publish industrial statistics on a regular basis and produce up-to-date brochures providing basic information and data on the Samoan economy, a very important service to potential investors.

6.4. Industrial Estate/Export Processing Zone

The industrial estate concept designates a planned clustering of industrial enterprises, offering developed sites, pre-built factory accommodation and provision of services and facilities to the occupant. Industrial estates are intended to promote small-scale industries by stimulating entrepreneurship and providing guidance and assistance to small industrialists at every stage of establishment, operation and management. Because of similar requirements for infrastructure the same site might advantageously be developed for an Export Processing Zone, with a fence separating the two areas.

Export processing or free zones in small island economies have a special function because:

- the domestic economy is usually too small to support many normal industries
- a need is felt to buy in to industrialization, however small-scale, by attracting certain types of foreign investors with their know-how
- the economy often needs some exports if it is to avoid, during the industrialization process, running into a heavy interest repayment situation (in hard currency) for a long term.

They are usually less than 250 acres and contain standard size, standard design, rentable single storey buildings, two of which are usually built in advance of demand, one 4,000 and one 7,000 square feet. They are not usually large scale, and heavy producers of smoke, fumes or noxious effluents are not allowed. (In this they differ from 'off-shore economy" free zones, i.e. Puerto Rico.) They differ from industrial estates in that they are geared mainly to export, not to domestic market needs. They usually are linked, naturally, with the development of the tourist industry, civil aviation and airport as well as shipping facilities.

Management is usually through a state-owned corporation which must be autonomous. The board, mostly part-time, meets to decide policy matters only, and acts only through the managing director of the corporation. The directors are normally drawn from the ministries providing inputs, e.g. finance, transport, commerce and industry, tourism. Day-to-day management, with which the board should not be concerned, is carried out by managers appointed to control such functions as finance, construction, labour, and training, supplies and services under the managing director. The managers are usually drawn from the private sector and are corporation employees, not civil servants.

Incentives to foreign and domestic investors can be adjusted to the economic situation. Tax exemption can be whole or partial, and over 5-25 years, usually on a sliding scale. Imports are usually duty free and no export taxes or subsidies should be paid. Benefits to the Government are in terms of jobs created, and not in the balance of payments (exports less imports). A free zone also acts as a training centre for labour and gives staff managerial experience. Expatriate managers, who bring with them the essential technical know-how, are often needed at first.

On a preliminary basis the Mission has looked over four possible sites at Vaiusu, Vaileie, Vaitele and Mulifanua and considers the Vaitele site, owned by WSTEC, the most suitable one. This was confirmed

by the Department of Public Works. The other sites, specifically Vailele and the area near the airport, should be reserved for future tourist development. Vaitele is west of Apia, on the way to the airport. Extending into the interior, the new industries, with the exception of a possible tuna cannery, could be located inland, away from the scenic road next to the shoreline. Basic infrastructure of water, electricity and roads exist. In addition, the Mission has investigated the possibilities of a rural industrial estate at Asau on Savaii Island, consisting of such basic common facilities as wood-working, welding, metal-working, machine and automotive repair shop, etc.

In order to verify the Mission's preliminary findings and to determine the viability of both the combined Industrial Estate/ Industrial Free Zone and the Rural Industrial Estate, the Mission strongly recommends that the Government seek a follow-up mission of 2 experts highly specialized in the setting-up of such ventures in other countries. The two experts, industrial economist/industrial engineer and physical planner/civil engineer, would prepare feasibility studies which should include the following:

Economic/commer aspects

- type and number of industrial enterprises suitable for location, taking into account internal demand, inter-island demand and export possibilities
- availability of indigenous entrepreneurs and interest of foreign investors
- long-term profitability (cost/benefit analysis)
- cash-flow analysis
- incentives for small-scale industries/foreign investors

Physical aspects

- site selection
- size of estate and phased development
- layout of the estates, including number and size of factory plots
- number, type and size of factory buildings to be built in advance of demand

- common services (including common service facilities in the model industrial estate)
- infrastructure facilities and requirements

Other aspects

- organizational set-up, management and administration of the industrial estate/industrial free zone and the model industrial estate
- legislation necessary for management of the estates and free zone as well as for providing incentives
- sources and methods for financing the establishment and operation of the industrial estates and of indigenous small-scale enterprises

Should the findings of this follow-up Mission be positive, the first essential step is the creation of an appropriate body with the necessary managerial and technical expertise as well as legal power for the realization of the projects. The Mission recommends that such a body be set up under the auspices of the proposed Samoan Finance Corporation, to be organized in early 1973 with the assistance of the Asian Development Bank.

An export processing zone is usually aimed at 100% export. Goods allowed into the domestic market, having paid duty, are usually limited to 5% of total production, normally "export rejects". In Western Samoa, about 20 firms already export, six of which export cocoa. One exports printed textiles and another airfreights fresh fruit to New Zealand. Present indications for a possible split between industries for establishment in a free zone for export and those in an industrial park to supply the domestic economy are:

For export	Domestic market
Tuna cannery	Milk reconstitution
Pineapple cannery	Brewery
Fruit processing (citrus, banana, guava, mango, passion fruit, grapefruit)	Flour mill
Copra oil mill	Animal feed
Palm oil mill	Stationery
Clothing	Palm oil and soap
Furniture	Metal fabrication
Charcoal	Concrete pipes/blocks
Leather products	

6.5. Samoa Finance Corporation (SFC)

The Mission endorses the Government's plan to reorganize and upgrade the present Development Fund into the Samoa Finance Corporation in early 1973, with the assistance of the Asia Development Bank.

However, in addition to what is presently being envisaged in the form of financial assistance, project evaluation and loan administration, the Mission recommends an expansion of its activities in the industrial area by taking on the following functions:

- promotion of industries and joint-ventures, including general project supervision and follow-up
- act as a holding agency for shares in totally or partially government controlled enterprises
- act as controlling body of the proposed industrial estate/ export processing zone complex
- act as an agent for regional cooperation between Western Samoa and the neighboring islands (cf. section 6.6.5).

The foregoing recommendations would, of course, mean a substantial upgrading of SFC, resulting in a strong and vital institution for Western Samoa's further economic and industrial development. In order to bring about this upgrading and give SFC the necessary power and resources adequate provisions will have to be made in the law, in its statutes and borrowing power. Based on its experience in several developing countries such as the Gambia, Somalia and Swaziland, UNIDO could provide considerable assistance in setting up this new organisation. In addition to such assistance the Mission recommends that the Government avail itself of the services of an expert in industrial development banking operations as soon as possible. This expert should initially spend six months in Western Samoa and would be expected to:

- assist the Government in all questions related to the establishment and the financing of the new corporation
- work out the appropriate charter and operational procedures for the main departments and special units of the bank
- establish proper organizational links with the Government authorities of Western Samoa and financial institutions, domestic and foreign, as well as with the business community

- assist in the management of all development financing operations
- advise on ways of how to increase the capital participation from public and private funds, flotation of loans and underwriting operations
- to identify bankable projects for bank financing and study in depth the nature of available resources and finances as well as the future development of capital resources
- to give particular attention to the financial appraisal and the promotional work of the new institution

The above adviser should devote considerable time to the training of locals and also be able to recruit additional experts as problems arise. One such expert, required as soon as SFC starts functioning, would probably be an industrial management adviser, who should be readily accessible to local entrepreneurs with new businesses and/or expansion plans. Thus, the SFC would eventually provide a kind of extension service to local industry.

6.6. Miscellaneous

6.6.1. Trade Promotion Officer

Industrial development of Western Samoa is to a large extent a problem of product adaptation and export marketing. Apart from pure import substitution industries, most enterprises would sooner or later need export markets in order to be viable and to benefit from economies of scale. The isolated location of the islands combined with lack of knowledge and information about markets, makes export marketing the bottleneck of industrial development. A small share of any export market would substantially increase industrial production of Western Samoa. Such a market share could easily be obtained by creating consumer preference through attractive South Pacific "product image" (see section 4.1.2. Coconut, Charcoal) supported by adequate marketing arrangements, including international subcontracting and joint-venture arrangements.

The logical conclusion of these observations is that product adaptation and export marketing should be co-ordinated at the national level. Therefore, the Mission recommends that a highly qualified trade promotion officer be attached to the Department of Economic Development or Samoa Finance Corporation, initially for a period of two years. He would act as a liaison between industry, government and the export market, assist and co-ordinate all activities related to product adaptation and export marketing, such as price, quality, packaging, "product image", marketing channels, marketing media, transport arrangement, market test, promotion, participation in fairs etc. He would initially concentrate on product adaptation and gradually pay more attention to export marketing. He would also undertake necessary follow-up action with industry to ensure that production is up to the requirements of the export markets. Whenever necessary the trade promotion officer would sub-contract certain specialized tasks to appropriate international consulting firms (e.g. advertising). Closely in parallel with these activities, industry would identify and adjust its capacity and production accordingly.

As a secondary function the trade promotion officer could advise and assist industrial and trade enterprises at the national level in obtaining imports to Western Samoa at more favourable terms in respect of price and quality. This would also include procurement of raw materials. Due to the isolated location of the islands and sporadic visits of overseas sellers, the import market is presently exposed to ineffective competition resulting in poor quality and high prices.

It is quite essential that the trade promotion approach, as outlined above, be organized at the national level, since almost all branches included in the Mission's survey would require such assistance. Furthermore, since investment seems more a function of demand than of a temporary, artificial, reduction of cost, such a programme should be a more appropriate investment incentive than the fiscal incentives discussed in section 6.1. Moreover, the trade promotion approach is in particular warranted in view of certain trade policies currently being adopted in various industrialized countries.

The trade promotion officer could possibly be provided by the UN system or financed from the Government budget. It might be advisable to amalgamate the functions of the trade promotion officer with the Western Samoa Trade Commissioner in New Zealand and the Agricultural Marketing Adviser programmed in the Country Programme for Western Samoa.

6,6,2, Exhibits of Samoan Products

In section 6.1 brief mention was made of the positive effects a permanent exhibit of Western Samoan products at the airport and in Apia could have. The Mission recommends that consideration be given to expand this proposal to the international airport at Pago Pago and possibly even to Hawaii. An exhibit of Western Samoan handicrafts, other products and information material at an international airport such as Honolulu would undoubtedly reach a large number of tourists and businessmen, probably causing a considerable number of them to visit the Islands. The details of such exhibits should be worked out by the Trade Promotion Officer. Furthermore, a Western Samoan official or staff member of the Department of Economic Development or the SFC could be invited to participate in one of UNIDO's fair promotional activities.

6,6,3, Assistance in Contract Negotiations

A vital yet much neglected aspect is the provision of advice and assistance, especially to the least developed countries, in negotiations of a variety of contracts. The negotiation of a sound contract in the establishment of joint-ventures with foreign firms and/or governments, of enterprises to be located in the export processing zone, the granting of concessions to tourist and other enterprises in the initial, key stage is vital in maximizing the ultimate benefits to be derived by the country. Between the two of them it should be possible for the industrial economist concerned with the proposed Industrial Monitoring and Appraisal Unit and the industrial development banking expert attached to the SFC to provide useful advice and guidance. However, when contracts involving highly specialized and capital intensive industries such as a major

hotel project are at stake, the Mission recommends the short-term retention of an outside specialist, to be attached directly to the Prime Minister's Office. An important function of such an expert should be the training of one or two local counterparts by letting them actively participate in all phases of the negotiations. These counterparts must, of course, have at least a good academic background in economics and law.

6.6.4. Training Programmes

The Mission endorses the recent institution of an apprenticeship scheme within the Trades Training Institute. Nonetheless, Government should request the cooperation of foreign governments and international organizations in the training of managers and technical experts by overseas fellowships as well as the creation of local on-the-job training programmes. Short-term overseas fellowships should be offered in such fields as the following:

- general management
- cost accounting and financial management
- export promotion
- general maintenance and repair
- basic metal working
- welding
- construction industry, including carpentry
- food processing

The Government should also explore all available channels by which entrepreneurs could participate in field trips abroad and benefit from an exchange of ideas with foreign colleagues. Furthermore, in order to gain a better familiarity with the types of technical assistance available and the procedures for obtaining it the Mission recommends that the Director of the Department of Economic Development or one of his staff attend the periodically held Seminar on UNIDO Operations.

To help fill the gap in basic management knowhow a management course, or clinic, should be initiated. Lecturers might be recruited from among the more versatile local businessmen, foreign experts on mission in the country, and from abroad. Ideally, a successful entrepreneur, or government official responsible for a state-owned enterprise, should have spent 6 months in a management institute and another 6 in an "on-the-job" training programme.

The Mission is well aware of the inherent risk with such training schemes: the emigration of some of the best management to industrially more advanced countries. This problem is common to all non-totalitarian developing countries and can only be minimised by offering professional incentives such as a high degree of responsibility and prestige to compensate for lower salaries.

6.6.5. Regional Cooperation

The Mission endorses the statements on regional cooperation made in paragraphs 160 and 161 of Western Samoa's Five Year Development Plan 1971-1975. This could be in the form of an exchange of technical information or the establishment of joint-ventures for new industries which, when taken for each island or territory by itself, would be be below the minimum economic size. For such industries a regional trade policy should be adopted. The Mission is happy to note the recent impetus toward the regional approach by the creation of the South Pacific Bureau for Economic Cooperation (SPEC) to complement the work of the South Pacific Commission and the various UN agencies and hopes that its ambitious mandate handed down by the Second South Pacific Forum will be realized. This body, intended primarily as a "Trade Bureau", is the more timely because of the necessity to work out future relations with the European Economic Community.

7.0. RECOMMENDATIONS

In view of the Mission's investigations and the constraints on industrial growth identified in chapter 5, the following recommendations were drawn up in order of priority:

7.1. Institutional and Legal Measures

a) Industrial Monitoring and Appraisal Unit

In order to overcome the almost complete lack of basic industrial data and enable a periodic evaluation of the progress being made in the industrialization process an Industrial Monitoring and Appraisal Unit should be set up. (Details such as its terms of reference as well as the legal and manpower requirements for its creation are spelled out in Section 6.3)

b) Industrial Estate/Export Processing Zone

A feasibility study for a combined industrial estate and export processing zone, possibly at Vaitele, and a rural industrial estate on Savaii should be prepared by a follow-up mission, as outlined in section 6.4.

c) Samoa Finance Corporation (SFC)

To assist with the reorganization and upgrading of the Development Fund into the Samoa Finance Corporation, as discussed in section 6.5, an expert in development banking operations should be requested through UNIDO during the formative stages. This expert should be in a position to recruit additional specialists as specific problems arise. One such specialist, required as soon as SFC starts functioning, should probably be an industrial management adviser.

d) Incentives for Industrial Development

The Government should consider the adoption of a new incentives policy as spelled out in section 6.1.

e) WSTEC

The planned review of WSTEC operations by the Commonwealth Development Corporation in order to improve efficiency and develop new lines of activity is encouraged. As more knowledgeable entrepreneurs become available among the locals, attempts should be made to turn over as many of these activities as possible to the private sector in order to avoid an unwieldy governmental administrative apparatue.

f) Trade Promotion

In order to encourage and coordinate product adaptation and export marketing at the national level a Trade Promotion Officer should be attached to the Department of Economic Development or the Samoan Finance Corporation (cf. section 6.6.1.).

g) Training Programmes

A number of short-term overseas fellowships in such fields as general management, cost accounting and export promotion as well as local on-the-job training programmes should be instituted (cf. section 6.6.4.). Furthermore, in order to gain a better familiarity with the types of technical assistance available and the procedures for obtaining it, it would be advisable for the Director of the Department of Economic Development or one of his staff to attend a Seminar on UNIDO Operations.

h) Assistance in Contract Negotiations

When contracts involving highly specialised and capital intensive industries such as a major hotel project are at stake, a special adviser should be recruited on a short-term basis and attached directly to the Prime Minister's Office (cf. section 6.6.3.).

