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WESTERN SAMOA —
AN ECONOMIC SURVEY

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PREFACE

At its Ninth Session, the South Pacific Commission passed the following resolutions:—

“The Commission

noting the request of the New Zealand Government that the Commission assist in planning an economic survey for Western Samoa,

recognizing that an undertaking of this type would be of interest to other South Pacific territories,

requests the Research Council to advise on plans for such an undertaking, including an outline of the nature of the survey, of methods by which it may be made, and proposals for sharing of costs with the local authorities, with a view to the advice of the Council being submitted to the Commission at its second session of 1952.”

Two months later at its meeting in June, 1952, the Research Council expressed the opinion that—

“an economic survey, Western Samoa, should eventually indicate the extent to which the resources of the territory are adequate, or are adequately utilized, to provide for the maintenance and improvement of present living standards for the rapidly expanding population. The Council considers that the first stage of such a survey would be an appropriate subject for joint action by the Commission and the Government of Western Samoa in 1953.

“The content of this initial stage should be:—

- (i) an economic stocktaking of the present situation, based on information already available, particularly data on population trends, production trends, external trade, prices, wages, provision of credit, investment, soils and crops, and the results of the agricultural census;
- (ii) a statement of the additional types of information required for a more detailed assessment of resources and possible uses;
- (iii) a statement of the additional types of information required for national income estimates with minimum detail.
- (iv) a statement of the ways in which the types of information specified in (ii) and (iii) could be obtained by the administration, and what technical assistance would be required.

“The further development of the economic survey project, as a Commission activity, should then become a question for discussion between the Commission and the New Zealand authorities.

“The Council recommends:—

- (i) that the Commission assist the New Zealand authorities to obtain the services of a suitable economist to undertake the first stage of the economic survey, Western Samoa, as outlined in paragraph 147, for a period of up to six months;
- (ii) that one-third of the total cost of the economist's services, including salary and allowances, travelling expenses to and from Western Samoa and accommodation charges within the Territory, be met by the Commission in view of the regional significance of the study.”

At its Tenth Session, the South Pacific Commission approved the above recommendations of its Research Council, and Dr. E. M. Ojala, Deputy Chairman of the Council, visited Western Samoa and New Zealand for preliminary discussions on the project.

With the approval of the Board and Governors of the Reserve Bank of New Zealand, my services were made available to visit Western Samoa for a period of up to six months to undertake the initial stage of this survey.

Field work in the territory began in May, 1953, and concluded in October of that year. In August, Dr.

Ojala again visited Western Samoa to review the progress of the survey and, as a result of findings, permission was given to interpret the terms of reference to include, *inter alia*:

- “(a) an examination of Samoan village economy in relation to the requirements of economic development;
- (b) an evaluation of existing production trends;
- (c) suggestions regarding future economic policy that emerge from your stocktaking.”

It was also agreed that the services of Mr. A. J. L. Catt, of the Commission staff, should be made available for work on a preliminary assessment of the national income of the territory and report on this section of the survey.

V.D.S.

WELLINGTON,
APRIL, 1954.

Revision

For purposes of publication as a South Pacific Commission Technical Paper, this report was revised in November 1955, to include the latest available statistics on Western Samoa's economy, and to record some of the important changes that have occurred since the author's field investigation in the territory.

WELLINGTON,
20th NOVEMBER, 1955.

V.D.S.

PICTURE CREDITS: The photographs reproduced in this report were provided by the Tourist and Publicity Department of New Zealand, with the exception of those on pages 11 (right), 13 and 25, which were made available by the Department of Agriculture, Wellington.

C O N T E N T S

I.	THE PEOPLE OF WESTERN SAMOA	1
	Increase in Population	1
	Factors Encouraging a Rapid Increase in Population—	
	Birth Rate	2
	Death Rate	3
	Infant Deaths	3
	Population Growth in the Future	4
	Migration	5
	Age Distribution of Population	5
II.	LAND RESOURCES OF WESTERN SAMOA	6
	Land Use and Ownership	6
	Land Policy	7
	Land Tenure	7
	Soil Erosion	7
	Water Resources	8
III.	AGRICULTURAL PRODUCTION	9
	Agricultural Census 1950	9
	Changes in Agricultural Production	9
	Average Productive Efficiency in Export Trade	10
	Copra	12
	Production Trends and Prices	12
	Long-term Bulk Purchase Contract	12
	Factors Restraining Copra Production	13
	Rhinceros Beetle Damage	13
	Copra Plantation Areas	14
	Production Costs and Profit Margins	15
	Cocoa	15
	Production Trends and Prices	15
	Factors Influencing Production	16
	Pests and Diseases	17
	Land Areas in Cocoa	18
	Cost of Production	18
	Production Standards	18
	Future Prospects	18
	N.Z. Reparation Estates Proposal for Assisting Production	18
	Bananas	19
	Coffee	20
	Cattle Raising and Dairy Farming	21
	Milk Production	21
	Beef Production	21
	Samoan Cattle Husbandry	22
	Local Food Production	22

	Other Primary Production	22
	Rubber	22
	Hides	23
	Papain	23
	Grapefruit	23
	The Gerlach Report on Agricultural Development	23
IV.	FORESTRY AND TIMBER	24
	The Marshall and Thompson Report	25
	N.Z. Reparation Estates Operations	25
V.	MANUFACTURING AND SERVICING INDUSTRIES	26
	Desiccated Coconut Manufacture	26
	Soap Manufacture	26
	Other Manufacturing Industries	27
	Furniture and Cabinetmaking	27
	Boat-building and Repairs	27
	Bread Baking	27
	Ice Manufacture	27
	Cordial Manufacture	27
	Tailoring and Piece-Goods	27
	Mattress Manufacture	27
	Produce Buying and Retail Distribution	27
	Miscellaneous Commercial and Consumer Services	28
VI.	TRANSPORT, COMMUNICATIONS, AND ELECTRIC POWER RESOURCES	29
	External Transport	29
	Shipping	29
	Harbour Facilities	29
	Air Services	29
	Internal Transport	29
	Shipping	29
	Roads	30
	Road Transport Facilities	31
	Communications	31
	Postal Services	31
	Wireless and Telegraph Services	31
	Radio Broadcasting	31
	Telephone Services	32
	Electric Power Supply	32
VII.	EMPLOYMENT AND WAGES	33
	Samoan Labourers	33
	Samoan Tradesmen and Overseers	34
	Samoans in Commerce	34
	Samoans in Government and Public Administration	35
	The Importance of Wages and Salary Earnings in the Economy	35
	"Urban Drift"	36
	Wage Rates	36
	Retail Price Changes	36
	Consumers' Price Index—Apia	37
	"Real" Wages in Western Samoa	38
	Hours of Work	38
	Unemployment and Under-Employment	38
	The "Aliesa Scheme"	39
VIII.	PUBLIC FINANCE	40
	Historical Review	40
	Government Expenditure	41
	Government Revenue	42
	Taxation Reform	42
	The Future Role of Public Finance	42
IX.	PUBLIC WORKS DEPARTMENT	44
X.	NEW ZEALAND REPARATION ESTATES	46
XI.	BALANCE OF TRADE AND EXTERNAL PAYMENTS	47
	Balance of "Visible" Trade	47