7.2. Recommendations Concerning Infrastructure

a) Cold Storage Facilities

In order to assure the necessary quality for fruit exports and meat, fish or related products, adequate cold storage facilities must be provided.

b) Postal Service and Telecommunications

As part of the current efforts being made to improve telecommunications the introduction of continuous services, including week-ends, should receive high priority (cf. section 3.3.).

c) Ocean Transport and Docking Facilities

The recommendations of the UN Regional Transport Survey for the improvement of existing or the construction of new port facilities should be taken into consideration (cf. section 3.2).

d) Air Transport

The possible improvement of various facilities at Faleolo Airport in order to deal with the handling of a larger volume of air cargo and passengers should be studied, especially if the industrial estate/export processing zone should materialize. The introduction of an air freight shuttle between Faleolo Airport and Pago Pago International Airport as a feeder line to the trunk line traffic between the U.S. and Australia might be a good possibility. This could be operated by the type of aircraft presently in use and would result in a better utilization than the larger planes. For the passenger traffic there should be such basic amenities as a restaurant, duty-free shop and post office.

e) Electric Power

A power rate structure geared to the various end users should be introduced. Based on the requirements of new industries to be launched in the coming years, the question of developing the country's hydro-resources ought to be reconsidered (cf. section 3.1.2.).

7.3. Recommendations Concerning Specific Industries

7.3.1. Major industries

a) Coconut, copra and oil

A coconut oil mill should not be established before sufficient raw material for its minimum economic size becomes available.

Besides coconut oil, the viability of producing copra meal, dessicated coconut and any other possible by-products should be established by a thorough feasibility study. Before the results of such a study are known, no further efforts by the Government in the promotion of additional coconut growing seem warranted. If the above feasibility study is negative, it may be advantageous to either supplement or replace large-scale coconut growing by other crops. A good possibility might be oil palm (cf. section 4.1.2.)

b) Fish

Efforts to assist village fishing groups should be stepped up by the solution of various technical problems and the creation of a Fishermen's Training School. Steps for the establishment of large-scale fishing and processing operations on a joint-venture basis with an Asian or European firm ought to be intensified. An investigation into the possibility for large-scale turtle raising is encouraged (cf. section 4.1.10).

c) Animal Feeds

Because of the vital importance of this industry to the large-scale raising of beef cattle, chickens and pigs as well as its dependency for inputs on several of the Mission's proposals such as fisheries and the flour mill, a follow-up visit and the initiation of a prefeasibility study by a feed formulation and equipment specialist is urged (cf. 4.1.15.).

d) Pineapples

A renewed effort towards the establishment of a pineapple industry capable mainly of supporting a viable export trade should be made. The emphasis should be both on the export of fresh fruit and processed fruit in the form of juices, pulp, slices and pieces. UNIDO could assist to find suitable partners for a joint venture operation, which would be in a position to provide the market (cf. 4.1.6.).

e) Beer and alcohol

The establishment of a local brewery on a joint-venture basis seems to be viable. Every effort should be made to try and secure an export market for this brewery in Pago Pago and perhaps Tonga. The establishment of such a brewery would require a reorganization of the beer distribution system. Simultaneously, the release of hard liquor imports and sales to private enterprise is recommended. The Mission feels that the volumes involved are not large enough to warrant a Government effort (cf. 4.1.14).

f) Tourism

The preparation of Tourist Master Plan is urged. Its terms of reference are spelled out in section 4.7.

g) Meat and Meat Products

Poultry and pig farming should be encouraged on a modern commercial basis, mainly for the domestic market, while the Government's attempts to establish a large-scale cattle industry should be geared mainly to exports keeping in mind the virtually infinite market in Japan (cf. 4.1.8.).

h) Bananas

Given the uncertain situation of this crop, the first consideration must be to save the industry from deteriorating further. In this respect the Government should consider carefully the recent proposals by the U.N. Regional Transport Survey regarding the production and marketing of fruit. In any case, because of the predominance of small growers and a lack of industrialization and cold storage bananas are mainly for the domestic market. To achieve significant exports to Australia and New Zealand would require a major effort, including a regular service of refrigerated ships, which would be unfeasible for Western Samoa (cf. 4.1.4.).

i) Cocoa

Due to the uncertain market conditions and low national benefit-cost, no major efforts to expand the growing of this crop should be undertaken. However, attempts ought to be made to achieve higher levels of production by means of improving productivity per acre of existing holdings.

j) Crop diversification

Crops such as annatto, avocados, macademia nuts, passion fruit, mangoes, guava, peanuts, limes, oranges and grapefruit might have good industrial potential. In this respect the UNDP/FAO large-scale agricultural project should at this stage have resulted in detailed findings regarding production requirements, output and attractiveness from a national and commercial point-of-view. An intensification of commercial production and processing of these crops on an experimental basis is urged. Simultaneously, the proposed Trade Promotion Officer (cf. 6.6.1.) could carry out export market tests (cf. 4.1.7.).

7.3.2. Minor Industries

a) Flour and bakery products

The establishment of a local flour mill is urged. Apart from its direct benefits, its by-products would provide an important input for a possible animal feedstuff industry (cf. 4.1.11.).

b) Dairy products

Rather than attempting large-scale dairy farming a milk reconstituting plant based on imported milk powder is encouraged. The dairy surplus of New Zealand should also be a relatively inexpensive source of butter and cheese (cf. 4.1.9).

c) Wood products

The Government is urged to encourage local enterprises in entering the construction field and in the manufacture of mouldings, windows, doors, frames and other basic building components as well as knock-down furniture, based on the material inputs available from Potlatch. There also seems to be a good opportunity for a joint-venture production facility of high-quality furniture in American Samoa, based on components supplied from Western Samoa. Such furniture could enter the U.S. market duty-free (cf. sections 4.3.1. and 4.3.2.).

d) Handicrafts

Improved quality could be achieved by teaching handicrafts in schools and by the refusal of the Handicrafts Corporation to take products of

inferior quality. The artisans on the other hand should be made aware of the availability of improved raw materials from the expanding lumber industry. Government is urged to negotiate for the removal or reduction of tariff barriers for Samoan handicrafts (cf. section 4.3.3.).

e) Charcoal

Charcoal production from coconut shells could be established as an useful small-scale export industry (cf. section 4.1.2.).

f) Perfume and toiletries

A short-term expert should be requested in order to more closely assess the situation, investigate the possibility of locally producing various perfumes and toiletries and their export potential. Toilet soap imports should be discouraged and exports increased by improved product presentation (cf. section 4.5).

g) Machinery and engineering

As an essential component of the proposed industrial estates, metal working shops for the production of various basic items and the provision of general maintenance and repair services are encouraged (cf. section 4.6.2.).

h) Concrete products

Recent efforts to set up a local facility for basic concrete products for the building trade, such as pipes, blocks, etc. are endorsed. These products are becoming increasingly important as a result of the current hotel construction boom.

i) Boat building

The development of suitable small fishing craft, which could be the basis of a boat building industry, is urged. In addition to wood, due consideration should also be given to ferrocement and fibreglass as possible building materials (cf. sections 4.1.10 and 4.3.4.).

j) Printing industry

The production of stationery by the existing printing firms is encouraged. A reduction in import duties for plain paper and an increase for stationery would help this (cf. section 4.4.).

k) Tannery

A feasibility study for the establishment of a leather tannery based on the growing number of cattle and pigs should be initiated. The production of high quality leather goods mainly for export might also be considered (cf. section 4.2.2.).

l) Clothing

Consideration should be given to providing training facilities for this industry in order to improve productivity. The large projected increase in cloth imports would seem to warrant a feasibility study for the establishment of a local weaving mill (cf. section 4.2.1.).

ANNEX A

ECONOMICS OF A COCONUT PLANTATION

1. General

In order to compare the revenue and net profit of a coconut plantation with other possible crops, and analysis of the economics of such a plantation is made in this Annex. Assumed yields are higher than the average yields currently obtained on old plantations in Western Samoa, and also higher than yields assumed for new crops in the five years plan. But the yields assumed are more in accordance with new varieties of coconut trees. Moreover, the present analysis is on the conservative side, favouring the old coconut crop usage in Western Samoa.

Yields assumed are presented in Table 4.8 of Section 4. Wages are those currently paid in Western Samoa.

2. Establishment cost per acre

The cost for new plantings and replantings per acre will be established.

Land preparation and planting costs

	Planting	Replanting
- Acquisition of site: it is assumed that the plantation belongs to the farmer, family or corporation	P.M. -	P.M. -
- Clearing including piling and burning		
For new plantations: 10 man day @ WS $ 1.20	WS $ 12.00	-
For replanting 6 man day	-	WS $ 7.20
- Planting material (55 trees/acre) Under the cash bonuses scheme, planting material is subsidised at WS $ 1.25 per acre. A cost for planting material equal to the revenue in the market, say 3 sene per nut, must be assumed. Total WS $ 1.65	WS $ 1.65	WS $ 1.65
- Planting labour		
- Lining 1.2 man day		
- Dig holes 1.4 man days		
- Manuring 0.6 man days		
- Planting 2.8 man days		
Total 6.0 man days at WS $ 1.20	WS $ 7.20	WS $ 7.20
Sub Total	20.85	16.05
Less Cash subsidy	- 5.75	- 3.75
Total:	WS $ 15.15	WS $16.35

Table (continuation)

Of which labour	WS$ 19.20	WS $ 14.40
materials	1.65	1.65
Subsidy	- 5.75	- 3.75

3. Upkeep of plantation until bearing (per year: 1st to 6th year)

	Planting	Replanting
- Labour		
- Weeding: 5 man day		
- Fertilising: 1 man day		
- spraying for insect and disease control: 4 man day		
Total: 10 man day	12.00	12.00
- Materials		
- Fertilizer; required 2cwt per acre per year at WS $ 60 per long ton = WS $ 2.40	2.40	2.40
: WS $ 75 per acre	0.75	0.75
- Interest: 5% on establishment costs	0.76	0.82
Total costs before bearing	15.91	15.97
Less subsidy for 2nd and 3rd years	- 0.50	-0.50
Total costs before bearing for 2nd and 3rd years	15.41	15.47
of which labour	12.00	12.00

4. Harvesting labour during reduced bearing (7th to 10 th year)

- Labour		
- Harvesting: 1.5 man day	1.80	1.80
- Cutting, chopping drying, etc. 2 man day	2.40	2.40
- Transport 2 man day	2.40	2.40
Total operational cost during reduced bearing	22.11	22.17
of which labour	18.20	18.20

5. Operational cost per acre in full production	Planting	Replanting
- Weeding and cultivation labour 2.3 man day	3.60	3.60
- Fertilising labour: 1 man day	1.20	1.20
- Fertilizer materials	2.40	2.40
- Insect and disease control labour 1 man day	1.20	1.20
- Spraying material	0.35	0.35
- Harvesting labour: 4 man day	4.80	4.80
- Cutting, chopping, drying, labour 3 man day	3.60	3.60
- Drying	3.00	3.00
- Transport and packing (1 man day & materials)	2.00	2.00
- Interest on establishment cost	0.76	0.82
Total operational cost during full bearing years	22.91	22.91
Of which labour	16.40	16.40

6. 26 years comparative costs per acre

	Planting	Replanting
Planting establishment cost	WS $ 15.15	WS $ 16.35
1st year cost	15.91	15.97
2nd year cost	15.41	15.47
3rd year cost	15.41	15.47
4th year cost	15.91	15.97
5th year cost	15.91	15.97
6th year cost	15.91	15.97
7th year cost	22.11	22.11
8th year cost	22.11	22.17
9th year cost	22.11	22.17
10th year cost	22.11	22.17
11th year cost	22.91	22.97
12th year cost	22.91	22.97
13th year cost	22.91	22.97
14th year cost	22.91	22.97
15th year cost	22.91	22.97
16th year cost	22.91	22.97
17th year cost	22.91	22.97
18th year cost	22.91	22.97
19th year cost	22.91	22.97
20th year cost	22.91	22.97
21st year cost	22.91	22.97

Annex Table 6. (continuation)		Planting		Replanting
22nd year cost	WS $	22.91	WS $	22.97
23rd year cost		22.91		22.97
24th year cost		22.91		22.97
25th year cost		22.91		22.97
26th year cost		22.91		22.97
TOTAL 26 years	WS $	563.61	WS $	566.63
Average cost, including establishment costs	WS $	21.68	WS $	21.80

7. Average export price for copra

It is very difficult to assume a recovery of copra prices to the average prices for the period ending in 1970. The reasons given in the price level analysis (Philippines output, inelasticity in demand, etc) make it very difficult. We shall assume a new average price level 20% lower than the preceding average (for Western Samoa copra) of WS $ 136.- The new average price for the long run would be WS $ 109. (or 68.5)

(Remark - This point is discussed in more detail in Appendix I)

8. Cost of export trade

These costs are calculated on the basis of an average export price CIF Europe of WS $ 109 per long ton on the long run (new level). From information of the Copra Board the price to be paid to producers and merchants, including WSTEC, is calculated in the following way for a No. 1 Hot air dried or Sun dried copra.

		WS $
a)	Cost per ton (2240 lbs)	54.00
b)	Shrinkage allowance 5%	2.73
c)	Trader's commission 3.3%	1.80
	Sub Total	59.13
d)	Fire insurance (+10% @ $2 for 1 month)	0.11
	Sub Total	59.24
e)	Shipping charges	1.24
f)	Freight to Apia	3.38
g)	Station overhead	4.00
	Sub Total	67.86
h)	Marine insurance (+ 10% @ 0.5%)	0.37

Annex A. Table 8. (continuation)

i)	Wharfage	0.06
	Cost delivered Apia	68.29
j)	Cartage in labour, weighting dumping	1.52
	Sub Total	69.81
k)	Shrinkage allowance: 5%	3.49
l)	Labour bagging, stacking, marking, unstacking	2.78
	Sub Total	76.08
m)	Fire insurance (+10% @ 2% for 2 months)	0.28
n)	Cartage/shed and weighbridge wharf	0.55
o)	Wear and tear sacks	1.40
	Sub Total	78.31
p)	Rent allowance	0.30
q)	Sundries	0.20
	Cost delivered wharf	73.81
r)	Margin to merchants 4.9% (including WSTDC)	3.86
	Price to merchants, delivered wharf	82.67
s)	Balance to Copra Board	0.33
	FOB Price	82.00
	CIF Price	109.00

In this way, the price to the producers FOB plantation basis would be in the long run WS $ 54.60.

9. Revenue on a 26 years operation (plantation basis)

The revenue are calculated on the two assumption of copra output indicated in table 4.1.

	Average yield		High yield	
Year	Tons/Acre	Revenue WS$	Tons/Acre	Revenue WS$
7th year	0.25	13.65	0.32	17.47
8th year	0.35	19.11	0.46	25.32
9th year	0.45	24.57	0.56	30.58
10th year	0.65	35.49	0.81	44.23
11th year onward to the 26th year	0.75	40.95	1.00	54.60
TOTAL REVENUE FOR 26 YEARS	-	748.02	-	991.20
Average Revenue	-	28.77	-	38.12

10. Gross Profit for a 26 year plantation operation

Net profit is claculated as difference of cost and revenue, year by year, and as average. Only the replanting costs are used.

	Average yield			High yield		
Year	Cost	Revenue	Profit or expense	Cost	Revenue	Profit or expense
1st year	32.32	0	- 32.32	32.32	0	- 32.32
2nd year	15.47	0	- 15.47	15.47	0	- 15.47
3rd year	15.47	0	- 15.47	15.47	0	- 15.47
4th year	15.97	0	- 15.97	15.97	0	- 15.97
5th year	15.97	0	- 15.97	15.97	0	- 15.97
6th year	15.97	0	- 15.97	15.97	0	- 15.97
7th year	22.17	13.65	- 8.52	22.17	17.47	- 4.70
8th year	22.17	19.11	- 3.06	22.17	25.32	+ 3.15
9th year	22.17	24.57	+ 2.40	22.17	30.58	+ 8.41
10th year	22.17	35.49	+ 13.32	22.17	44.23	+ 22.06
11th year onward	22.97	40.95	+ 17.98	22.97	54.60	+ 31.63
Annual Average	21.80	28.77	+ 6.97	21.80	38.12	+ 16.32

In the preceeding calculations these are not included in the management costs of an industrial plantation (like WESTEC).