	Balance of External Payments	47
	Direction of Visible Trade	47
XII.	CURRENCY AND BANKING	49
	Coinage	49
	Note Circulation	49
	Exchange Rates	49
	Commercial Banking	49
	Savings Banking	50
XIII.	SAMOAN HANDICRAFTS: THE TOURIST INDUSTRY	51
XIV.	SOCIAL SERVICES	52
	Education	52
	Primary Schools	52
	Secondary Schools	52
	Vocational Training Schools	52
	Scholarships and Bursaries	53
	Public Health	53
XV.	AGRICULTURE AND ECONOMIC PROGRESS IN WESTERN SAMOA	54
	Development on Plantation Estates	54
	Development on Samoan Lands	55
	General Observations and Qualifications	55
	Traditional Institutions and Social Values	56
	The Aiga and Matai System	55
	Social Values and Status	56
	Village Life and Conformity	56
	Village Competitive Progress	57
	Progress Through Persuasion and Demonstration	57
	Government Influence and Village Economics	57
	Land Tenure Problems	58
	Security of Tenure for Samoan Cultivators	58
	Leases for Land Development	59
	Inheritance of Established Cultivations	60
	Samoan Land as Security for Loans	60
	Capital Formation	60
	Sharing and Distribution of Wealth	60
	Traditional Use of Money	60
	Spending and Saving	60
	Facilities for Saving	61
	Co-operative Societies	61
	Production Incentives and Disincentives	61
XVI.	CONCLUSIONS AND RECOMMENDATIONS	63
	Mental Attitudes	63
	Community Development	63
	Planned Development	63
	New Zealand Reparation Estates	64
	Development of Agriculture	65
	Land Tenure	65
	Co-operative Societies	65
	Internal Marketing	65
	Employment and New Industries	65
	Capital Formation	66
	Credit for Agriculture and Industry	66
	Technicians and Specialist Personnel	66
	Reference List of Authoritative Reports on Western Samoa	66

APPENDICES

I.	Western Samoa: Forecast of Population	67
II.	Gerlach Report on Agriculture (A Summary)	67
III.	Personnel of Public Service	71
IV.	Resource Assessment in Western Samoa	72

GLOSSARY OF SAMOAN TERMS USED IN THIS SURVEY

aiga—an extended family group of related parents, children and adopted children (see page 55).
fa'a Samoa—according to Samoan custom.
Faipule—a member of the Fonó of Faipule.
fale—house.
malaga—journey.
matai—a title holder, or the titled head of a family.

pule—authority.
Pulenu'u—a representative of the Government in a Samoan village.
pulefa'ato'aga—a plantation inspector.
taule'ale'a—an untitled man (plural *taulele'a*).
taupou—ceremonial virgin of a village—see page 56, footnote⁹.

ACKNOWLEDGEMENTS

I should like to express my thanks to His Excellency the High Commissioner of Western Samoa, Mr. G. R. Powles, for the co-operation and assistance I received during my visit to the territory from officials of the Administration and members of the Legislative Assembly. I should like to express also special appreciation for the advice and assistance I received in preparing this survey from Mr. J. B. Wright, Secretary, Department of Island Territories, Wellington, the Hon. Tupua Tamasese, the Hon. Malietoa Tanumafili, Mr. F. J. H. Grattan, Dr. T. C. Lonie, Mr. W. E. Wilson, Mr. R. K. Lambie, Mr. L. M. Cook, Mr. W. G. McKay, Mr. D. R. A. Eden, Mr. W. H. Kelly, Mr. D. M. Heise, Mr. H. S. Newton, Mr. Wm. Laing, Mr. T. T. Laban, Mr. E. Stehlin, Mr. C. R. Rivers, Mr. P. K. Edmonds, the Hon. E. F. Paul, Mr. Harold Gow, Mr. E. Annandale, Father Bourke, the Hon. Tualalelei Mauri, the Hon. Lautele Te'o, Kolone Va'ai and Etene Sa'aga.

To these people and to many others in Apia and the villages of Western Samoa I am most grateful for unstinted help and friendly hospitality.

V. D. STACE.

Western Samoa — An Economic Survey

I: THE PEOPLE OF WESTERN SAMOA

The great majority of the people of Western Samoa are indigenous Polynesians of pure, or nearly pure, Samoan ancestry. When the territory's most recent census¹ was taken in September 1951 it was found that not less than 93 per cent. of the total population were classified as indigenous Samoans. The figures actually recorded for the classified racial groups at that census were as follows:

Samoans	79,588
Other Pacific Islanders of "Samoan status"	565
<hr/>	
Total population of "Samoan status"	80,153
Part Samoans and others of "European status" ²	4,142
Europeans	450
Chinese	164
<hr/>	
Total population as at 25th September, 1951	84,909

Of the 450 Europeans recorded, only a small number were permanent residents of the territory, most being short-term residents associated with governmental, missionary or commercial appointments.

Although from time to time until as late as 1934 indentured and contract labourers were brought in from China, New Guinea and the Solomon Islands for employment in Western Samoan plantations, repatriation of these foreign elements was required and energetically enforced, and few Chinese and Melanesian expatriates remain in the territory.

While the number of people in Western Samoa of pure European, Asian or Melanesian blood is insignificant in proportion to the total population as shown in the census, a fairly extensive admixture of these racial stocks with the Samoans has occurred during the past century.

INCREASE IN POPULATION

Since the first estimate of Western Samoa's population was made in 1839 by Commodore Charles Wilkes, three quite clearly-defined periods of change have been recorded in the periodic estimates and census enumerations which are summarized in the accompanying table and chart. The estimated totals for 1839 until 1854 show a period of rapidly-declining population, a state of affairs confirmed in the reports of decimating epidemics and the carnage of inter-tribal warfare recorded in the writings of contemporary observers.

From 1854 until 1926 estimates and census enumerations show a gradual recovery in population numbers; uneven, it is

¹ See Reference List, page 66, Report 3.

² The terms "Samoan status" and "European status" are of local importance, with legal rather than racial significance.

true, but sufficiently definite as time went on to reassure official and unofficial observers that the eventual disappearance of the Samoans was not another impending racial tragedy. It had been widely feared that in Samoa, as elsewhere, contact with the carriers of disease and sickness endemic in older civilizations would lead to the relentless extermination of its native people who then, apparently, lacked the degree of natural resistance to disease required for survival.

During this period of recovery and slow growth in population the Samoan people maintained a very high birth rate, but lacking both natural resistance to new diseases and also access to effective medical services, their mortality under a continuing series of epidemics precluded any significant re-population of the territory. The severe influenza epidemic of 1918 actually reduced the indigenous population of Western Samoa to a level below that of 1911.

Since 1926 an increasingly successful public health programme has operated in conjunction with steady improvement in the natural resistance of the Samoan people to recently-introduced disease. With these factors and the almost complete elimination of local warfare as a cause of death among Samoans, the population of the territory has increased rapidly—in fact, more rapidly than in any other region of the world where natural causes unaided by immigration have operated to increase numbers of inhabitants.