11. Cash cost calculations for family plantations

In the case that labour costs are not cash expenditures, the cash costs, revenue and gross profit for a 26 years plantation operation, assuming similar cash expenditures, are the following:

	Average yield			High yield		
Year	Cash Cost	Revenue	Earning Expense	Cash Cost	Revenue	Earning Expense
1st	1.87	0	- 1.87	1.87	0	- 1.87
2nd	3.47	0	- 3.47	3.47	0	- 3.47
3rd	3.47	0	- 3.47	3.47	0	- 3.47
4th	3.97	0	- 3.97	3.97	0	- 3.97
5th	3.97	0	- 3.97	3.97	0	- 3.97
6th	3.97	0	- 3.97	3.97	0	- 3.97
7th	3.97	13.65	+ 9.68	3.97	17.47	+ 13.50
8th	3.97	19.11	+ 15.14	3.97	25.32	+ 21.35
9th	3.97	24.57	+ 20.60	3.97	30.58	+ 26.61
10th	3.97	35.49	+ 31.52	3.97	44.23	+ 40.26
11th onwards	6.57	40.95	+ 34.38	6.57	54.60	+ 48.03
Annual Average	5.48	28.77	+ 23.29	5.48	38.12	+ 32.64

The situation, in relation to revenue is completely different for the planter with old coconut trees. Besides the decline in production due to age, the lack of use of fertilizer also causes a drop in the yield per acre. Yields as little as 0.25 ton per acre have been reported, and the average output of old plantations can be estimated at 0.30 tons per acre. With yield, and assuming no cash expenditures (sundried copra, no use of fertilizers or ferticides), the revenue per acre at the perspected price for future long trend average would be 54.6 x 0.3 = 16.38 Western Samoa tala.

12. Labour force per acre

According to the preceeding estimations, the labour force required per acre would be the following in a 26 year operations:

	Man days
- Establishment of plantation: (planting or replanting)	16 (12)
- First to sixth year	10
- 7th to 10th year	15.5
- 11th onwards	13.0
Total labour in 26 years (Replanting)	342.0
Average per year (New Plantings)	13.15

13. Total cost, revenue and profit for a 12,000 acres plantation

In Appendix I a feasibility study for an oilpalm and palm oil mill complex of 12,000 acres is made in order to roughly compare the situation with a 12,000 acres coconut plantation, the following were developed.

Cost of a 12,000 acres coconut plantation
(Average yield assumed)
(WS$ 1,000)

Year of Planting	Year										
	0	1	2	3	4	5	6	7	8	9	10
0	64.64	30.94	30.94	31.94	31.94	31.94	44.34	44.34	44.34	44.34	45.94
1st		64.94	30.94	30.94	31.94	31.94	31.94	44.34	44.34	44.34	44.34
2nd			64.94	30.94	30.94	31.94	31.94	31.94	44.34	44.34	44.34
3rd				64.94	30.94	30.94	31.94	31.94	31.94	44.34	44.34
4th					64.94	30.94	30.94	31.94	31.94	31.94	44.34
5th						64.94	30.94	30.94	31.94	31.94	31.94
Total	64.64	95.88	126.82	158.76	190.70	222.64	202.04	215.44	228.34	241.24	255.24

Table (continuation)

	11	12	13	14	15
0	45.94	45.94	45.94	45.94	45.94
1st	45.94	45.94	45.94	45.94	45.94
2nd	44.34	45.94	45.94	45.94	45.94
3rd	44.34	44.34	45.94	45.94	45.94
4th	44.34	44.34	44.34	45.94	45.94
5th	44.34	44.34	44.34	44.34	45.94
Total	269.24	270.84	272.44	274.04	275.64

Revenue of a 12,000 Acres Cocoanut Plantation (Average Yield Assumed)
(M$$ 1000)

Year of Planting			YEAR							
5	6	7	8	9	10	11	12	13	14	15
0	27.30	38.22	49.14	70.98	81.90	81.90	81.90	81.90	81.90	81.90
1st		27.30	38.22	49.14	70.98	81.90	81.90	81.90	81.90	81.90
2nd			27.30	38.22	49.14	70.98	81.90	81.90	81.90	81.90
3rd				27.30	38.22	49.14	70.98	81.90	81.90	81.90
4th					27.30	38.22	49.14	70.98	81.90	81.90
5th						27.30	38.22	49.14	70.98	81.90
TOTAL	27.30	65.52	114.66	185.64	267.54	349.44	404.04	447.72	480.48	491.40

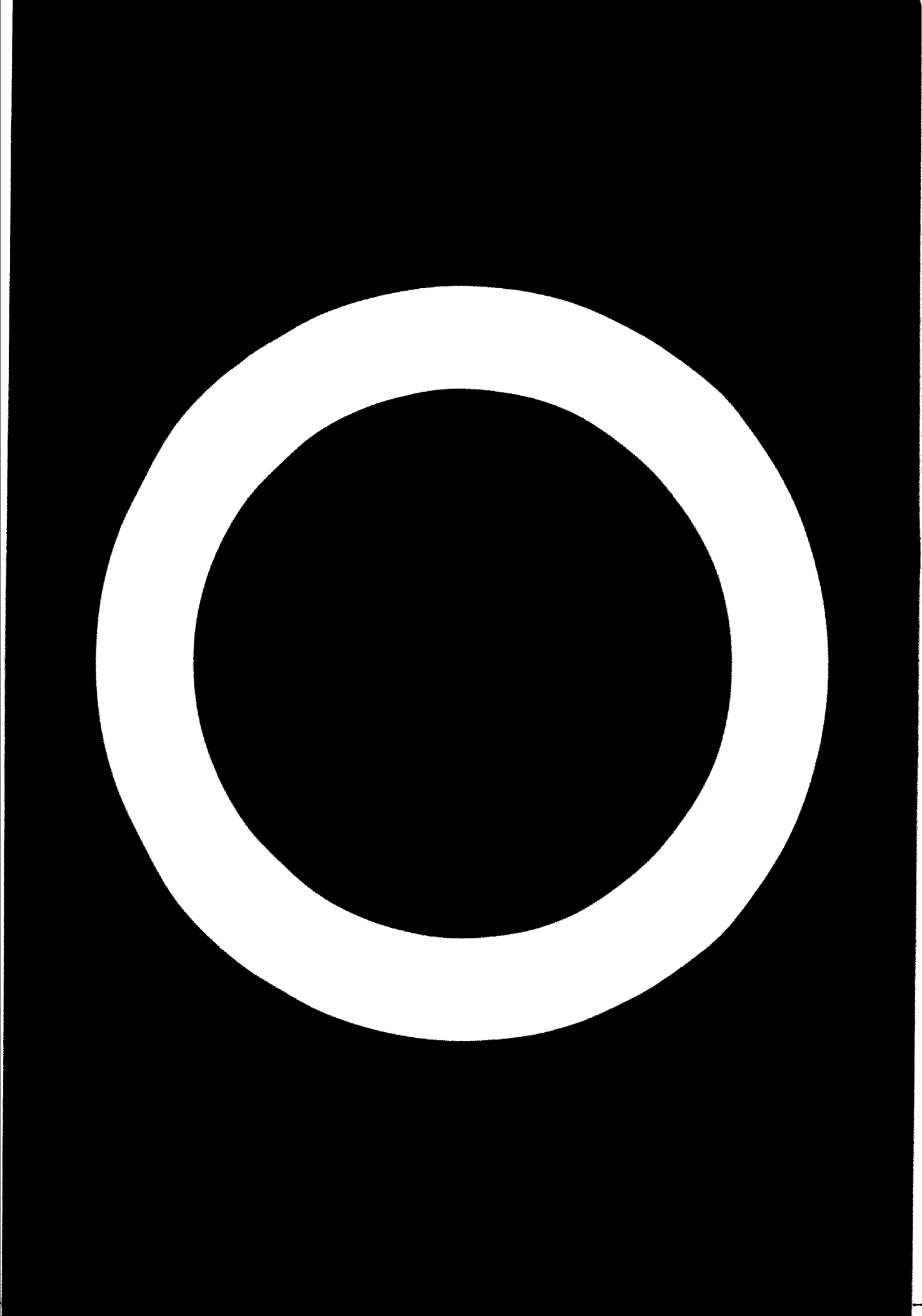
Net Profit of a 12,000 Acres Coconut Plantation (Average Yield Assumed) (in WS $ 1000)

Year	Costs	Revenues	Net Profit or Expense
0	64.94	0	- 64.94
1	95.88	0	- 95.88
2	126.82	0	- 126.82
3	158.76	0	- 158.76
4	190.70	0	- 190.70
5	222.64	0	- 222.64
6	202.04	27.30	- 174.74
7	215.44	65.52	- 149.92
8	228.84	114.66	- 114.18
9	241.24	185.64	- 55.60
10	255.24	267.54	+ 12.30
11	269.24	349.44	+ 80.20
12	270.84	404.04	+ 133.20
13	272.44	447.72	+ 175.26
14	274.04	480.48	+ 206.44
15	275.64	491.40	+ 215.76
16	275.64	491.40	+ 215.76
17	275.64	491.40	+ 215.76
18	275.64	491.40	+ 215.76
19	275.64	491.40	+ 215.76
20	275.64	491.40	+ 215.76
21	275.64	491.40	+ 215.76
22	275.64	491.40	+ 215.76
23	275.64	491.40	+ 215.76
24	275.64	491.40	+ 215.76
25	275.64	491.40	+ 215.76
TOTAL	6121.14	7747.74	+1626.58
AVERAGE	230.5	290.7	+ 62.5

The average net profit for a 26 years operation will be about WS $ 62.500 for a plantation of 12000 acres. To this figure must be added the indirect benefits:

- labour employment: 13.15 man days per acre. For 1200 acres labour employment will be 555 man years (at 285 days per man year);
- foreign currency: an average for 26 years of WS $ 291,000 per year and a maximum of WS $ 491 000 at full bearing;
- the chance to industrialize copra, in a coconut oil mill, in Annex . A profile for a 2000 tons per year mill is presented the investment for such a mill will be roughly WS $ 475 000 in fixed assets and WS $ 380 000 in working capital. Net profit for 20000 tons copra will be WS $ 80000 per year or roughly WS $ 4.0 per ton of pressed copra. On the basis of the average yield hypothesis (0.75 ton/acre), a 12000 acree cocoonut plantation in full bearing, will have a total additional profit in the milling operation of WS $ 36 000. This extra profit will raise the total profit, including plantation operations, to a total of WS $ 261,000 per year in full bearing;
- in the case of copra pressing, a 40% of cake will be obtained for use as cattle feed.

Net profit, cost and revenue for the 12,000 acres coconut plantation was not estimated in the case of the high yield hypothesis because it can easily be seen that they will be proportional to yields (1.0 ton/acre) in full bearing in the case of high yield.



Annex B.1

Physical Properties of Samoan Hardwoods

Common and Botanical Names of Species	Moisture Content	Specific Gravity	Static Bending — Failure of — Rupture	Static Bending — Failure of — Elasticity	Compression Parallel to the Grain — Maximum Crushing Strength	Compression Perpendicular to the Grain — Fiber Stress at Proportional Limit	Shear Parallel to the Grain — Maximum Shearing Strength	Hardness Load Required to Imbed 0.444-inch Ball to 1/2 its Diameter — End	Hardness — Side	Volumetric Shrinkage — Test to Oven-Dry Condition
	(%)		(psi)	(1,000 psi)	(psi)	(psi)	(psi)	(lb.)	(lb.)	(%)
SAMOAN SPECIES										
A'AMATA	89	0.51	9,300	1,190	3,550	1,010	1,3[illegible]	1,080	980	10.8
Not yet identified	12	0.55	12,800	1,420	6,220	1,5[illegible]	1,9[illegible]	1,490	1,130	6.3
ASI VAI	54	0.76	12,350	1,640	5,050	1,450	1,520	1,600	1,530	14.0
Not yet identified	11	0.85	17,800	2,150	9,430	2,475	2,[illegible]	2,090	2,170	3.5
GASU	114	0.39	7,200	930	2,540	610	[illegible]	740	550	8.9
Not yet identified	12	0.42	9,200	1,080	4,680	870	1,[illegible]	860	580	5.6
MAGALI	102	0.56	8,100	1,140	2,510	1,110	1,[illegible]	790	840	12.7
Semecarpus [illegible]	25	0.60	8,700	1,390	5,570	1,490	1,150	870	800	6.5
MALILI	88	0.51	9,700	1,450	3,860	1,080	1,490	1,[illegible]	1,020	8.8
Terminalia [illegible]	13	0.51	10,700	1,640	6,060	1,220	1,[illegible]	1,[illegible]	1,100	6.1
MANALA	76	0.56	10,080	1,330	4,000	1,210	1,[illegible]	1,[illegible]	1,130	11.0
Dysoxylum samoense	13	0.61	12,100	1,370	7,140	1,760	1,[illegible]	1,[illegible]	1,340	7.0
MANAVA	104	0.51	8,300	1,340	2,[illegible]	770	1,[illegible]	[illegible]	780	10.6
Planchonella sp.	12	0.54	12,000	1,530	6,350	1,365	1,[illegible]	1,[illegible]	970	6.5
MATA	87	0.59	8,700	1,680	3,660	1,[illegible]	1,[illegible]	1,[illegible]	890	10.8
Dysoxylum sp.	12	0.61	12,100	1,960	6,860	1,420	1,[illegible]	1,[illegible]	1,100	7.5
MAULIU	68	0.70	12,650	1,670	4,470	1,770	1,[illegible]	1,[illegible]	1,610	12.6
Not yet identified	11	0.77	13,400	1,770	6,130	1,960	1,[illegible]	1,[illegible]	1,430	5.3
TALAU	53	0.52	8,500	1,240	3,000	710	1,[illegible]	[illegible]	830	10.6
Colubrina samoensis	13	0.56	11,800	1,510	7,020	1,235	1,[illegible]	1,[illegible]	1,150	7.2
TAVA	72	0.48	7,[illegible]	1,200	3,110	580	1,[illegible]	[illegible]	780	10.8
Pentaria pinnata	12	0.53	9,900	1,350	6,050	880	1,[illegible]	1,[illegible]	970	6.7

Annex B.

SOME U.S. HARDWOODS FOR COMPARISON*

RED ALDER *Alnus rubra*	98 12	0.37 0.41	6,500 9,800	1,170 1,300	2,960 5,820	310 540	770 1,900	550 980	[illegible] [illegible]	12.6 —
SHAGBARK HICKORY *Carya ovata*	60 12	0.64 0.72	11,000 20,200	1,570 2,160	4,580 9,210	1,040 2,170	1,520 2,430	— —	— —	16.7 —
WHITE OAK *Quercus alba*	68 12	0.60 0.68	8,300 15,200	1,250 1,700	3,560 7,440	830 1,320	1,250 2,000	1,120 1,520	1,[illegible] 1,360	15.8 —
SWEETGUM *Liquidamber styraciflua*	115 12	0.46 0.52	7,100 12,500	1,200 1,640	3,040 6,320	380 660	920 1,600	670 1,080	[illegible] [illegible]	15.0 —
BLACK WALNUT *Juglans nigra*	81 12	0.51 0.55	9,500 14,600	1,420 1,800	4,300 7,580	600 1,250	1,220 1,570	960 1,050	900 1,010	12.8 —

*From Wood Handbook, Forest Prod. Lab., U.S.D.A., Agricultural Handbook No.72.1955

Annex B.2

Lumber Prices (soft woods)

YEAR AND MONTH		DOUGLAS FIR (1) CAN.$ 11000b.ft.	DOUGLAS FIR (1) US $ cu.metre	FIR OR PINE (2) DM $ M3	FIR OR PINE (2) US $ M3	DOUGLAS FIR (3) US $ 1000b.ft.	DOUGLAS FIR (3) US $ M3	SOFT WOOD (4) £ st.	SOFT WOOD (4) US$ M3
January	1971	83.3	36.3	175.6	55.5	91.4	39.7	109.9	42.1
February	1971	90.3	39.5	176.7	56.0	198.7	42.8	115.0	44.2
March	1971	90.3	39.5	176.7	56.0	111.0	48.1	116.5	44.7
April	1971	95.0	41.5	176.4	55.9	111.5	48.3	115.0	44.2
May	1971	99.1	43.3	176.9	56.1	112.3	48.6	115.4	44.3
June	1971	103.2	45.0	177.0	56.1	116.7	50.5	115.3	44.3
July	1971	111.0	48.4	176.5	56.0	125.7	54.3	114.8	44.1
August	1971	115.6	49.9	174.3	55.4	129.9	56.3	115.3	44.3
September	1971	113.1	49.4	173.3	55.0	128.9	55.3	116.2	44.6
October	1971	113.7	49.6	172.7	54.6	128.6	55.7	116.0	44.5
November	1971	113.3	49.4	170.2	54.0	127.4	55.2	117.0	44.8
December	1971	114.6	50.0	168.4	53.6	130.2	56.3	115.0	44.2
January	1972	118.0	51.5	166.7	52.9	135.0	58.5	116.4	44.7
February	1972	120.3	52.7	166.7	52.9	135.3	58.6	116.2	44.6
March	1972	122.3	53.3	168.0	53.3	135.7	58.8	114.5	44.0
April	1972	123.2	53.7	167.7	53.1	137.4	59.5	-	

(1) Canada: Douglas fir, dimension lumber, green, 545, 8'/20' R/L. Construction, 25% standard green. FOB Mill. (1C$ = US$ 0.97).

(2) Germany, Fed.Rep. of: Spruce fir or pine, 8-17 cm width, 24' thick sawmill price Bavaria (US$1 = DM. 3.15)

(3) U.S. Douglas fir, dried 2" x 4" mixed carlots, FOB mill.

(4) U.K. Sawn softwood, average import value, CIF US$1 = £0.384

SOURCE: FAO, Monthly Bulletin of Agricultural Economics and Statistics (1971-1972)

For the sake of comparison, average prices of 1971 imports are presented in table B.3

Import values in trade, commerce and shipping, are on a CDV plus 10% basis. Values of table B.3. were calculated from this base to FOB prices.

Annex B.3

FOB Price for imported timber - 1971

Class of Timber and country of origin.	Quantity by 100 board feet	Value WS$ (CDV+10%)	Value by 1000 board ft CDV + 10% US $	Value by 1000 board ft FOB (=CDV) US$
Item 170. Timber: naturally resistant to attack by woodboring insects or timber effectively treated to protect it against attack by woodboring insects.				
1) Dressed				
Canada	157,862	14,728	92	142
New Zealand	683,020	88,436	128	198
U.S.A.	89,137	12,200	137	207
2) Rough				
Australia	2,931	3,399	114	176
New Zealand	45,569	6,770	155	240
Item 171. Tiber: others (non resistant to insect attack)				
1) Dressed				
Canada	179,974	21,459	129	195
Australia	782	237	304	450
New Zealand	421,398	58,390	139	206

For 1971: WS$1 = US$ 0.6151

SOURCE: Bulletin of Trade, Commerce and Shipping, 1971.

ANNEX C

IMPORTS

General Analysis

The present analysis is based on official figures taken from "The Bulletin of Trade, Commerce and Shipping of WesternSamoa", published by the Collector of Customs of Western Samoa. The analysis includes the years 1965 to 1971.

The effect of inflation has been taken into account through the deflation of values to the 1971 value. To deflate the series, the Consumers Price Index (CPI) has been used. Table C.1 shows the Consumers Price Index from 1965 to 1971 (CPI).

Table C.1

Consumer's Price Index

(Base: First Quarter 1951 = 100)

Year	Consumer's Price Index Annual Average
1965	157
1966	162
1967	160
1968	163
1969	170
1970	175
1971	181

The total imports from 1965 to 1971 are shown in Table C.2.

Table C.2

Imports of Western Samoa in WS$

Value of Imports

Year	Value	CPI	Deflated Constant Values (1971 prices)
1965*	$ 6,580,689	157	$ 7,986,603
1966**	$ 5,729,450	162	$ 6,377,157
1967	$ 5,635,235	160	$ 6,374,859
1968	$ 5,497,525	163	$ 6,104,562
1969	$ 7,373,670	170	$ 8,268,437
1970	$ 9,791,064	175	$ 10,126,701
1971	$ 9,614,391	181	$ 9,614,391

* Imports in 1965 = £ 3,290,348

** Imports in 1966 = £ 2,864,728 £1 = WS$ 2.00 in 1965-66

It can be seen that the imports in constant values show an increase of 26.7% over the six years in relation to 1965. In a later section this will be analysed in terms of the contribution of different products to this increase.

The imports can be related to the Gross Domestic Product. Changes in the ratio can be accepted, in general, as a rough estimation of the degree of import replacement occurring.

The Gross Domestic Product for 1965 and 1970-71 was estimated by the Department of Economic Development of Western Samoa.

Table C.1

Ratio of Imports to Gross Domestic Product

Year	GDP WS$ million	Value of Imports WS$ million	Ratio of Imports to GDP Ratio	Variation in relation to 1965
1965	19.88	6.58	0.331	26.2%
1970	23.43	9.79	0.418	26.2%
1971	24.25	9.61	0.396	19.6%

This increase in the ratio from 1965 to 1970 and 1971 can be attributed to the modernisation of the country, and as recent industrialisation has started and is only in its early stages, it is presumed that in the next years, the process of import substitution will alter the ratio (increasing it possibly).

A small degree of import replacement has occurred in the Food and Drink, Clothes and Shoes and Wood Industries, but the total level of imports, even in these industries, has increased at a much more rapid rate.

Price increases account for a small proportion of the total increase in imports, but as the comparison is made via the ratio of imports to Gross Domestic Product, the effect of inflation is eliminated. Nevertheless, in Table C.2 the imports at annual and constant prices are compared. The increase of imports at annual value from 1965 to 1971 was 46.1% instead of 26.7% at constant money. The ratio of imports to gross domestic product in recent years for other selected countries is:

Australia	0.142
Central African Republic and Cameroun	0.19 - 0.20
Congo	0.315
Fiji	0.384
Papua and New Guinea	0.377

The different classes of commodity imports from 166 to 1971 are shown in Table C.4.

Table C 4 Imports by Commodities [illegible]

Commodity Class	1965	1966	1967	1968	1969	1970	1971
I. Animals, agricultural products, food and groceries	2,170,567	2,531,407	,864,977	1,988,437	2,153,279	2,518,964	2,807,944
II. Tobacco	189,313	209,317	244,445	229,644	230,236	272,182	324,282
III. Spirits and alcoholic beverages	143,773	126,751	132,971	91,913	145,953	153,044	195,484
IV. Drugs, chemicals, surgical, dental and scientific apparatus	150,600	183,938	220,311	229,975	267,570	360,903	233,674
V. Textiles, clothing, drapery, etc.	637,413	504,135	606,271	611,164	724,701	842,736	902,236
VI. Leather, leather manufactures, grinding and rubber goods	127,286	72 ,226	84,777	99,217	84,112	105,633	134,142
VII. Glass, china, earthenware, stone and cement	141,013	110,145	131,189	117,569	140,956	175,826	179,455
VIII. Fancy, sporting and photographic goods and musical instruments	209,019	164,276	187,311	185,477	227,448	275,698	252,675
IX. Paper and stationery	146,006	125,726	162,151	75,605	196,128	214,290	264,374
X. Metals and machinery	1,280,852	750,957	842,578	745,121	1,632,791	3,092,027	2,[illegible]
XI. Vehicles and fittings	292,655	207,006	302,272	292,255	495,625	545,362	[illegible]
XII. Greases, oil, paint, polishes, waxes, etc.	292,234	334,271	337,704	346,055	438,192	528,643	[illegible]
XIII. Timber, furniture, wicker and wooden wallboards	611,061	222,870	243,375	231,579	410,566	588,224	474,[illegible]
XIV. Miscellaneous	152,77[illegible]	132,384	207,342	193,514	210,849	227,439	273,7[illegible]

A more real measure of the possibility of substituting imports would be given by the ratio of substitutable imports over GDP, with only the monetary sector being considered. For this, the different classes of imports which can be substituted by local production are analysed, no matter what the size of the internal market might be. In all of the classes, goods as approved by the Minister, are excluded.

Class I. Animals, agricultural products, foods and groceries

Class I has 40 items which shall be eliminated.

Item 2: Animals and birds for breeding purposes as approved by the Minister.

Item 3: Animals and birds n.e.i.

Item 24: Hops

All of these items can be produced in Western Samoa regardless of cost, as technology is available or can be replaced by local products or goods.

Class II. Tobacco

All of these items could be produced in Western Samoa without consideration of cost or quality as technology is available.

Class III. Spirits and alcoholic beverages

All items of Class III could be produced in Western Samoa without consideration of cost or quality as technology is available.

Class IV. Drugs, chemicals, surgical, dental and scientific apparatus

Class IV is excluded because the scale of production, technology and a number of different sub-items are not very large. In general, technology is not available and the number of technicians and the scale required would be too great.

Class V. Textiles, clothing, drapery, etc.

We exclude from Class V items which require a fairly large production scale. No restrictions in technology are constraints here.

Item 97 - Umbrellas - is also excluded.

Class VI. Leather, leather manufactures, grindery and rubber goods

We exclude from Class VI items which require a fairly large production scale. No restrictions in technology are constraints here.

Item 103 Rubber manufactures n.e.i.

Item 105 Tyres, rubber pneumatic and solic, and inner tubes for motor vehicles

Item 106 Tyres and tubes (not exceeding 1 3/4 inches in diameter for bicycles

Class VII. Glass, china, earthenware, stone and cement

No constraints are found in technology, but the production scale and availability of raw materials are the main restrictions.

Item 110 Cement (structural building)

Item 111 China, earthenware, and porcelainware n.e.i.

Item 112 Glass, plate and sheets are excluded

Class VIII. Fancy, sporting and photographic goods and musical instruments

All of Class VIII is excluded, mainly due to production scale and/or technology, but items indicated below can be produced without regard to cost or quality:

Item 126 Jewellery of all kinds (including imitation jewellery) previous and semi-precious stones and metals

Item 128 Ornaments of personal or household nature

Item 129 Perfumery and toilet preparations

Item 132 Tobacco pipes, pouches and cases for tobacco, cigar and cigarette holders, cases for cigars and cigarettes, cigarette lighters.

Item 133 Toys

Class IX. Paper and Stationery

The main restriction here is the production scale.

Item 142 Printed books, papers and music n.e.i.

Item 143 Printing paper

Item 144 Wrapping paper

Item 145 Paper n.e.i. are excluded.

Class X. Metals and machinery

All of Class X is excluded in a first analysis, except for the following items:

Item 148 (12) Nails, tacks, spikes and staples

Class XI. Vehicles and fittings

All of Class XI is excluded due to production scales and technology.

Class XII. Greases, oils, paints, polishes, waxes, etc.

All of Class XII is excluded except for:

Item 164 Paints, colours, varnishes polishes and waxes

Class XIV. Miscellaneous

Included in this class is:

Item 182 Brooms, brushes and brushware

All other items in Class XIV are eliminated.

In this way, we proceed to construct Table C.5 which presents the imports of the so-called "substitutable" goods, measured by the feasibility of manufacturing them in Western Samoa or by replacing them by other local products.

In Table C.6 the value of the so-called "substitutable" imports is compared with the gross domestic product, both total and monetary.

Table C.6

Ratio of "Substitutable" Imports to Gross Domestic Product

Year	Substitutional Imports (Millions WS$)	GDP (Millions WS$) Total	Cash	Ratios Imports Total GDP	Imports Cash GDP
1965	4.05	19.88	13.50	0.204	0.300
1970	4.63	23.43	16.40	0.198	0.282
1971	5.13	24.25	16.95	0.212	0,303

TABLE C 5

COMMODITY CLASS	1965	1966	1967	1968	1969	1970	1971
I. Animals, agricultural products food and groceries	2,168,293	2,528,526	1,860,618	1,985,762	2,146,055	2,501,109	2,797,002
II. Tobacco	189,313	209,317	244,415	229,644	[illegible],336	272,182	[illegible],252
III. Spirits and alcoholic beverages	143,773	126,731	132,971	91,913	145,953	153,044	155,474
IV. Drugs, chemicals, surgical, dental, and scientific apparatus	-	-	-	-	-	-	-
V. Textiles, clothing, drapery, etc.	630,689	497,439	594,744	602,409	710,468	721,462	891,101
VI. Leather, leather manufactures, gridlery and rubber goods	13,702	8,973	12,679	8,479	16,362	20,142	20,055
VII. Glass, china, earthenware, stone and cement	42,056	36,333	39,184	39,315	42,225	50,234	49,237
VIII. Fancy, sporting and photographic goods and musical instruments	77,509	67,102	75,100	74,064	87,292	117,480	120,625
IX. Paper and Stationery	69,117	65,613	86,812	102,434	89,179	118,653	154,092
X. Metals and Machinery	31,842	19,806	18,340	18,677	35,722	38,113	43,742
XI. Vehicles and Fittings	-	-	-	-	-	-	-
XII. Greases, oil, paint, polishes, waxes, etc.	65,013	51,391	65,529	60,959	75,301	90,900	96,740
XIII. Timber, furniture, fiber and woodenware, wallboard	609,036	280,423	242,596	227,071	418,566	536,278	429,378
XIV. Miscellaneous	5,703	4,934	7,033	6,345	1,999	8,687	10,457
TOTAL "SUBSTITUTABLE" GOODS	4,046,651	3,836,638	3,384,021	3,447,072	3,933,358	4,622,284	5,131,[illegible]
TOTAL IMPORTS	6,[illegible],[illegible]3	[illegible],[illegible]30	5,633,233	5,497,385	7,373,670	9,791,904	[illegible]
TOTAL "NON SUBSTITUTABLE" GOODS	2,[illegible],[illegible]3	[illegible],[illegible]92	2,251,212	2,050,453	3,374,312	5,162,760	[illegible]

As the effect of inflation on the value of W.S.tala is misleading, values would be corrected by the Consumer's Price Index of each year, as no other convenient, Index is available.

Table C 7 shows the imports in deflated 1971 money.

Table C 7 - Imports, deflated value (1971 money)

Commodity Class	1965	1966	1967	1968	1969	1970	1971
I. Animals, agricultural products, food and groceries	2,502,373	2,828,290	2,109,755	2,208,000	2,292,609	2,605,329	2,807,944
II. Tobacco	,210,253	233,866	276,528	255,001	245,134	281,514	324,282
III. Spirits and alcoholic beverages	165,751	141,646	150,423	102,062	155,397	158,291	195,484
IV. Drugs, chemicals, surgical, dental, and scientific apparatus	173,622	181,268	249,227	255,368	284,883	373,277	233,674
V. Textiles, clothing, drapery, etc.	734,851	563,260	685,844	678,649	771,593	768,263	902,226
VI. Leather, leather manufactures grindery and rubber goods	146,784	80,630	95,904	110,172	89,554	109,255	134,142
VII. Glass, china, earthenware, stone and cement	162,569	123,063	148,407	130,550	150,077	179,786	179,455
VIII. Fancy, sporting and photographic goods and musical instruments	240,971	183,542	211,895	205,957	242,165	285,130	292,675
IX. Paper and stationery	168,324	140,472	183,433	194,995	208,819	221,637	264,374
X. Metals and Machinery	1,478,650	839,030	953,166	827,397	1,738,442	3,133,040	2,050,427
XI. Vehicles and fittings	357,392	231,284	341,945	324,525	531,954	564,060	807,500
XII. Greases, oil, paint, polishes, waxes, etc.	336,906	373,474	382,028	384,266	465,545	538,494	531,721
XIII. Timber, furniture, wicker and woodenware, wallboard	704,472	249,008	275,318	257,150	445,650	608,392	474,270
XIV. Miscellaneous	176,134	147,910	254,555	170,465	224,492	235,257	273,717

TABLE C8 Index Value of Imports.

COMMODITY CLASS	1965	1966	1967	1968	1969	1970	1971
Class I.	100	113.0	84.3	88.2	91.6	104.1	112.2
Class II.	100	107.1	126.7	116.8	112.3	129.0	138.6
Class III.	100	85.4	90.7	61.6	93.7	95.5	117.9
Class IV.	100	104.4	143.5	147.1	164.1	215.0	134.6
Class V.	100	76.6	93.3	92.3	105.0	104.5	122.8
Class VI.	100	54.9	65.3	75.1	61.0	74.4	91.4
Class VII.	100	75.7	91.3	80.3	92.3	110.6	110.4
Class VIII.	100	76.0	87.9	85.5	100.5	118.3	121.5
Class IX.	100	83.4	109.0	115.8	124.0	131.7	157.1
Class X.	100	56.8	64.5	56.0	117.3	216.6	141.8
Class XI	100	68.6	101.3	96.2	157.7	167.2	239.3
Class XII.	100	110.8	113.4	114.0	138.2	159.8	157.8
Class XIII.	100	35.3	39.1	36.5	63.3	86.4	67.3
Class XIV.	100	84.0	133.2	96.8	127.5	133.6	155.4
TOTAL IMPORTS :	100	84.0	84.0	80.5	109.0	133.5	126.7

These ratios reflect the process of import substitution of substitutable goods demanded by the Western Samoa economy. In fact, there is very little substitution. In the last column, we can see the demand of imported foods for the monetary sector. From 1965 to 1971 there was only a negligible change.