POPULATION OF WESTERN SAMOA

	<i>Estimates</i>	<i>Census Enumerations As At—</i>
1839	47,000*	31st December, 1906 37,320
1845	40/45,000**	31st December, 1911 38,084
1849	32,000†	31st December, 1921 37,157
1854	29,000††	1st January, 1926 40,229
1881	28,000‡	4th November, 1936 55,946
1886	29,000§	25th September, 1945 68,197
		25th September, 1951 84,909
		31st December, 1954 94,128§§

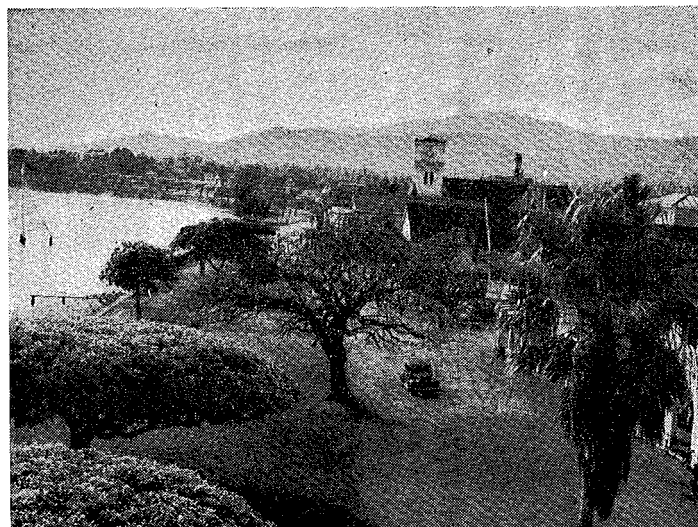
* Commodore Chas. Wilkes
 ** London Missionary Society
 † Capt. Erskine
 †† London Missionary Society
 ‡ Paul Deschanel
 § John B. Thurston

§§ Estimate—see Reference List page 66, Report 1.

The unparalleled situation of the Samoans in comparative rates of population growth was confirmed in the census of 1951³.

Experience in other rapidly-increasing but less-prolific areas makes it certain that the very speed of Samoan population growth will be a uniquely complicating factor in the task of fostering the economic, social and political advancement of these Polynesian people.

³ United Nations Department of Social Affairs Report on the Population of Trust Territories Number 1 (published 17/1/48), page 10, comments on Western Samoa as follows: "The growth of population from 1921 to 1945 averaged 2.5 per cent. per year, which is one of the highest rates recorded during the last few decades in any country in the world. Higher rates of increase may have occurred recently in certain parts of Africa, but the available data from those areas are too poor to provide reliable comparisons."



Beach Road, Apia; looking east.

The latest available information⁴ provides the following comparative average annual rates of population increase.

COMPARATIVE RATES OF INCREASE IN POPULATION*

Average Annual Per Cent. Increases

Highest Rates Recorded

Country	Period	Average Annual Per Cent. Increases
American Samoa	1940-50	3.91%
Western Samoa**	1945-51	3.72%
Western Samoa**	1926-51	3.03%
Panama	1940-50	2.86%
Honduras	1940-50	2.66%
Mexico	1940-50	2.66%
Fiji	1936-46	2.60%
Brazil	1940-50	2.53%

Other Rates Selected for Comparison

Philippine Islands	1939-48	1.91%
Egypt	1937-47	1.81%
Japan	1948-50	1.70%
Jamaica	1921-43	1.70%
Hawaii	1940-50	1.69%
Cuba	1931-43	1.62%
Ceylon	1931-46	1.51%
United States of America	1940-50	1.36%
Republic of India	1941-51	1.26%
Cook Islands	1945-51	1.14%
Australia	1933-47	0.96%

* Excluding Israel and Alaska, where higher rates are recorded, but in these cases the rate of change is dominated by large-scale immigration.

** Calculated from revised figures.

A summary of Western Samoa's census results since the first enumeration in 1906 to show changes in the average annual rate of population growth between census dates indicates both the spectacular changes in the trend of population growth during the past fifty years and the remarkable rate of increase shown since the 1945 census enumeration, viz.:

COMPARATIVE AVERAGE ANNUAL RATES OF POPULATION CHANGE IN WESTERN SAMOA

	Total Population as for Census	Average annual percentage increase or decrease*
31/12/1906	37,320	—
31/12/1911	38,084	+ 0.41
31/12/1921	37,157	— 0.25
1/ 1/1926	40,229	+ 1.60
4/11/1936	55,946	+ 3.35
25/ 9/1945	68,197	+ 2.25
25/ 9/1951	84,909	+ 3.72

* Rate based on increase or decrease since previous census.

⁴ The Demographic Yearbook 1952, published by the United Nations Department of Economic Affairs.

The significance to a country of an average annual rate of increase in population moving at the extremely high level of 3.72 per cent. per annum (the rate recorded for Western Samoa for the latest inter-census period) is best emphasized by drawing attention to the fact that if this rate were to be maintained, the population of the territory would double in number each eighteen years, so that by 1969 the territory of Western Samoa would be feeding, clothing, housing, providing employment for and maintaining in many other ways not less than 170,000 Samoan people. As shown in the second table in this section during the 25-year period 1926-1951 the average annual rate of increase in Western Samoa's population was 3.03 per cent. per annum; which figure provides a more reliable indicator⁵ of probable future growth. A forecast of Western Samoa's population, which assumes an average annual rate of growth of about 3 per cent. per annum, has been prepared by the New Zealand Government Statistician. (This estimate is reproduced in full as Appendix I.)

On the information available from the census returns of Western Samoa, it is not possible to prepare population forecasts involving the use of scientifically-based statistical techniques. The lack of essential information on the trends of the age distribution of population, on the average expectation of life and on other essential data precludes the use of any but simple mathematical "forecasts" of the type used in the previous paragraph.

FACTORS ENCOURAGING A RAPID INCREASE IN WESTERN SAMOA'S POPULATION

(a) Birth Rate

Usually exposed to the continuing depredations of warlike neighbours and lacking knowledge of the nature of human disease and appropriate health and sanitation practices, primitive societies throughout history have been unable to survive unless their customs and social institutions were favourable to very high birth rates. It seems reasonably certain that even in the period of the territory's rapid de-population and acute social disturbance (from 1840 until about 1890), the birth rate was as high as it is today. There was then, and there is today, no evidence of widespread institutional or individual restraints to reduce childbirth. Then, as now, the social institutions of Samoan culture encourage the maintenance of unusually high rates of reproduction. It is characteristic of Samoan society that marriages occur at an early age, with little if any attempt to limit conception or childbirth. Divorce is relatively free and the re-marriage of divorcees and widows is unrestricted.