It can be seen that 1966 was not a normal year in relation to 1965 imports. In fact, 1966 was the year of the big hurricane which ruined the banana plantations and some other crops. This could perhaps explain the drop in all of the import classes, with exception of Class I (food), Class II (tobacco), Class IV (drugs and chemicals), and Class XII (greases, oils, paints, etc.).

The same correction in 1971 monetary values is applied to the substitutable imports in Table C.9.

In Table C.10 the same values are presented as percentage of 1965 values.

Import Substitution Analysis

A detailed analysis of certain imports and some projections for 1975, 1980 and 1985 will be made; the data covers the years 1966 to 1971. 1965 was excluded due to the hurricane that year.

Item 44. Foods for animals and birds as approved by the Minister

The imports of foods for animals and birds in metric tons and their value in WS$ are presented in Table C.11. The yearly variation and average percentage increase by volume are also given.

TABLE C 9 Substituteble Imports (Deflated Value to 1971 Money)

COMMODITY CLASS	1965	1966	1967	1968	1969	1970	1971
Class I. Animal, agricultural products, food and groceries	2,488,752	2,825,882	2,98[illegible]	2,285,847	2,284,918	2,586,862	2,797,002
Class II. Tobacco	208,254	233,866	276,[illegible]	255,003	245,133	281,514	32[illegible],282
Class III. Spirits and alcoholic beverages	165,752	141,646	150,423	102,063	155,397	158,291	195,[illegible]84
Class IV. Drugs, chemicals, surgical, dental and scientific apparatus	-	-	-	-	-	-	-
Class V. Textiles, clothing, drapery, etc.	727,[illegible]00	555,782	677,329	668,932	7[illegible]6,439	7[illegible]6,198	891,101
Class VI. Leather, leather manufactures, grindery and rubber products	15,796	10,026	[illegible],353	9,695	1[illegible],491	20,832	28,098
Class VII. Glass, china, earthenware, stone and cement	48,[illegible]84	40,668	44,327	43,686	46,857	51,956	43,237
Class VIII. Fancy, sporting and photographic goods and musical instruments	89,398	74,972	84,957	82,243	92,860	101,508	100,625
Class IX. Paper and Stationery	79,[illegible]84	73,300	9[illegible],206	113,746	92,820	122,781	1[illegible],092
Class X. Metals and Machinery	36,700	22,128	20,[illegible]17	20,739	38,033	39,[illegible]50	43,743
Class XI. Vehicles and Fittings	-	-	-	-	-	-	-
Class XII. Greases, oil, paint, polishes, waxes, etc.	7[illegible],552	57,[illegible]39	7[illegible],[illegible]89	67,691	8[illegible],[illegible]75	9[illegible],046	96,746
Class XIII. Timber, furniture, fiber and woodenware, wallboard	702,828	246,239	27[illegible],[illegible]37	252,[illegible]46	445,650	561,665	429,328
Class XIV. Miscellaneous	6,509	[illegible], 53[illegible]	7,956	7,046	2,128	8,385	1[illegible],157
TOTAL SUBSTITUTABLE	4,[illegible]65,250	4,[illegible],[illegible]16	5,[illegible],[illegible]73	3,[illegible],727	4,256,609	4,796,398	5,[illegible]51,[illegible]42
CONSUMERS PRICE INDEX	157	162	160	163	170	175	181

TABLE C.10 Index Value of "Substitutable" Imports
(In Constant 1971 Money)

COMMODITY CLASS	1965	1966	1967	1968	1969	1970	1971
Class I.	100	113.0	84.2	88.2	91.4	103.5	111.9
Class II.	100	107.1	126.7	116.8	112.3	129.0	143.6
Class III.	100	85.4	90.7	64.6	95.7	96.5	117.9
Class IV.	-	-	-	-	-	-	-
Class V.	100	76.4	93.1	92.0	98.0	102.6	122.3
Class VI.	100	62.5	90.8	58.6	118.3	131.9	127.2
Class VII.	100	83.7	91.4	93.0	92.7	102.1	101.6
Class IX.	100	92.0	125.2	142.7	116.5	156.0	123.4
Class X.	100	60.3	56.5	56.5	105.6	107.5	119.2
Class XI.	-	-	-	-	-	-	-
Class XII.	100	76.6	98.9	98.3	102.0	125.4	129.1
Class XIV.	100	35.0	39.0	35.9	48.4	58.3	61.1
Class XIV.	100	84.1	120.9	107.1	32.3	136.5	154.4
TOTAL SUBSTITUTABLE IMPORTS :	100	91.9	82.1	82.0	94.2	102.8	110.0

Table C.11

Imports of Foods for Animals and Birds

Year	Volume Metric Tons	Value WS$	Increase by volume
1966	381.3	30,056	-
1967	358.4	28,750	-6.01%
1968	443.9	32,409	+23.86%
1969	514.6	36,519	+15.93%
1970	691.8	46,983	+34.43%
1971	748.6	55,116	+8.21%
		% Total Increase	+96.33%
		% Increase per year	+14.50%

1 cwt = 0,050832 Metric Tons

As there is a shortage of meat and meat products and at the same time, however, there is a programme to increase the supply of poultry, pig and cattle, it would be reasonable to assume that the same rate of increase in consumption of foods for animals and birds will exist from 1971 to 1985.

Assuming that such a rate (+14.5% per year) will exist, the imports and their values for 1975, 1980 and 1985 would be as follows in Table C.12.

Table C.12

Projection of imports of foods for animals and birds

Year	Tons	Values in 1971 WS$
1975	1286.0	$ 94,675
1980	2531.0	$ 186,332
1985	4981.0	$ 366,701
(1971	748.6 tons)	

Value of metric ton = WS$ 73,62 (1971 average)

A study of the feasibility of feed meal production for the near future is required.

Item 19. Flour: Wheat

In Table C.13 the imports of wheat flour by volume (metric ton) and value (WS$) are presented.

Table C.13

Flour Imports

Year	Metric Tons	Value WS$	% Increase by volume
1966	5379.7	437,039	-
1967	2528.0	209.278	-53.0%
1968	3900.9	337,729	+54.3%
1969	4350.0	401,321	+11.5%
1970	3374.0	349,703	-22.5%
1971	3943.3	374,672	+16.9%
	23475.9		

It can be seen from the Table that flour imports go through strong fluctuations. To oversome such fluctuations due to formation of stocks, an estimation of average consumption, assuming no elasticity in demand of bread or biscuits, should be performed. (In fact, part of the population consumes very little or no bread at all. The bread consumption is restricted to urban areas.)

The population estimation and census values are given below.

Table C.14

Population of Western Samoa

Year	Population	Remarks
1965	127,227	Mid year estimation at 2.27%
1966	131,377	Census November 1966
1966	130,182	Mid year estimation at 2.27% increase per year
1967	133,137	Mid year estimation
1968	136,154	Corrected mid year estimation (2.27%)
1969	139,170	Mid year estimation (corrected at 2.21%)
1970	142,187	Mid year estimation (corrected at 2.17%)
1971	145,204	Mid year estimation (corrected at 2.12%)
1971	146,461	Census November 1971

A Table can be made with the mid year population from 1966 to 1971.

Year	Population (Mid year)
1966	130,182
1967	133,137
1968	136,154
1969	139,170
1970	142,187
1971	145,204
TOTAL	826,034

To estimate the 1971 average consumption of flour, the following calculation was made:

$$\text{Consumption 1971} = \frac{\text{Total (imports) x (population 1971)}}{\text{Sum mid year populations}}$$

$$= \frac{2475.9 \times 145,204}{826,034}$$

= 4126.7 tons, or say 4100 tons

This is a conservative estimation, because large sectors of the population on the islands consume little bread at present. As the monetary GDP is increasing and as bread is an item which can be produced at home, larger sectors of the population will have a share of flour and bread in the near future.

The wheat needed to produce this flour can be estimated, assuming a 72% extraction of flour from wheat (72% to 75%).

Thus: $\frac{4126.7}{0.72}$ = 5731.5 tons of wheat to produce 4126.7 tons of flour (say 5700 tons)

Estimation of wheat (and flour) requirements in 1975, 1980 and 1985 can be made, assuming a net rate of increase of population of 2.8% per year. Table C.15 presents the results.

Table C.15

Demand of wheat and equivalent flour

Year	Tons of wheat	Tons of flour	Tons of bran
1971	5731.5(5700)	4126.7(4100)	1604.8
1975	6228.4(6200)	4484.4(4500)	1744.0
1980	6910.4(6900)	4975.5(5000)	1934.9
1985	7667.1(7700)	5520.3(5500)	2146.8

A study of the feasibility of a wheat mill starting production in one or two years is required.

Fish and Meat

Item 18. Fish (2) Others

Item 28. Meat including poultry and small game via: (2) Other kinds

It can be assumed that both fish and meat are canned. In Table C.16 the imports are presented.

Table C.16

Imports of canned fish and meat

Year	Canned fish Metric Tons	US$	Canned Meat Metric Tons	US$
1966	1188.0	220,348	774.3	447,985
1967	1560.6	284,582	555.3	315,383
1968	1597.5	302,541	378.5	180,464
1969	1415.7	302,643	480.6	185,658
1970	1491.2	329,830	823.0	486,245
1971	2111.0	414,153	643.6	384,817

The average price of canned fish and meat is presented in Table C.17.

Table C.17

Average prices of imports of canned meat and fish

Year	Canned fish WS$/Metric Ton	Canned meat WS$/Metric Ton
1966	185.46	577.94
1967	182.35	567.80
1968	189.38	318.26
1969	213.77	386.30
1970	221.18	493.61
1971	196.19	599.47

Item 18: Fish (1) fresh including frozen and
Item 28: Meat (1) fresh or frozen

Imports of fresh fish and meat are presented in Table C.18.

Table C.18

Imports of fresh and frozen fish and meat

Year	Fish		Meat	
	Metric Tons	WS$	Metric tons	WS$
1966	111.2	20,281	733.0	238,867
1967	198.0	30,882	882.9	199,625
1968	120.9	27,064	1024.1	201,185
1969	149.9	27,193	1050.4	216.351
1970	125.9	29,809	1174.4	252,371
1971	164.3	41,570	1491.8	339,450

The average prices of fresh and frozen fish and meat are presented in Table C.19.

Table C.19

Average prices of imported fish and meat

(fresh and frozen)

Year	Fish (fresh and frozen) WS$/Metric ton	Meat (fresh and frozen) WS$/Metric ton
1966	182.37	325.87
1967	155.97	226.10
1968	223.85	196.45
1969	181.41	205.97
1970	236.77	214.89
1971	253.01	227.54

A price ratio between canned and fresh (or frozen) fish and meat can be derived. It is presented in Table C.20.

Table C.20

Ratio between prices of canned and fresh

(or frozen) fish and meat imports

Year	Fish prices Canned/fresh	Meat prices Canned/fresh
1966	1.0169	1.7735
1967	1.1691	2.5113
1968	0.846	1.6200
1969	1.1784	1.8755
1970	0.9341	2.2970

The preceding ratios show that:

1. The difference in the prices of canned fish and fresh fish have not been great and during the last 2 years, imported canned fish was even cheaper in comparison with the imported fresh fish (or frozen fish).

2. The prices of canned meat are much more expensive than those of fresh meats. That is, the value of imported canned meat tends to be higher (better brands, more expensive products).

A correct policy for future development of cattle, poultry and pork would be to discourage the imports of canned meat and simultaneously to create a cold storage network in the villages, in order to encourage frozen meat imports (especially poultry).

Item 31. Rice

The imports in metric tons and values in WS$ are listed in Table C.21.

Table C.21

Rice Imports

Year	Metric tons	Value of imports WS$	Price per ton WS$
1966	2,142	285,866	133.46
1967	472	65,233	138.20
1968	1,191	178,020	149.47
1969	1,113	163,409	146.81
1970	798	133,098	166.80
1971	833	124,352	149.28
TOTAL	6,549		

To estimate the 1971 rice consumption, we assume that it is proportional to population. Thus, we have for 1971:

$$6549 \times \frac{745,204}{826034} = 1151 \text{ tons}$$

Estimation of rice consumption for 1975-1980-1985 is made at a 2.2% rate of population increase per year. It is assumed that no increase in the per capita consumption will occur.

Table C.22

Rice Imports

Year	Metric tons	1971 Value WS$
1971	1151	171821
1975	1250	186600
1980	1387	207051
1985	1539	229741

Due to the Western Samoan habit of consuming taro as a source of carbohydrates, the production of rice for the internal market is not considered to be advisable.

Item 36. Sugar

Imports of sugar increase year by year at a moderate rate. Table C.23 shows the metric tons imported and their value.

Table C.23

Sugar Imports

Year	Metric tons	Value of imports WS$	% increase in tonnage
1966	3087	217,702	-
1967	2947	202,392	-4.54%
1968	3376	222,971	+14.56%
1969	3450	245,698	+2.19%
1970	3724	248,952	+7.94%
1971	3958	264,400	+6.28%
		Total % increase over 6 years	+28.21%
		Annual average % increase	+4.24%

1971 : 1 metric ton = WS$ 66.80

The estimates for 1975, 1980 and 1985 consumption is based on the actual 4.24% yearly increase.

Table C.24

Sugar import projection

Year	Metric tons	Values at 1971 prices in WS$
1971	3958 (4000)	264,400
1975	4673 (4700)	312,156
1980	5751 (5800)	384,167
1985	7078 (7100)	472,810

It would be interesting to study the feasibility of the establishment within the decade of a plantation and sugar plant.

Item 60. Ale, beer of all sorts

The imports of ale, beer, etc. are presented in Table C.25 (mainly beer).

Table C.25

Beer Imports (and ale, etc.)

Year	Gallons	Value WS$
1966	152,821	97,722
1967	133,736	87,892
1968	137,781	79,306
1969	208,130	123,040
1970	208,376	121,120
1971	319,520	169,266

6 years total % increase = +109.08% by volume
Average % increase = + 13.1%
Price per gallon 1971 = WS$ 0.5297

A projection can be made for 1975 and 1980 using this 13% yearly increase in consumption.

Table C.26

Beer import projections

Year	Gallons	Value in 1971 prices WS$
1971	319,520 (320,000)	168,266
1975	520,968 (521,000)	275,957
1980	959,831 (960,000)	508,422

A study of the feasibility of a brewery which would start production in 2 or 3 years is required.

The effect of an easy beer supply on beer consumption must also be considered.

Item 84. Boots, sandals, shoes and slippers of all kinds

Table C.27

Imports of shoes of all kinds

Year	Pairs	Value of imports WS$
1966	110,698	44,256
1967	134,145	53,374
1968	148,425	50,080
1969	192,282	60,862
1970	254,555	78,339
1971	232,609	75,339

Total increase in 6 years (pairs) = 110.13% by volume
Average % annual increase (pairs) = + 13.2%
Average price per pair (1971) = WS$ 0.3256

A projection of shoe imports can be made using a 13% annual increase.

Table C.28

Shoes import projection

Year	Pairs	Value in 1971 prices WS$
1971	232,609 (230,000)	75,739
1975	379,262 (380,000)	123,488
1980	698,752 (700,000)	227,513

It must be quoted that these shoes are mainly rubber, plastic, canvas and, in general, non-leather shoes.

In Table C.32 the average values of shoe imports from 1967 to 1971, per country, are presented. Only imports of over 500 pairs per year are considered.