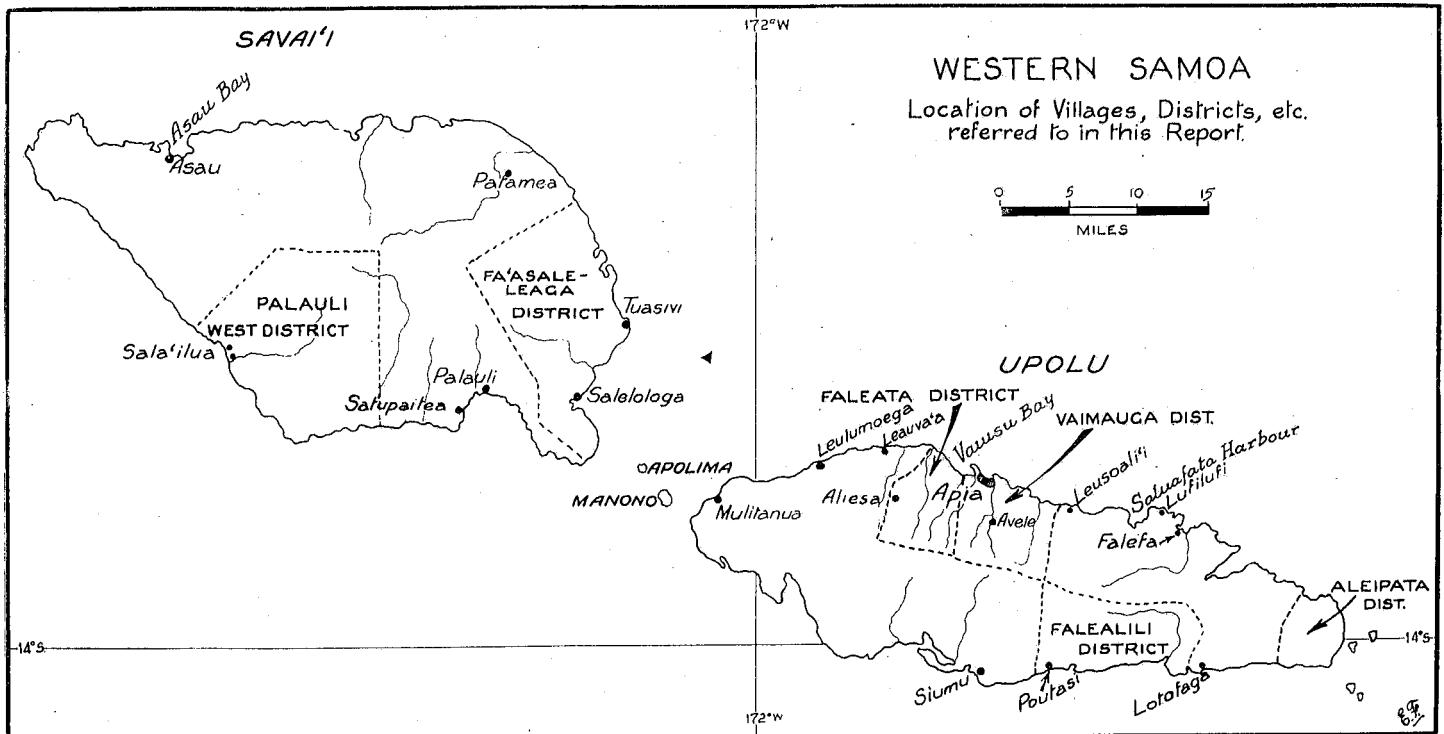
Large families rarely impose severe economic burdens on parents, since food is usually plentiful, and it is customary for married sons and daughters to live with parents or other relatives. The adoption of children is widely practised and a great deal of the care and supervision of Samoan infants is entrusted to girls of the household, who customarily undertake this type of responsibility from a very early age.

The registration of births and deaths in the villages of Western Samoa has been one of the tasks entrusted to the Pulenu'u (the appointed representatives of the Government in the villages), who by training and inclination are sometimes poorly qualified for the work, with the result that vital statistics based on these returns usually understate the actual position in the territory. In an attempt to correct the birth statistics of Western Samoa for incomplete registrations, the Population Division of the United Nations Department of Social Affairs examined the available evidence in the 1945 census, and estimated that during the years 1944 and 1945 the registration of births in the territory was only 80 per cent complete.⁶ The conclusion drawn

⁵ Current research suggests that 3½ per cent. annually is the maximum probable annual rate for population growth by natural increase. This annual rate corresponds to a birth rate of 45 per thousand and a death rate of 10 per thousand.

SOURCE: *Measures for the Economic Development of Under-developed Countries*. United Nations, E/1986.

⁶ See Reference List, page 66. Report 2.



This map of Western Samoa shows the location of villages, districts, etc., referred to in this report.

was that the actual annual birth rate in Western Samoa ranges between 45 and 55 live births per 1000 of population; a rate which this authority describes as "the birth rate of a people reproducing near the limit of physiological capacity." Despite incomplete registration of some magnitude in Western Samoa, the recorded birth rate for the territory⁷ is nevertheless high in comparison with those of other countries listed in current United Nations statistical comparisons and indicated in the following table:

CRUDE BIRTH RATES IN SELECTED COUNTRIES

Average annual rates per 1000 of population for period 1946-1951

Western Samoa	45.5	New Zealand (excluding Maoris)	25.2
New Zealand Maoris	44.8	United States of America	24.4
American Samoa	42.9	Italy	20.5
Ceylon	39.5	England and Wales	17.3

(b) Death Rate

It is unfortunate that the achievements of Western Samoa's improving health services cannot be gauged with any satisfactory degree of accuracy from statistics based on officially registered deaths.

In spite of the serious inaccuracies in the figures, due to incomplete registration throughout the periods concerned, the recorded figures show something of the spectacular change that has occurred in the annual death rate of the people of Western Samoa. For the five-year period ended December 1914 the crude death rate recorded for Samoans in the territory averaged 35 deaths per annum per 1,000 of population. Ten years later this figure had been reduced to 27 deaths per 1,000, while for the five years ended 1951 the recorded figures show the remarkably low rate of 9.6 deaths per thousand.

Confirmation of this outstanding improvement in the death rate and general standard of health of the Samoan people is available in the periodic census returns, which record overall changes in population with reasonably complete coverage. The rapid increase in population numbers there disclosed could not

⁷ The birth rates (live births per 1,000 of population) recorded for the year 1954 were: Samoans, 37.24 per 1,000; "Europeans," 32.88 per 1,000.

have been achieved without a reduction in the death rate of the magnitude indicated in the figures quoted above.

(c) Infant Deaths

In Western Samoa special efforts have been made to improve the health and chances of survival of children, particularly the very young. In this work the relatively high status of Samoan women in their communal society has played an important part in the success achieved. The extensive development of Women's Committees⁸ in the villages, has provided increasingly effective liaison between health officials and the people in need of help and instruction.

Discussing the improvement that has occurred in standards of infant care and welfare in Western Samoa during comparatively recent times, the Director of Health on a recent occasion⁹ drew attention to the remarks of one of his predecessors in office who in 1923 stated that "it was a good year if only 155 in each 1,000 Samoan babies died in their first year of life". The Director then indicated the progress achieved in less than thirty years by drawing attention to the comparable figure of 53 deaths per thousand for 1952, and emphasized its significance to Western Samoa by pointing out that, whereas 30 years ago less than 850 Samoan children of each thousand born survived the first year¹⁰ of life, today 950 reached their first birthday, with very much improved chances thereafter of reaching mature old age.

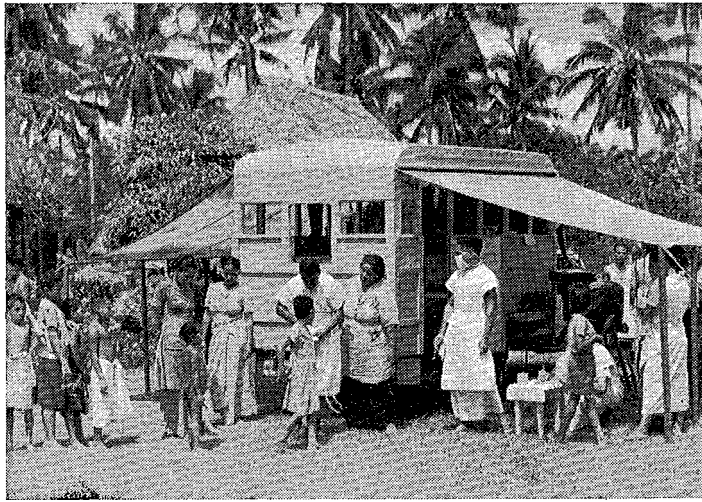
The following comparison based on statistics published by the United Nations Organization¹¹ shows a very satisfactory standard of achievement in infant care and welfare, even in relation to standards obtaining in economically-advanced countries with old-established and highly-developed public health facilities.

⁸ Non-traditional forms of organization usually actively supported by the chiefs and orators of the villages. See also pages 4 and 56.

⁹ During the budget review at the first Session of the Legislative Assembly, 1953.

¹⁰ The infant mortality rates for the three years ended 1925 averaged 180 per 1,000.

¹¹ See Reference List, page 66, Report 2.



Village patients attending a mobile clinic for a medical check-up.

INFANT MORTALITY RATES: DEATHS OF INFANTS UNDER ONE
YEAR OF AGE PER 1,000 LIVE BIRTHS

Average Annual Rates for period 1947-1951

New Zealand (excluding Maoris)	23.2
United States of America	30.7
England and Wales	33.7
American Samoa	50.8
Western Samoa (Samoans only)	52.4
Japan	63.6
Italy	72.3
New Zealand Maoris	74.7
Ceylon	90.0

In the opinion of the present Director of Health, the progress achieved will be maintained, and even more favourable results may be expected in the near future as a result of the present programme for extending and improving facilities for infant welfare throughout the territory.

Elsewhere in this report reference is made to the progressive and co-operative spirit that is typical of Women's Committees in Western Samoa. There is no better evidence of the social worth of these committees than their contribution to the success achieved in standards of infant care. Without the organized help of Samoan women acting through these widely-dispersed committees, the spectacular reduction in the infant death rate that has occurred during recent years could not have been achieved.

POPULATION GROWTH IN THE FUTURE

Notwithstanding the extent to which the rate of naturally-induced population growth in the Samoan Islands exceeds the rates of growth of all other regions under statistical examination, including those countries famed for prolific reproduction of the human species, there is no evidence to suggest that the comparatively recent upsurge in Samoa's rate of increase will revert to more modest proportions. The human relationships and institutions in Samoan society that encourage a high birth rate are certain to continue. These aspects of the Samoan life are not greatly disturbed by the increasing impact of Western civilization that is occurring nor influenced in any marked degree by the gradual elimination of some restrictive aspects of Samoan custom that have disappeared under the stress of changing social and economic conditions. There is impressive confirmation of these assumptions in the fact that the birth rate of part-Samoans, even those registered as "Europeans", does not depart significantly from the general pattern of the territory as a whole.

Assuming economic development follows a rational pattern in Western Samoa there should be no restraint on population

growth from lack of essential foodstuffs, although temporary shortages in dry seasons may be expected to present recurring difficulties.

Improving standards of hygiene and medical care have provided the means and the principal explanation for Western Samoa's recent unprecedented rate of population growth. The positive thrust of increasingly effective medical facilities on future population changes will be reinforced by the improving natural resistance of the Samoan people to introduced disease. The Director of Health has expressed the opinion that "with the frequent contact of the Samoan population with the outside world, especially New Zealand, a sufficient 'salting' takes place with the principal infectious diseases to make it unlikely these diseases will produce virulent epidemics. Probably the whole of our epidemic diseases will resemble the New Zealand pattern, and in the present circumstances Samoa is unlikely to encounter anything resembling the influenza epidemic of 1918-1921."

The possibility, or even probability, of fairly substantial statistical defects in the figures used to calculate mathematical rates of population growth in any particular period, and the unavoidable hazards in using this defective information to forecast population changes in the future, should not cast doubt on the essential facts that have become clearly established from the detailed information that has been secured. The fact that Western Samoa has doubled its population in the extremely short space of 23 years¹² is established beyond doubt. It should be assumed that for the next two or three decades this rate will be maintained. In fact, most of the evidence available on death rates, infant welfare standards, birth rates, the age distribution of the people, etc., points to an upward trend in the rate of population growth during the whole of the immediate past, with the probability that the trend will continue and establish even higher rates in the near future.

In July 1953 the New Zealand Government Statistician forecast¹³ total population of the territory at five-year intervals as follows:

Estimate:	31st December, 1955	97,000
	31st December, 1960	114,000
	31st December, 1965	134,000
	31st December, 1970	157,000
	31st December, 1975	184,000

MIGRATION

Migration has exerted very little influence on population trends in Western Samoa. Samoans move freely between the islands of the Group, including American Samoa, but, speaking generally, few venture overseas, and those who do so usually return to their homeland. Part-Samoans, with the advantages of more adequate financial support and better qualifications for employment, show a marked tendency to settle overseas permanently¹⁴. Since World War I there has been a gradual but significant reduction in the numbers of the expatriate European group as Samoan participation in Government¹⁵ business and in the administration of religious organization has advanced with the spread of education and improvement in the islanders' capacity in technical skills.