Table C.32

Average price of shoes imported

(In WS$ per hour)

Country	1967	1968	1969	1970	1971
United Kingdom	3.05	3.21	3.01	2.67	2.49
Singapore	0.54	0.58	1.29	0,94	0.31
Malaysia	0.24	0.24	-	-	0.27
Hong Kong	0.34	0.32	0.54	0.77	0.59
Australia	3.06	2.95	2.86	3.21	2.03
Fiji	0.88	0.66	1.05	1.16	2.20
New Zealand	2.41	2.55	1.44	2.27	3.25
France	-	-	-	N.S.	0.40
Taiwan	-	-	-	0.75	0.40
Japan	0.28	0.26	0.23	0.22	0.25
United States	2.40	1.55	1.62	2.52	3.05
Italy	-	-	2.65	-	-

Source: Trade, Commerce and Shipping of Western Samoa

The size for the internal market for shoes with leather uppers and leather sandals can be approximated from this table. Only imports from the Unted Kingdom, Australia, New Zealand, the United States, and in 1971 from Fiji can be classed as leather shoes or sandals. (Probably with rubber soles or probably chiefly sandals.) (Italien exports to WesternSamoa are not significant.) Discarding all other countries, the imports of leather sandals and shoes are shown in Table C.33.

Table C.33

Imports of "Leather sandals and shoes"

Country	1967 Pairs	1967 Value WS$	1968 Pairs	1968 Value WS$	1969 Pairs	1969 Value WS$	1970 Pairs	1970 Value WS$	1971 Pairs	1971 Value WS$
United Kongdom	1053	3199	736	2358	781	2374	1509	4013	1743	4341
Australia	1909	5836	944	2800	2255	6454	1039	3367	2135	4314
New Zealand	686	1657	1087	2781	995	1430	1758	3999	1036	3358
United States	1092	2654	1661	2591	1710	2771	1422	3579	750	2195
Fiji	-	-	-	-	-	-	-	-	913	2015
TOTAL:	4740	13346	4428	10530	5741	13029	5728	14958	6577	16215

Source: Trade, Commerce and Shipping of Western Samoa

It can be assumed that the internal market for leather sandals and shoes represents only 6,000 to 7,000 pairs per year with a value (of imports) of around WS$ 15,000 to WS$ 17,000 per year. The "minimum" size for a commercial factory, according to output of some key machines, would be some 500 pairs per day. The internal market for leather sandals and shoes must be disregarded at present.

Item 129. Perfumery and toilet preparations

The imports of perfumery and toilet preparations in WS$ values are presented in Table C.29.

Table C.29

Perfumery and Toilet Preparation Imports

Year	Value of Imports (WS$)
1966	48,784
1967	52,119
1968	49,186
1969	60,105
1970	78,430
1971	78,893

Provisions must be taken to deal with stock change. We use a three year moving average from 1964 to 1971 (see Table C.30).

Table C.30

Three year moving average for perfumery and toilet preparation imports

Year	Value of imports WS$	Sum of three years WS$	Average of three years WS$
1964	50,228	-	-
1965	54,526	-	-
1966	48,784	153,538	51,179
1967	52,119	145,429	48,476
1968	49,186	150,089	50,030
1969	60,105	161,410	53,803
1970	78,430	187,721	62,574
1971	78,893	217,428	72,476

A figure of 41.6% increase of demand for imports of perfumery and toilet preparations from 1966 to 1971 and an average annual increase of 7.2% over five years are obtained from this table.

If the same rate of the moving averages is assumed for 1975 and 1980, the following projections can be made.

Table C.31

Projection of moving averages for imports of perfumery and toilet preparations

Year	Imports WS$ Average of three years
1971	72,476
1975	95,750
1980	135,600

A small factory for making perfume and toilet preparations could be added to the WSTEC Soap factory, broadening the line of products. It would be advisable to make such a feasbility study within the next year, in order that production might be started within the next 2 or 3 years.

Item 140. Paper bags, card board boxes and similar receptacles

Import values in WS$ of paper bags, cardboard boxes and similar paper receptacles are presented in Table C.34.

Table C.34

Paper bags, cardboard boxes, etc. imports

Year	Value of imports (WS$)
1966	17,852
1967	25,203
1968	35,100
1969	34,977
1970	37,152
1971	33,079

Account must be taken for stock variations. But in this case, they cannot be related with population. So in order to smooth variations, a three year moving average from 1964 to 1971 (Table C.35) is used.

Table C.35

Three year moving average for paper bags and cardboard boxes imports

Year	Value of imports WS$	Sum of three years WS$	Average of three years WS$
1964	21,746	-	-
1965	22,242	-	-
1966	17,852	61,840	20,613
1967	25,203	65,297	21,766
1968	35,100	78,155	26,052
1969	34,977	95,280	31,760
1970	37,152	107,229	35,743
1971	33,079	105,208	35,069

In this way, an increase of 70.1% from 1966 to 1971 and an average annual increase of 11.2% over five periods are obtained.

If the same rate of growth is assumed for the moving averages for 1975 and 1980, the projections in Table C.36 can be made.

Table C.36

Projection of moving averages for imports of paper bags and cardboard boxes

Year	Imports (WS$) Average of three years
1971	35,069
1975	53,800
1980	92,000

A small factory for making paper bags, cardboard boxes and corrugated cardboard boxes would perhaps be feasible within the decade. It is recommended that a feasibility study be made.

Item 141. Stationery

In Table C.37 the import values in WS$ of stationery imports are presented.

Table C.37

Stationery Imports (WS$)

Year	Value of imports (WS$)
1966	47,762
1967	61,609
1968	67,334
1969	54,202
1970	81,501
1971	121,013

Account is taken for stock variations by using a three year moving average from 1964 to 1971. Table C.38 shows the moving average.

Table C.38

Three year moving average
for stationery imports

Year	Value of imports WS$	Sum of three years WS$	Average of three years WS$
1964	43,988	-	-
1965	46,876	-	-
1966	47,762	138,626	46,208
1967	61,609	156,247	52,082
1968	67,334	176,705	58,902
1969	54,202	183,145	61,048
1970	81,501	203,037	67,679
1971	121,013	256,716	85,572

In this way, an increase of 85.2% from 1966 to 1971 and an average annual increase of 13.2% over five years were obtained. If it is assumed that the rate of growth will remain the same for the moving averages for 1975 and 1980, the projections in Table C.39 can be made.

Table C.39

Projections of moving averages
for imports of stationery

Year	Imports (WS$) Average of three years
1971	85,272
1975	140,000
1980	259,000

If it can be assumed that a constant 13.2% increase in the demand for imports of stationery will take place, it would be interesting to look at the chances of fully producing stationery within the country in the next five years.

Item 148 (12). Nails, tacks, spikes and staples

Imports of nails, tacks, spikes and staples are listed in Table C.40.

Table C.40

Imports of nails, tacks, spikes and staples

Year	Value of imports (WS$)
1966	19,806
1967	18,340
1968	18,677
1969	35,722
1970	38,113
1971	43,749

A moving average is not used here, but the average rate of increase of imports from 1966 to 1971 is used for estimating 1975 and 1980 demand. The increase from 1966 to 1971 was 120.9% (five periods); the average annual rate of increase was 17.2%.

If a moving average is used, the figures in Table C.41 can be derived.

Table C. 41

Three years moving average for imports of nails, tacks, spikes and staples

Year	Value of imports WS$	Sum of three years WS$	Average of three years WS$
1964	31,842	-	-
1965	35,478	-	-
1966	19,806	87,126	29,042
1967	18,340	73,624	24,541
1968	18,677	56,823	18,941
1969	35,722	72,739	24,246
1970	38,113	92,512	30,837
1971	43,749	117,584	39,194

The increase from 1966 to 1971 is only 34.9% in this case. However, the effects of the 1966 and 1968 hurricanes on banana reports, and also, the effect of building construction plans in the later years must be considered.

A factory for producing such items is not recommended since the scale required is very large.

Item 164. Paints, colours, varnishes, polishes and waxes

The import volumes (gallons) and value (WS$) of these items are presented in Table C.42.

Table C.42

Paint and other imports

Year	Gallons	Value WS$
1966	15,056	51,392
1967	19,129	65,529
1968	18,816	60,959
1969	21,246	75,301
1970	30,495	90,900
1971	39,753	96,740

% Total increase (volume) in 6 years = 164.03%
Annual average % increase (volume) = +17.55%
Average price (1971) per gallon = WS$ 2.43

A projection of the imports of paint and varnishes can be made using an 17.5% annual increase.

Table C.43

Projection of paint, varnishes, etc. imports

Year	Gallons	Value in 1971 prices (WS$)
1971	39,753	96,740
1975	75,769 (76,000)	184,119
1980	199,378 (200,000)	484,488

A study of the feasibility of a paint factory is required.

Timber (several classes)

In this section the imports of several classes of timber (several classes) are analysed.

Item 170 (1) dressed
Item 170 (2) rough
Item 170 (3) other
Item 170 (5) shocks for bananas

The imports of the different classes of timber are presented in Table C.44.

In the case of timber, it is quite difficult to predict a trend in imports, due to the effect of Potlatch and New Samoa Industries. Nevertheless, imports between 1966 and 1971 have grown by 77.3% in value and have maintained their level of 1,500,000 super feet (without consideration of shoots for banana cases). An interesting feature is that despite the rate of inflation, imported timber has been increasing its value per unit. This would be a result of the building construction programme which uses manufactured or dressed wood.

Considering the effect of inflation, the increase in values from 1966 to 1971 is only 53.8% (including shoots for banana cases). Some of this increase must be accounted for by the recovery of banana exports.

As a general recommendation, it would be stated that timber imports must be prohibited or discouraged through a heavy increase in duties.

Item 51. Cigarettes

An analysis of cigarette imports is presented in this section. It was postponed up to now, because, as in other cases, the necessity for making a feasibility study is not clear. (Like in the case of cotton pieces and other textile goods, also postponed to the end of the present analysis. The imports of cigarettes are presented in Table C.45.

TABLE 44 Timber Imports

Year	Timber : dressed		Timber: rough		Timber: Other		Timber: Shooks		Total	
	Super feet	Value US$	Super feet	Value US$	Super feet	Value US$	-	Value US$	Super feet*	Value US$ **
1966	1,191,853	93,446	109,618	15,076	277,885	30,428	-	43,828	1,570,342	182,778
1967	796,103	61,506	161,377	15,555	501,685	65,095	-	48,044	1,459,165	190,120
1968	504,634	49,753	3,889	737	760,163	79,207	-	44,399	1,268,686	174,096
1969	386,071	44,827	910,986	13,913	1,104,143	135,790	-	126,443	1,573,205	321,003
1970	578,971	80,304	248,377	35,149	1,592,641	194,090	-	141,668	2,420,189	451,263
1971	530,019	195,304	46,500	10,169	902,154	80,896	-	118,428	1,578,678	314,027

* Includes only Timber Measurable. Excluded back for barrel cases.

** Includes value of Shooks.

Table C.45

Cigarette imports

Year	Cigarette imports (Milles)	Cigarette imports Values WS$
1966	14,636	58,498
1967	19,386	77,822
1968	25,184	94,335
1969	24,786	101,051
1970	26,690	114,568
1971	32,072	185,725

It can be easily seen that there has been a 109% increase in the volume of imports from 1966 to 1971. The increase in value was 217%, which can be explained only as a shift in consumers taste (for the better or higher prices it makes).

In the present case, it is interesting to make a projection of import volumes. The projection (at 15.9% per year) is presented in Table C.46.

Table C.46

Projection of cigarette imports

Year	Volume	Value in 1971 prices
1971	32,072	186,725
1975	58,000	336,000
1980	121,000	700,000
1985	252,000	1,460,000

It would be justified to study the feasibility of a small cigarette industry starting production by 1975 and producing 2.9 million packs (of 20 cigarettes each). By 1980 consumption would be 6.0 million packs.

Cotton pieces goods and other plain clothes

Item 87. Cotton pieces goods

Item 95. Textile pieces goods of price imitation or synthetic silk (etc.)

In Table C.47 the imports of both items are presented.

Table C.47

Imports of textile plain goods

Year	Item 87 imports Yards	Item 87 imports Value WS$	Item 95 imports Yards	Item 95 imports Value WS$	Combined imports Yards	Combined imports Value WS$
1966	951,836	153,604	348,848	51,768	1,300,684	205,372
1967	1,032,805	186,273	313,134	59,467	1,345,939	245,740
1968	1,432,367	243,187	200,837	51,452	1,633,204	294,639
1969	1,443,569	271,804	222,089	55,970	1,665,658	327,774
1970	1,465,937	252,640	212,825	58,914	1,678,762	311,554
1971	1,602,661	316,866	209,910	69,112	1,812,571	385,978

It can be seen from Table C.48 that imports of plain weaved cloth have been steady, increasing from 1.3 million yards in 1966 to 1.8 million yards in 1971, which is an increase of 38% or 6.6% per year.

Projections for the import demand for 1975, 1980 and 1985 at this rate of increase are given in Table C.48.

Table C.48

Import projection of plain weaved cloth

Year	Yards	Value* WS$ (in 1971 prices)
1971	1,812,571	385,978
1975	2,450,000	520,000
1980	3,280,000	700,000
1985	4,650,000	1,000,000

* That is an average price, assuming that distribution of goods per item and price relations are maintained.

A feasibility study within the next 1 or 2 years is recommended, in order to decide whether a plain mill cloth factory should be installed within the next 5 years.

Item 29. Milk, Milk or cream or evaporated or dried

The imports from 1966 to 1971 are listed in Table C.49.

Table C.49

Milk Imports

Year	Tons	Value WS$
1966	453	129,970
1967	188	68,384
1968	247	60,118
1969	237	56,686
1970	265	65,875
1971	231	65,258
TOTAL	1621	

We can tie up consumption of milk with population and the problem of stock formation can be solved this way:

$$\frac{1621 \times 145204}{826034} = 285 \text{ tons}$$

Projections for 1975, 1980 and 1985 are made in Table C.50 using a population increase equal to 2.2% per year.

Table C.50

Projection of powder and concentrated milk demand

Year	Tons
1971	285
1975	310
1980	344
1985	382

A feasibility study for a milk reconstituting plant for the town of Apia would be of interest within the next year.

Summary of recommended feasibility studies, based on import analysis

a) To be done within 1 or 2 years from now

1) Feed meal factory
2) Wheat mill
3) Cold storage network
4) Brewery
5) Perfumery and toilet preparations
6) Timber production
7) Textile plain mill
8) Milk reconstituting plant

b) To be done within the next 5 years

1) Paper bags and cardboard boxes factory
2) Stationery
3) Cigarettes

c) To be done within the decade

1) Sugar plantation and sugar factory

ANNEX D

PRE-FEASIBILITY STUDY OF A COCONUT OIL MILL

a) CAPACITY: 20000 tons copra per year

b) INVESTMENT:

The total investment in the coconut oil mill is estimated as follows:

1. Factory buildings WS$ 80,000
   32,000 sq.ft. at WS$ 2.50 per sq.ft.

2. Equipment
   2.1 - Two V.B. Anderson 55 expellers WS$ 48,000 F.O.B. factory
   2.2 - One Cooker WS$ 20,000 - F.O.B. factory
   2.3 - Solvent extraction equipment - WS$ 30,000 F.O.B. factory
   2.4 - Various equipment for processing WS$ 20,000 F.O.B. factory
   2.5 - Total investment in process equipment WS$ 118,000 F.O.B. factory
   2.6 - Insurance and freight Costs: 20% of F.O.B. price WS$ 23,600

3. Storage tanks for
   one-third of production or roughly 4,000 tons of oil WS$ 50,000

4. One tank truck
   One tank trailer, including 20% spare parts WS$ 25,200

5. Tool Machines and
   Maintenance equipment WS$ 20.000

6. Power house
   Boiler and Diesel electric generator WS$ 40,000.

7. Other vehicles
   One 6-ton truck WS$ 5,200
   One pick-up 1 ton WS$ 3,000
   Two fork trucks 2 tons WS$ 16,000
   Total investment WS$ 24,200
   20% spare parts WS$ 4,840

8. Office equipment and furniture WS$ 10,000

9. Spare parts: 20% of process equipment, power house and maintenance equipment WS$ 35,600

10. Total investment in buildings, machinery and vehicles WS$ 431,440

11. Plus 10% contingencies WS$ 43,144

12. Total investment WS$ 474,584

c) Revenue per year at 100% capacity

Sales: 12,200 tons of oil at WS$ 132 per ton F.O.B. Apia
Price (long ton price estimated from a long run estimation of copra price at WS$ 83 per long ton and a 63% extraction of oil.

Total sales F.O.B. April WS$ 1,610,400.
Plus 7,000 tons of copra meal at WS$ 27 per ton F.O.B. Apia - WS$ 189,000.
Total revenue WS$ 1,799,000

d) Costs (per annum)

1. Management

One general manager	WS$ 10,000
One chemical engineer	WS$ 8,000
One mecanical engineer	WS$ 8,000
Three general foremen	WS$ 12,000
One chief accountant	WS$ 2,500
One laboratory assistant	WS$ 2,500
Three clerks	WS$ 6,000
Three secretaries	WS$ 6,000
TOTAL:	WS$ 64,500

2. Labour

2.1 - Workers at WS$ 1.20 per day (WS$ 343 per year)

Two in reception
One Janitor
Six Expeller helpers
Three Cooker helpers
Six copra meal bagging
Three solvent helpers
Six Warehouse helpers (Copra)

Total 27 at WS$ 343 - WS$ 9,261

2.2 - Workers at WS$ 2.00 per day (WS$ 575 per year)

Three forklift truck operators
One laboratory helper
Three porters

Total 7 at WS$575 per year = WS$4,025

2.3 - Workers at WS$3.00 per day

6 Expeller operators
3 Cooker operators
3 Solvent extraction operators
1 Tank truck driver

13 total at WS$855 = WS$11,115

2.4 - Workers at WS$4.00 per day

8 in maintenance at WS$1,140 = WS$9,120

2.5 - Total direct labour WS$33,521

3. Fuel and Diesel Oil (Duty Free)

a) Diesel oil : 380 tons at WS$35 = WS$13,300
b) Bunker oil No. 6 36 tons at WS$ 35 = WS$12,600

4. **Repairs and upkeeping**

   4.1 Repairs of machinery — WS$22,740
   10% of all machinery and vehicles (WS$227,400)

   4.2 Buildings upkeeping — WS$ 1,000
   2% of all buildings

5. **Tank truck operation** — WS$7,000

6. **Fire insurance** on WS$474,584 at
   2.25% per annum — WS$9,491

7. **Bags** (for 150 lbs)
   For copra meal : only 10%
   Total per annum 10500 plus 10% = 11550 bags
   Cost per bag WS$0.4
   Total cost of bags — WS$4,620

8. Wharfage at WS$1 per ton = WS$20,000

9. **Social provisions**
   5% of all salaries and wages — WS4,950

10. **Printing and stationery** — WS$1,000

11. **Telephone, Postage and Cables** — WS$2,000

12. **Interest :**
    7% of WS$474,584 = WS$33,120
    (fixed assets)
    Plus WS$380,804 = WS$26,656
    (working capital)

13. **Depreciation**

    13.1 Equipment — WS$12,580
    5% per year (20 years life
    on (WS$251,600)

    13.2 Vehicles : — WS$ 7,410
    15% per year on WS$49,400

    13.3 Buildings — WS$ 1,665
    3.33% per year on WS$50,000

    13.4 Office equipment and — WS$ 1,000
    furniture 10% per year
    on WS$10,000

14. Raw materials — WS$1,440,000

Copra : 20,000 tons at WS$72 per ton (cost delivered Apia)

REMARKS: The copra is assumed bought at price of plantation plus the following costs:

Cost per ton (2240 lbs)		WS$ 54.60
Shrinkage allowance 5%		2.73
Traders' commission 3.3%		1.80
	Sub-total	WS$ 59.13
Fire insurance		0.11
	Sub-total	WS$ 59.24
Shipping charges		1.24
Freight to Apia		3.38
Station overheads		4.00
	Sub-total	WS$ 67.86
Marine insurance		0.37
Wharfage		0.06
Cost delivered Apia in oil mill yard		WS$ 68.29
Margin to merchants including WSTEC 4.9%		3.35
		WS$ 71.64

Rounded price WS$ 72 per long ton.

15. Total cost per year — WS$ 1,719,153

16. Net profit per year — WS$ 79,847

17. Net earnings per year

Net profit WS$ 79.847

+ interest on fixed asset WS$ 33,120

+ interest on working capital WS$ 26,656

TOTAL — WS$ 139,623

18. Working capital

18.1.2 Months' salaries and wages	WS$	16,336
18.2.2 Months' fuel and diesel oil	WS$	2,158
18.3 Spare parts : already considered in capital investment (20% spares)		

18.4	Bags for copra meal 6 months' operation	WS$ 2,310
18.5	Copra: Raw material one months' tock	WS$ 120,000
	Final product 2 months' stock	WS$ 240,000
	TOTAL:	WS$ 360.000
18.6	Total working capital	WS$ 380,804
19.	Total capital required	WS$ 855,388
	- Fixed assets WS$ 474,584	
	- Working capital WS$ 380,804	

20. Net profit to total capital

$$\frac{\text{WS\$ } 79,847}{\text{WS\$ } 855,388} = 9,3\% \text{ per year}$$

21. Total earnings to total capital

$$\frac{\text{WS\$ } 139,623}{\text{WS\$ } 855,388} = 16.5\ \%$$

As the enterprise must be a government enterprise, under the control of the Copra Board, the relevant figure is the 16.5% rate of return of total earnings over total capital.

These earnings are not obtained now, as it has been proved by the fact that the Copra Board Fund has completely been used in the present situation of low international prices.

e) **Summary**

e.1 **Investment**

Fixed assets	WS$ 475,000
Working capital	WS$ 381,000

C-135

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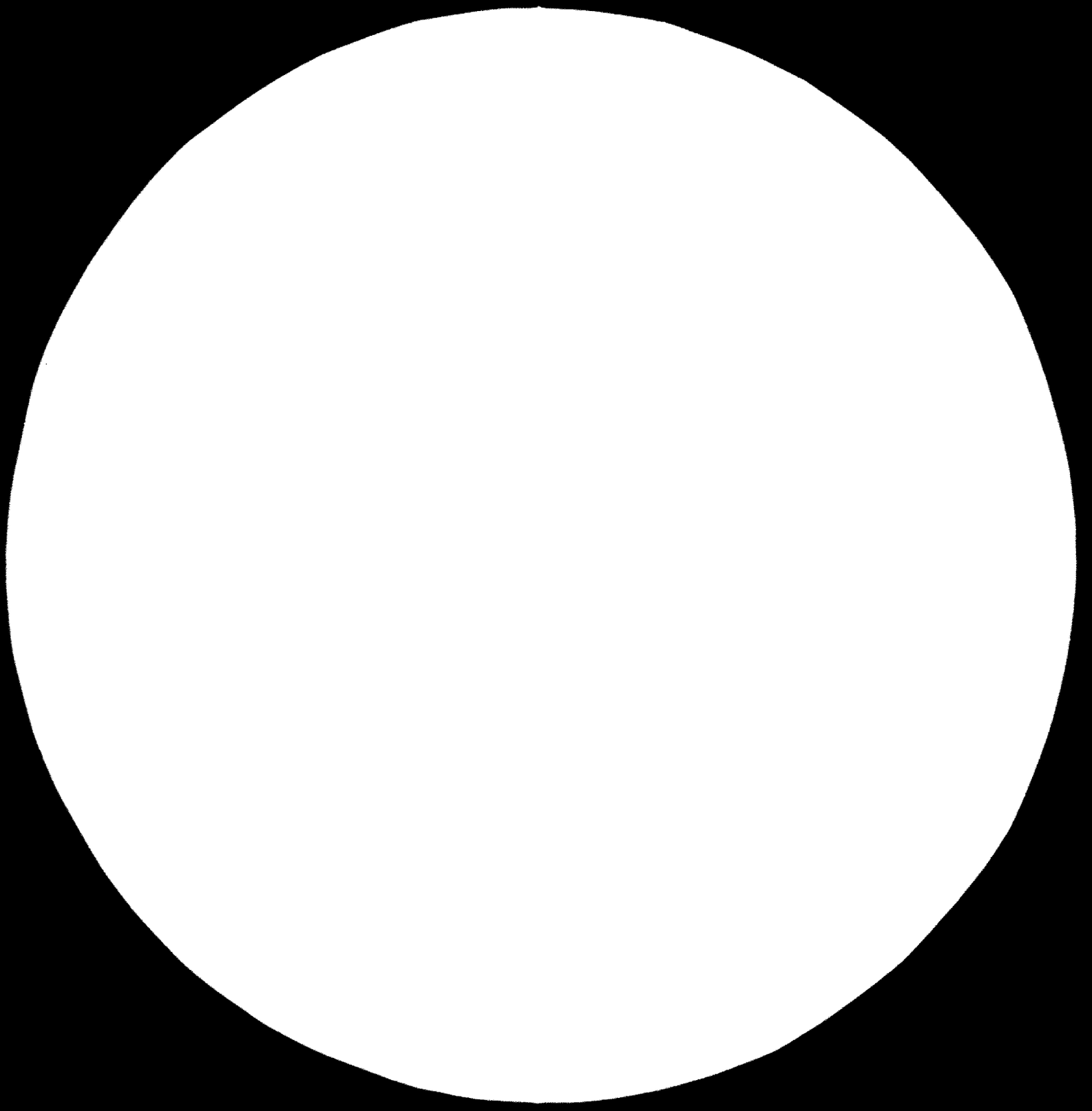

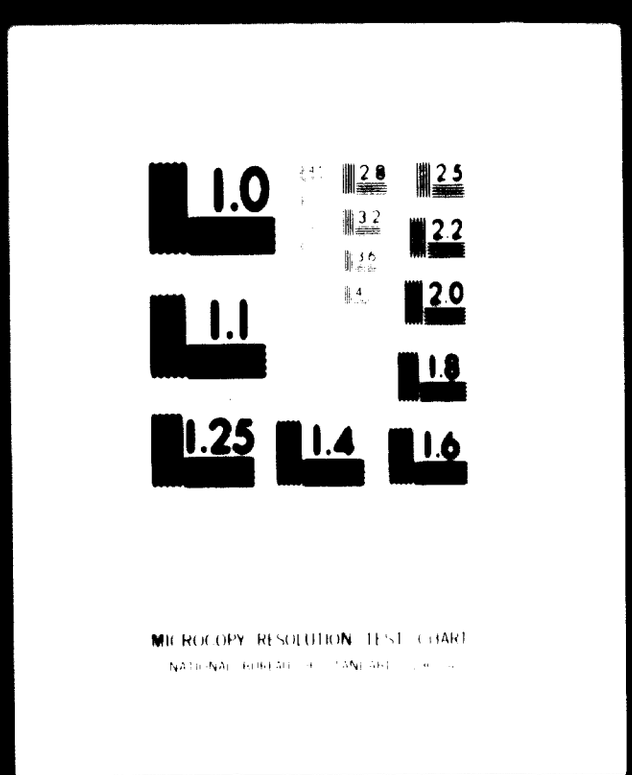

e.2 Employment

Direct workers	55
Management	14
TOTAL	69

e.3 Yearly sales

Coconut oil	WS$ 1,610,400
Copra meal	WS$ 189,000
Total sales	WS$ 1,799,400

Assuming: price of copra WS$ 83 F.O.B. Apia per long ton
price of coconut WS$ 132 F.O.B. Apia per long ton
price of copra meal WS$ 27 F.O.B. Apia per long ton

e.4 Net earnings per year

WS$ 139,623 including interest in fixed asset and working capital.

ANNEX E

PRE-FEASIBILITY STUDY OF A WHEAT MILL

a) CAPACITY 5000 tons flour per year

b) INVESTMENT

Investment will be as follows

1. Fixed assets

Land - 2 acres of government leased land.

Building - Elevator silo -	WS$	50,000	
Mill building two-storey	WS$	55,000	
Equipment, furniture and fixtures			
- Production tools and equipment	WS$	115,000	F.O.B.
- Other tools and equipment	WS$	8,000	F.O.B.
- Furniture and fixtures	WS$	1,000	
- Insurance and freight 1% on WS$ 123,000	WS$	19,500	
Total investment, excluding land	WS$	248,500	

2. Working capital

- Direct materials, direct labour, overheads (a) 90 days	WS$	99,000
- Administration costs (b) contingencies, sales costs (c): 30 days	WS$	6,100

- Training costs	WS$	6,000
Total working capital	WS$	111,100

3. Total capital excluded land WS$ 359,600

c) COSTS(per year)

c 1 Materials and supplies

c1.1 Direct materials

- Wheat 7,000 tons at £28 per ton CIF Apia or WS$ 42.5 per ton	WS$	297,500
- Sacks 100,000 sacks	WS$	7,000
TOTAL:	WS$	304,500

c1.2 Supplies

- Lubricants and hand tools	WS$	500
- Maintenance and repair parts	WS$	2,000
- Office supplies	WS$	300
Total supplies	WS$	2,800

c 2 Power, fuel and water

c2.1 Electric power, connected load 375HP = 280kw
Annual kwh = 22 hours x 285 days x 280 kw x 0.75
= 1,320,000 kwh.
(0.75 factor for covering the fact that not all motors are running with load, or running at a time)
Electric annual bill:
1320000 x $\frac{3\frac{1}{2}}{100}$ = WS$ 43,956

c2.2 Fuel

Where heating is necessary about 6000 gals oil (at 28 sene per gal.) WS$ 1,880

c2.3 Water

For heating, sanitation and fire protection.
About 1.2 million gallons annually WS$ 300

c2.4 TOTAL: WS$ 46,136

c 3 Transportation

c3.1 Own transport equipment

none necessary

c3.2 External transport facilities

Total in and out shipments about 1100 tons amonth. Plant must be located in the wharf area.

c 4 Manpower

c4.1 Direct labour

6 skilled at WS$ 3.0 per day or WS$ 8.55 per year	WS$ 5,130
6 semi-skilled at WS$ 2.00 per day or WS$ 540 per year	WS$ 3,420
6 non-skilled at WS$ 1.20 per day or WS$ 342 per year	WS$ 2,052
TOTAL:	WS$ 10,602

c4.2 Indirect labour

1) 1 Manager	WS$ 8,000
2) 3 maintenance and supervision (WS$ 5000 plus WS$ 4000 plus WS$ 4000)	WS$ 13,000
3) 3 Office (3000 + 2000 + 2000)	WS$ 7,000
TOTAL:	WS$ 28,000

c4.3 Training needs

Manager and 3 supervisors must be expatriated fully skilled. They should be able to do all labour training. Plant should reach full production in two months.

c 5 Total annual costs and sales revenue

c5.1 Annual costs

- Direct materials	WS$ 304,500

- Direct labour WS$ 10,602
- Social provisions on direct labour 5% WS$ 503
- Manufacturing overhead WS$ 38,990

Interest on capital 7%

- on fixed assets (WS$ 248,500)

0.07 x 248500 = WS$ 17,395

- on working capital (WS$ 111,100)

0.07 x 111,100 = WS$ 7,777

- Total interest = WS$ 25,172

Insurance: 2.25% of

on Fixed assets (WS$ 248,500)

0.0225 x 248,500 = WS$ 5,591

on raw materials stock (99,000)

0.0225 x 99,000 = WS$ 2,227

Total insurance cost WS $ 7,818

- Legal and audit charges WS$ 6,000
- Contingencies WS$ 10,000
- Sales costs (c)
  Bad Debts WS$ 24,000
  - Sales commission WS$ 12,000
  - Travel expenses WS$ 4,000
  - Bad debts WS$ 8,000
- Depreciation on fixed capital WS$ 11,781

  - Buildings 3.33% per year (of WS$ 10500 WS$ 4,606
  - Equipment, fixtures etc. % per year (of WS$ 143,500) = WS$ 7,175

- Total annual costs WS$ 478,712

- LESS

by-product sales	WS$ 17,500
25% meadlings on wheat = 1750 tons at WS$ 10 per ton	
- Total costs	WS$ 461,212

- Cost per ton of flour

$\frac{461212}{5000}$ = WS$ 92,24

This price is comparable with an average price of WS$ 94.5 c.i.f. Apia for imported flour. To this must be added the normal profit margin made by the importer.

c5.2 Annual sales revenue

Flour sales : 5000 tons per year:

1. Domestic market sales:
   by 1975, 4,500 tons
   Profit margin 20%
   Price per ton: WS$ 110.70
   Total sales revenue WS$ 498,150
2. Export market sales
   by 1975: 500 tons
   Price per ton: WS$ 90
   Total sales revenue WS$ 45,000
3. Total Sales (1975) WS$ 543,150

c6. Total Profit

Total flour sales	WS$ 543.150
Total costs	WS$ 461,212
Total gross profit	WS$ 82,938

c7. Rate of return

The rate of return on total capital investment will be $\frac{82938}{359600}$ = 23% per year, before taxes.