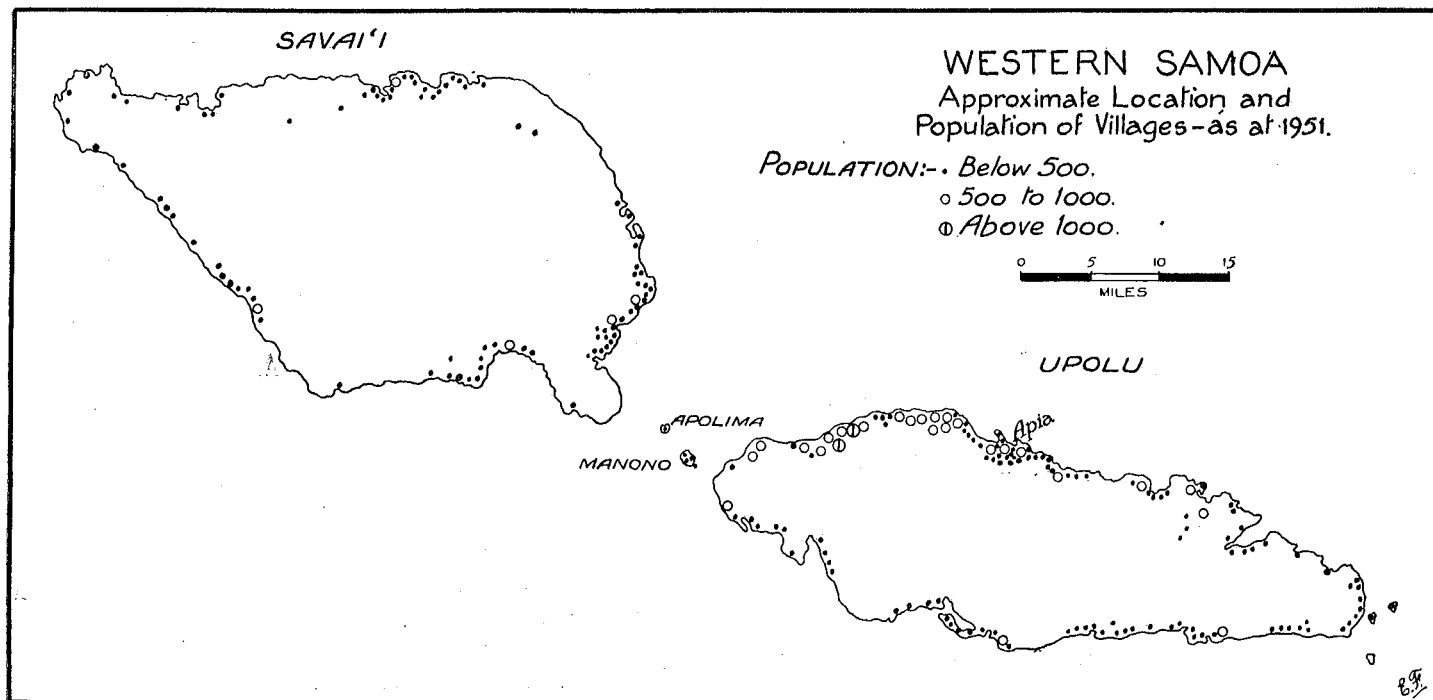
During the ten years ended March 1951 there was a net inflow of people to Western Samoa of 631 persons—an average rate of some 60 people a year. During this period an outflow of 899 Europeans, part-Samoans and others was more than offset by an inflow of 1,530 Samoans, principally from American Samoa. During recent years a modest but steady outflow of people from Western Samoa has occurred. As shown in the following summary of migration statistics for the three years ended December 1954, this recent net outflow tapered off from 749 persons in 1952 to 116 persons in 1954.

¹² An average annual rate of population increase of 3.03 per cent. was established for the period 1926-1951.

¹³ See Appendix I for details and qualification concerning this forecast.

¹⁴ The problem created by the outward flow of semi-skilled workers is discussed in some detail in the section of this study dealing with "Wages and Employment".

¹⁵ See page 35.



This map of Western Samoa shows the approximate location and population of villages as at 1951.

MIGRATION

Western Samoa Arrivals and Departures for 1952, 1953 and 1954 (Years ended 31st December)

	1952	1953	1954
Departures:			
Samoans	3973	4294	5090
Others	777	923	942
Total Departures	4750	5217	6032
Arrivals:			
Samoans	3335	3844	4923
Others	666	820	993
Total Arrivals	4001	4664	5916
Excess of Departures:			
Samoans	638	450	167
Others	111	103	-51*
Net outward flow for year	749	553	116

* Excess of arrivals.

The following analysis of departures from Western Samoa during 1954 shows characteristic features of the external movement of people to and from the territory. If allowance is made for the accidental variations which would be cancelled out in a longer period, the features of migration briefly described above are clearly shown.

DEPARTURES FROM WESTERN SAMOA BY DESTINATION Totals for year ended 31st December, 1954

Racial Group	Destination	Males	Females	Total
Samoans	New Zealand	377	291	668
	American Samoa	2,228	1,910	4,138
	Fiji	75	57	132
	Other countries	76	76	152
		2,756	2,334	5,090
Others (incl. part-Samoans)	New Zealand	139	83	222
	American Samoa	201	102	303
	Fiji	195	80	275
	Other countries	94	48	142
	Total Departures	3,385	2,647	6,032

AGE DISTRIBUTION OF POPULATION

In Western Samoa there is such a high proportion of children to adults that more than half the total population are under seventeen years of age. In New Zealand slightly more than half the non-Maori population are in the "30 years of age and over" groups, with less than 30 per cent. of "under 17 years of age".

The comparative youth of Western Samoa's population is shown in the following table based on statistics published in the Demographic Yearbook for 1952. This table also shows the very close agreement in the patterns of age distribution of the Polynesian people covered by the statistics.

PERCENTAGE OF TOTAL POPULATION IN SPECIFIED AGE GROUPS

	Age 0 to 14 years %	Age 15 years to 29 years %	Total % under 30 years %	Age 30 years and over %
Western Samoa (25th September, 1951)	46.9	26.7	73.6	26.4
American Samoa (1st April, 1950)	46.3	28.1	74.4	25.6
Cook Islands (25th September, 1951)	45.6	25.6	71.2	28.8
New Zealand Maoris (1950 est.)	46.3	26.9	73.2	26.8
New Zealand (excl. Maoris, 1950 est.)	28.0	21.5	49.5	50.5
England and Wales (1st July, 1951)	22.0	20.4	42.4	57.6
United States of America (1st April, 1950)	27.1	22.6	49.7	50.3

A high proportion of children is evidence of an increasing population that promises both continuing growth of numbers and a high productive potential if good use is made of the rapidly-expanding labour resources becoming available as children complete their schooling.

On the other hand, most young children are non-producers, and require for their medical care and education a disproportionately large share of the limited public revenues available for expenditure on all social services and public utilities. Hence the actual existence of a high proportion of children to adults in a community creates special difficulties in providing a high level of diversified employment for children passing through the schools.

II: LAND RESOURCES OF WESTERN SAMOA

LAND USE AND OWNERSHIP

The territory is in urgent need of accurate information on the extent and nature of its land resources. The aerial survey which is already in progress will provide the detailed topographical maps so essential for accurate land use, surveying and planned developmental programmes. Meanwhile, large areas of inland Upolu and much of the interior of Savai'i have not yet been surveyed and mapped and the physical features are known, if at all, only to local pig and pigeon hunters. Consequently estimates of land areas in actual or potential use in the territory are subject to an unusually wide margin of error.

It has been customary to assume that more than half of Western Samoa's total land area is too steep, too arid or otherwise unsuitable for cultivation. Estimates quoted in his recent report, *Forestry in Western Samoa*, by Colin Marshall, describe only 323,200 acres as agricultural land, 200,000 acres as steep slopes which must be kept forested, 175,000 acres as recent or unproductive lava fields, and 25,000 acres as land required for hydro-electric or water supply purposes. More recently, estimates quoted in Mr. J. C. Gerlach's *Agricultural Survey* describe as "uncultivable and waste land" some 231,248 acres, basing this total figure on the assumption that 10 per cent. of all Government, Reparation Estates and other non-Samoan land is in this category. This estimate assumes also that 20 per cent. of the undeveloped Samoan lands in Upolu and 50 per cent. of these lands in Savai'i are uncultivable or waste.

More detailed information on the area, ownership and use of land in the territory based on statistics in the Gerlach Report is as follows:

USE AND OWNERSHIP OF LAND IN WESTERN SAMOA Estimates 1951

(a) Samoan Land	Upolu (acres)	Savai'i (acres)	Total (acres)
In coconuts	20,500	15,200	35,700
In foodstuffs, cocoa, etc.	12,000	7,500	19,500
	32,500	22,700	55,200*
Uncultivated and rough	154,000	373,700	527,700
Total Samoan owned	186,500	396,400	582,900
(b) Government Land, including New Zealand Reparation Estates	72,000	49,100	121,100
(c) Mission Land	4,500	500	5,000
(d) Other—Mainly privately-owned European lands	12,000	4,000	16,000
Total Land Areas	275,000	450,000	725,000

* This figure compares with an estimated 75,000 acres in the next table and 66,261 acres, the estimated total for Samoan land in cultivation based on the 1950 Agricultural Census. These differences emphasize the tentative nature of all the Western Samoan land use estimates compiled up to the present time.