Assuming 50% tax, rate of return after taxes will be 11.5% on total capital investment for private investors.

d. Recommendation

The Mission recommends t o set up this enterprise as a joint venture between the Government and private local enterpreneurs. It will be of interest that the local private partnership of the Government be among the bakers and biscuit entrepreneurs.

Remark - Price of Wheat

Export price of Australian wheat

Price in US dollars per metric ton - average of 11 months 1971, equals US$ 57.6 per metric ton f.o.b. Australian ports, in bulks for a fair average quality wheat (or WS$ 38.5 per metric ton).
(FAO Monthly Bulletins)

Shipping freight

The price for shipping wheat in bulk, from US Gulf ports to the United Kingdom, was in average, about £ 3.80 per long ton or WS$ 6.15 per metric ton. It can be assumed that bulk freight from Australia to Western Samoa by 2,000 tons shipments, would not have a higher price, provided the distance between Australia and England is about 5 times the distance between Australia and Western Samoa. So, for conservative purposes a shipping rate of WS$ 6.00 per metric ton was used, including wharfage rights in Apia.

Cost and Freight, Apia Wharf

Cost plus freight would be WS$ 42.5 per ton.

ANNEX F

The Enterprise Incentives Act - Critique

1. Schedule (EIA, p. 16) - The Schedule applying to the Act (for summary Section 1.0, footnote 1) is deficient in a number of respects. Firstly, a strict interpretation of the Schedule would mean the exclusion from consideration for benefits under the Act of a number of activities which on, any reasonable assessment, would appear worthy of government support. Examples are ventures in agriculture like honey-making, commercial pig raising, poultry farming and cattle raising. Secondly, a number of basic categories under the Schedule are not defined in any detail; what sort of activities, for example, are included in 'fisheries development', 'afforestation' and 'research development'? Thirdly, it would seem that the commencement period allowed for in the act (i.e. the period during which opperations must start after an approved order had been issued is somewhat too long in a number of cases. This is true of factories for the processing agricultural and pastoral products and hotels, all which have a two-year commencement period. A shorter period in these cases would be preferable from the viewpoint of industrial control and planning.

2. Offences and penalities - Section 24 of the Act provides for the revocation of the approval order in cases where an enterprise is not being conducted in accordance with the terms of his application of his approval order or the Act itself. However, there is no provision for the Enterprise Board to impose a penality subsequent to the holiday period if it should still be the case that the enterprise has not carried out its approved objectives (or part of these objectives). Also no provision is made to penalize those who either withdraw or depart significantly from approved activities,

once the period of the tax holiday is over.[1] The original approved objectives of an enterprise may therefore never be realized if a delinquent enterprise manages, by various means, to avoid being penalized during the tax holiday period.

3. Renewal of benefits. Section 17 of the amended Act authorizes an enterprise to apply for an extension of the tax holiday period before the end of his tax holiday period. Since a tax holiday period is defined to commence from the date of approval it follows that an enterprise can apply for an extension before it actually commences his operations. Inasmuch as this provision tends somewhat to strengthen the bargaining power of an enterprise vis-a-vis the Incentives Board, it is unsatisfactory. In principle it is preferable that an application for a revewal of tax holiday should be permitted only when the company involved has actually commenced operations.

4. Board membership and voting - Final decisions made in connection with the administration of the Act are made by the voting members of the Board who are chosen from the Legislative Assembly and the business sector. It follows that decisions made by the Board will tend to reflect political pressures and special interests rather than sound economic principles. A reorganization of the Board in order to minimize influences of this kind should be considered.

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[1] There may be good economic reasons why an approved enterprise chooses not to conduct business in accordance with its approved order; where this may be true no machinery exists for revising its approved order with a view of allowing it to continue to operate under benefit of the act.

5. Other critique - The somewhat arbitrary way in which the various benefits under the Act are determined is a further weakness which may be noted. This is true in the determination of the level of import duty to charge on raw materials in cases where an enterprise produces both for the local market and for export. Since raw materials incorporated in exports are duty free the practice has been to calculate the level of concession on the basis of the export-domestic market ration. This method is not only arbitrary but is also inconvenient since the above ratio is likely to vary sharply from year to year. The way in which the tax holiday period is determined is also somewhat arbitrary. The method presently being used is that if the earning rate (net profit over capital) of a prospective enterprise is around 30 - 40 % a tax holiday of 2 - 3 years is given. For 'riskier' but potentially profitable ventures a 5-year tax holiday period is generally given. Consideration is also accorded to various other factors such as the impact on the balance of payments, total capital outlay, and the net effect on the national income. The above procedure is subject to a number of otherweaknesses; for instance it, in effect, seems to operate on the assumption that practically any enterprise is entitled to a tax holiday, it means an unequal treatment of business enterprises which could lead to continuing disaffection on the part of businessmen and it fails to give proper weight to the indirect effects and related externalities associated with individual enterprises. It also contains a bias in favour of capital intensive industries.

ANNEX G

Manpower Requirements of Selected Potential Industries

Industry	Managerial	Skilled workers	Semi-skilled workers	Unskilled workers	Total Manpower
Coconut oil crushing	15	10	15	35	75
Fish processing complex 1/	50	50	100	400	600
Pineapple processing	20	20	50	150	200
Meat processing	5	10	10	25	50
Animal feed */	3	3	3	6	15
Brewery */	10	5	10	25	50
Milk reconstituting plant */	5	2	5	3	15
Flour milling */	7	6	6	6	25
Coconut charcoal */ 2/	5	-	-	-	10
Perfumes	3	2	5	5	15
Concrete products	2	4	10	14	30
Tannery	5	5	5	15	30
Oil palm estate and mill	30	50	75	570	725

*/ Industries recommended by the Survey Mission for immediate establishment.

Note: Management:

1/ Not including fishing activities.

2/ Refers only to central packaging and marketing activities.

APPENDIX I

List of Persons Consulted by the Mission

A. Western Samoan Government and Quasi-Government Officials

Government Officials

Hon. Tupua Tamasese Lealofi, IV	- Prime Minister

Prime Minister's Department

Mr. Tuala K.L. Enari	- Acting Secretary to the Government
Mr. L. Lome	- Foreign Affairs Officer

Ministry of Finance and Economic Development

Hon. Tofa Siaosi	- Minister of Finance and Economic Development
Mr. Aumua J. Wendt	- Secretary of Finance
Mrs. H. Kruse	- Director of Economic Development
Mr. S. Malielegaoi	- Deputy Director of Economic Development
Mr. V. Meisake	- Tourist Coordinator
Mrs. P. Alailimi	- Development Planning Officer

Ministry of Agriculture

Mr. W.F. Meredith	- Director of Agriculture
Mr. F.B. Moors	- Assistant Director of Agriculture

Ministry of Public Works

Mr. K. Mawson	- Acting Director of Public Works
Mr. W.E. Homberg	- Architect

Other Government and Quasi-Government Agencies

Mr. D. Betham	- Acting Manger, Development Loan Fund
Mr. V.F. Brebner	- Collector of Customs
Mr. A. Hunter	- Director, Lands and Surveys
Mr. J.D. Hunter	- Manager, Samoan Handicraft Corporation
Hon. Laota Pita	- Member of Parliament
Mr. R.F. Mawson	- Technician, Food Processing Laboratory
Mr. J. Meredith	- Government Printer
Mr. R.E. Meredith	- Commissioner of Inland Revenue
Mr. S.M. Meemia	- Manager, WSTEC Soap
Mr. K.A. O'Brien	- Manager, Western Samoa National Provident Fund
Mr. S. Reynolds	- Soil Specialist, South Pacific College of Tropical Agriculture
Mr. Sefo Ioane	- Office Manager, WSTEC
Mr. M. Thomsen	- Secretary to the Copra and Cocoa Boards

B. Representatives of Western Samoan Industries and Commerce

Food products

Mrs. A. McDermott	- Manager, Pacific Meat Packers
Brother Damian	- Manager, Catholic Mission Dairy
Mr. M. Von Reiche	- Assistant Manager, Supreme Ice Cream and Apia Biscuits
Mrs. L. Keil	- Manager, Aunty Lanu's Cakes
Mr. R.V. Meredith	- Manager, Sunshine Bread and Biscuits

Beverages

Mr. R. P. Carpenter	- Manager, Apia Bottling
Mr. J.P. Curry	- Manager, Curry's Cordials

Apparel

Mr. S.C. Percivel	- Manager, S.C. Percivel
Mr. R.F. Rankin	- Manager, Islands Styles

Logging, Lumber and Veneer

Mr. K. Nakai	- Acting Manager, New Samoan Industries
Mr. S. Fukuhama	- Secretary, New Samoan Industries
Mr. T. Shelton	- Senior Executive, Potlatch Samoa
Mr. C.F. Scheelke	- Manager, Potlatch Samoa
Mr. J.J. McDermott	- Manager, Savaii Timber

Other Wood Products

Mr. A.S. Gray	- Manager, Gray's Enterprise
Mr. B.G. Stevens	- Manager, Samoa Construction

Steel Construction and Metal Fabrication

Mr. K. Berry	- Manager, Hansen and Berry
Mr. W.V. Hoverd	- Manager, Gilberd IEP

Printing and Other Activities

Mr. A.L. Fruen	- Manager, Samoa Printing and Publishing
Mr. T. Green	- Manager, Apia Printing
Mr. W.J. Lancaster	- Manager, Bank of Western Samoa
Mr. H.D. Phineas	- Assistant Manager, Bank of Western Samoa
Mr. N.S. Paul	- President, Chamber of Commerce
Mr. A. Hansell	- Manager, Burns Philp

C. American Samoan Contacts

Mr. W. Cravens	- Director, Economic Planning and Development
Mr. C. Fonoimoana	- Assistant Director, Economic Planning and Development
Mr. V. Wright	- General Manager - Samoan Operations, Van Camp Sea Food
Mr. J. Schmidthe	- Manager, Star Kist Samoan Inc.
Mr. A.C. Setnick	- President, Pacific Time Corporation
Capt. J.M. Calver	- Assistant Port Director

D. United Nations Officials and Experts

Mr. W.B. Hussey	- Regional Representative, UNDP, Apia
Mr. A. Hill	- Deputy Regional Representative, UNDP, Apia
Mr. D. Lockwood	- Programme Officer, UNDP, Apia
Mr. A. Hutchison	- Advisory Officer (Finance) Treasury, Apia
Mr. P.C. Afxentiou	- Economic Planning Adviser, Economic Development, Apia
Mr. A.J. Thomas	- Associate Economist, Economic Development, Apia
Mr. L. Moppenbrouwer	- Associate Economist, Economic Development, Apia
Dr. V.B. Reddy	- Project Manager, Agriculture, Forests and Fisheries, Apia
Mr. W. Travis	- Fisheries Officer, Agriculture, Forests and Fisheries, Apia
Mr. R.G. Dixon	- Chief Forest Officer, Agriculture, Forests and Fisheries, Apia
Mr. R. Levingston	- Silverculturist, Agriculture, Forests and Fisheries, Apia
Mr. B. Injac	- Project Evaluation Officer, UNDAT, Suva
Mr. M. Roepstorff	- UNIDO Economist, Vienna

APPENDIX II

List of Industrial Enterprises and Associated Employment Visited by the Mission in Western Samoa

Name of Enterprises	Total Employment Estimates
1. Food Products	
Pacific Meat Packers	6
Catholic Mission Dairy	15
Supreme Ice Cream	12
Apia Biscuits	20
Aunty Lanu's Cakes	7
Sunshine Bread and Biscuits	31
Curry's - Desiccated Coconut	10
Tropical Fruits Cannery	10
2. Beverages	
Apia Bottling	22
Curry's Cordials	12
3. Apparel	
S.C. Percival	11
Islands Styles	40
4. Logging, Lumber and Veneer	
New Samoa Industries	56
Potlatch Samoa	260
Savaii Timber	30
5. Other Wood Products	
Gray's Enterprise	12 1/
Samoa Construction	50
6. Steel Construction and Metal Fabrication	
Hansen and Berry	21
Gilberd ICP	12
7. Printing and Other Activities	
Samoa Printing and Publishing	25
Apia Printing	14
South Pacific Industrials	4

1/ Excluding construction gang

Government Printing Office	25
MSTEC Soap	20
Samoa Handicraft Corporation	7
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APPENDIX III

Books and Documents consulted by the Mission

1) Reports concerning Western Samoa Economy

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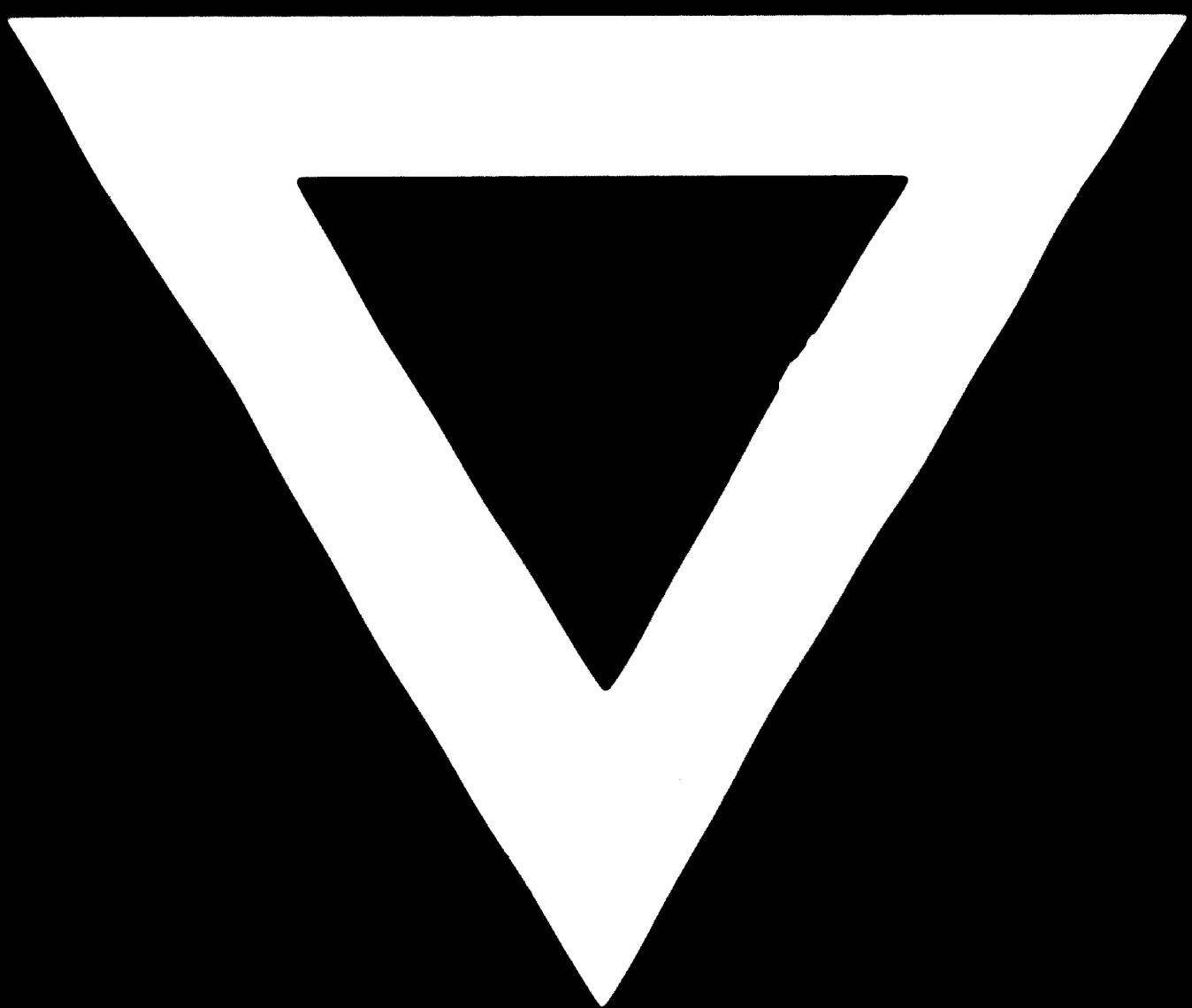

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