Additional information on land use is furnished in the following table of areas for both islands which appeared in the 1952 Annual Report of the Territory:

CULTIVATED AND UNCULTIVATED LAND IN WESTERN SAMOA

as at December 1952

(estimates in acres)

(a) Land in Cultivation		
(or in use as pasture, building sites, installations, etc.)	acres	acres
(1) N.Z. Reparation Estates (freehold)	11,250	
(2) N.Z. Reparation Estates (leased Samoan)	2,500	
(3) European (leased from N.Z. Reparation Estates)	4,250	
(4) European, Samoan Government and Missions	27,000	
(5) Samoan owned and cultivated	75,000	
Total:		120,000
(b) Arid (Lava fields of recent origin)		24,000
(c) Land Uncultivated and in Forest Reserves		
(1) N.Z. Reparation Estates	17,000	
(2) Samoan Government	76,000	
(3) Europeans and Missions	6,000	
(4) Samoans	482,000	
Total:		581,000
Total estimated land area		725,000

The land listed as arid is mainly in Savai'i, where two comparatively recent lava flows¹ have obliterated large tracts of fertile land. Until aerial surveys and other investigations are completed it is not possible to estimate how much of the 581,000 acres listed as uncultivated and in forest reserve is suitable for future cultivation.

In many areas the soil is covered with volcanic rocks and boulders to such an extent that mechanized cultivation is impossible. There are sufficient indications at the present time, however, that in some parts of the territory mechanical cultivation could be used with advantage.

These facts, and the extent to which land is too steep for cultivation or should be retained in forest cover for other reasons, are yet to be determined by appropriate investigation.

Drs. Hamilton and Grange, scientists from the New Zealand Department of Scientific and Industrial Research, in a preliminary survey in 1938 identified eight main soil types in the territory, but further study is necessary to assess the extent and potential value of the useful soils of Western Samoa in relation

¹ An extensive lava flow from the volcano Matavanu, which was in eruption between 1905 and 1911, covered several villages and much fertile land on the north coast of Savai'i. People from the devastated area were resettled on Upolu.



Preliminary clearing work on a Government roading project.

to its future economic development. A soil survey of the territory has been planned by the New Zealand Geological Survey Department which could go into operation when mosaics from the projected aerial survey become available.

LAND POLICY

Approximately 80 per cent. of the land area of the territory is held by Samoans, and is used and administered in accordance with Samoan custom. It is illegal for Samoans to alienate Samoan-owned land permanently by way of sale except to the Government, but provision exists for the sanctioning of leases of this land to non-Samoans for periods of up to forty years.

The general land policy of the administering Government is to preserve the indigenous system of land tenure, which recognises family or kinship rights to specific areas, and to protect the present and future welfare of the Samoan people. This policy is implemented through legislation precluding or restricting land sales and the registration of incumbrances that could deprive Samoan people of continuing use of the limited land resources available in the territory.

Since the passing of the Samoa Act 1921, the only Samoan land that has been permanently alienated² has been taken by the Administration for public purposes. From time to time during the past 30 years, Government land has been transferred to Samoan ownership, usually to provide additional areas for cultivation in densely-settled or convenient areas. On various occasions the Government has purchased, or acquired in other ways, areas of land that have been privately owned by non-Samoans. In accordance with policies and obligations assumed under the former League of Nations Mandate and the present United Nations Trusteeship Agreement, there has been established in the territory a gradual reduction in the total area of land held under forms of private and individual ownership and an increase in the total area of land owned by Samoan kinship groups.

In view of the facts that less than 5 per cent. of the land resources of the territory are available for exploitation by individual owners with freehold titles, that much of this available land is now in intensive use at a high level of productive efficiency and that the area available for non-Samoan use is unlikely to be extended significantly, efforts towards improving land utilization in the territory must be directed principally to

achieving their objects on Samoan and Government-owned blocks.

The production trends discussed in the next few pages indicate the extent to which the economy is relying increasingly on marketable produce from Samoan plantations. The trends provide conclusive evidence in support of the general conclusion that the economic future of the territory will be determined by the degree of success achieved in increasing standards of efficiency in village agricultural production.

LAND TENURE

All Samoan land is vested³ in the Crown as trustee and administered under the Samoan Land and Titles Protection Ordinance 1934, which recognizes and supports the customary land practices of the Samoan people. Under these customary practices no individual owns any specific part of the land concerned—ownership is vested in the clan or family group, or more precisely in a "title" which that family has at its disposal. When a Samoan chief (matai) is granted and accepts a title from his kinsmen he automatically assumes control or "pule" over the disposal of the lands traditionally associated with his newly-acquired title. With this authority the matai assumes also traditional responsibilities to administer the land for the benefit of the family group. In addition to authority over the disposal of family lands, a matai has customary rights over the disposal of the produce harvested from family lands. Traditionally these rights extend to the apportionment of cash earnings acquired from the sale of produce or from the labour of members of the family, but with the passage of time matais show increasing appreciation of need to allow the industrious to enjoy, more or less directly, the reward of their labours.

Samoan land cannot be sold to non-Samoans, but with the approval of the administration it can be leased in small areas for village trading stations or for church sites. Some 250 of these leases have been approved. Since 1900 legal restraints of various kinds have precluded the alienation of Samoan lands to protect the long-term interests of the indigenous people. While the objectives and some of the past, present and future social benefits of these laws cannot be called into question, it is obvious that land policy and land tenure conditions have effectively restrained economic development. The presence of large tracts of fertile but unproductive Samoan land have provoked a great deal of criticism and some resentment during the past fifty years among non-Samoan residents and visitors seeking opportunity to establish plantations.

Many aspects of Samoan custom concerning land reflect the general conception that land is held and administered in trust for those members of the clan, or "aiga", as yet unborn. For this reason there is now a fairly general reluctance to sell or lease Samoan land even to members of the family group concerned. In Samoan custom the breaking-in of virgin land and its development into productive cultivations does not give the pioneering individual or family concerned firm assurance of continuing enjoyment of that land. An attempt to overcome this aspect of traditional custom was made in 1924, when regulations were passed authorizing the granting to each Samoan adult male of a 10-acre plot on a lifetime lease at one shilling per acre rental and providing that on marriage each Samoan young man could obtain a one-eighth acre house lot in his village. Although within three years about one-third of the villages had introduced this system voluntarily, it was opposed by an important section of the Samoan chiefs and orators, and was discontinued as a result of the Mau disorders, which began in 1926 and persisted for about ten years.

Alienated land held by persons of European status may be sold, leased, mortgaged or bequeathed, and transferees have their interests protected by land registration procedures based on practice in British metropolitan countries.

² Excluding property within the Apia town area for which special provision was made.

³ "subject to the native title and under the custom and usages of the Samoan race".

Land tenure practices play a fundamental part in economic development in all societies. In Western Samoa there is a growing body of opinion that there can be no rapid and enduring progress in the development of Samoan lands until the untitled men (the "taulele'a", who constitute the majority of the cultivators) are granted recognized status and reasonably secure tenure in the land they have cleared and planted. Defects in Samoan customary land tenure practices in relation to land improvement are discussed in some detail in subsequent sections of this study.

SOIL EROSION

There is no obvious evidence of serious soil erosion in Western Samoa. Notwithstanding high rainfall, the porous nature of the topsoil and subsoil and the rapid natural growth of dense cover plants conserves the surface soils. Nearly all steep slopes are covered with natural forest cover. Where the moderately-sloping areas have been planted in coconuts, surface run-off is restrained by grass swards or weeds; in the mature cocoa garden where "clean weeding" is practised, dadap cover crops (where they exist) or the thick mat of dead cocoa leaves protect the surface soil by assisting downward percolation. Newly-planted cocoa and banana areas may suffer some soil loss, but in many areas the rocky nature of the land effectively restrains denudation.

The natural forest cover does not burn off easily in the green state, even under abnormally dry seasonal conditions. Farming and hunting with the aid of the fire-stick are not widely practised in Western Samoa, and therefore the territory

is not penalising future generations by seriously abusing its basic land fertility in the wholesale manner practised in some of the other islands of the South Pacific.

A trend among the Samoan people from shifting cultivation to plantation agriculture, and also to over-brief periods of rest where land is still cultivated on the traditional rotational basis, poses mounting problems of soil exhaustion in some heavily-populated localities.

In limited areas there is quite serious coastal erosion, endangering roadways and reducing village plantation areas and building sites. In general, however, the coastline is well protected by the fringing reefs or by rugged laval cliffs resistant to wave erosion.

WATER RESOURCES

Despite the high annual rainfall received through the principal islands, some areas of Western Samoa face recurrent water supply problems during each "dry" season. The porous nature of the soil and sub-soil presents special problems, even at the present time, in ensuring adequate supplies of water for the territory as a whole. As population grows and increasing demands are made on water for domestic, industrial and agricultural purposes, water supply problems will become more general and more acute unless efforts are made to anticipate future needs through water conservation policies or through the tapping of underground supplies.

The projected aerial survey will provide basic information for a full-scale survey of water resources which should be given high priority in the developmental programme of the territory.

III: AGRICULTURAL PRODUCTION

AGRICULTURAL CENSUS 1950

Officers of the New Zealand Department of Agriculture carried out an agricultural census of the territory in 1950, based on a sample survey of selected villages. To cover certain defects in the 1950 investigation, some intensive rechecking was done about the end of 1952. The estimates from this census provide the most comprehensive picture of village agriculture that has yet been obtained in the territory.

The following statistics are based on the 1950 census enumerations, supplemented in accordance with later information that has become available to officers of the territory's Department of Agriculture.

It is to be hoped that the Agricultural Census of 1950 will be followed at regular intervals with similar or more detailed investigations for enumerations of this type, while individually useful for the essential information they provide, confer their greatest benefits as successive enumerations make it possible to examine with reasonable accuracy the changes that have occurred within the economy.

AGRICULTURAL STATISTICS FOR WESTERN SAMOA

(mid-year estimates)

<i>Land</i> (in acres)*	1951	1952
Agricultural land in cultivation—total area	87,800	88,400
Permanent meadows and pastures	4,700	5,000
Plantations, orchards and gardens	83,100	83,400
<i>Production</i>		
Copra (long tons)	14,619	17,074
Cocoa (long tons)	3,212	2,146
Bananas (for export only) (cases)	62,912	65,883
Other crops—		
Taro, Ta'amu, Yams, Cassava, Groundnuts		
Kapoc, Sugar Cane, Citrus Fruits, Pineapples,		
Mangoes, Breadfruit, Coffee, Tobacco	Produced, but amounts not available	
<i>Livestock</i>		
Cows—kept primarily for milk	N/A	270
Other cattle	N/A	11,300
Horses	N/A	N/A
Asses	181	186
Pigs (1950 estimates)	(37,600)	
Goats	N/A	200
Chickens, laying hens, geese, turkeys (1950 estimates)	(106,000)	
Fresh milk consumed (gallons)	29,000	34,000
Milk fed to livestock (gallons)	N/A	3,000
Milk av. butterfat content (percentage)	N/A	3.5
Milk av. annual yield per cow (imperial gallons)	N/A	334
Cattle slaughtered (beasts)	1,993	1,760
Goats slaughtered (beasts)	N/A	50
Pigs slaughtered (beasts)	N/A	N/A
Average dressed weight of cattle slaughtered, lbs.	320	352
<i>Tractors</i> (as at March 1952 and 1953)		
Under 8 h.p.	2	2
8 h.p. and over	N/A	8

* Areas under coconuts also used for grazing in some areas.

There is as yet no regular collection of agricultural statistics in the territory. Export trade statistics which are available in some detail for the past 50 years provide the only continuing information available on production for export markets. As indicated in the above table, little, if any, precise and/or continuing information is available on other forms of agricultural production.

The agricultural census of 1950, which provided the first and only comprehensive analysis of crop acreages and livestock holdings in the territory, is in the form of estimates based on enumerations from sample villages.

1950 LAND USE—MAJOR CROPS

(estimated area in acres)

	Coconuts	Bananas	Cocoa	Taro	Minor Crops	Total
Village agriculture	36,042	13,326	8,026	4,643	4,214	66,251
Planters	1,285	340	2,800	55	142	4,622
Mission stations	221	145	86	105	113	670
Government plantations	7,745	309	1,850	—	—	9,904
	45,293	14,120	12,762	4,803	4,469	81,447

1950 LAND USE—MINOR CROPS IN VILLAGE

(estimated number of trees)

Breadfruit	Pawpaws	Citrus	Yams (hills)
144,533	91,973	8,391	652,429

1950 LIVESTOCK—ESTIMATED TOTALS

	Pigs	Horses	Fowls	Cattle
Village agriculture	37,230	N/A*	104,573	N/A*
Planters	195	68	1,118	404
Mission stations	52	62	380	663
Government plantations	65	156	Nil	9,295

* Estimates not available, since local prohibitions on horses and cattle in some villages invalidated sampling method.

CHANGES IN AGRICULTURAL PRODUCTION

In the 1928 Annual Report of the territory, estimates were published showing the European and Government plantation areas by principal crops. An estimate of the total area of Samoan land in cultivation was also published. A comparison of these estimates with those based on the 1950 agricultural census is as follows:

1928-28—1950 LAND USE COMPARISON

(estimated areas in acres)

	Coconuts		Cocoa		Other		Total	
	1927/28	1950	1927/28	1950	1927/28	1950	1927/28	1950
N.Z. Reparation Estates administered	8,598	7,745	1,406	1,850	2,327	309	12,331	9,904
Planters—including areas leases from N.Z.R.E. and Samoans	3,437	1,285	2,527	2,800	151	537	6,115	4,622
Sub-totals	12,035	9,030	3,933	4,650	2,478	846	18,446	14,526
Missions	—	221	—	86	—	363	500	670
Samoan village agriculture	(40,914)*	36,042	**	8,026	(13,680)*	22,183	54,594	66,251
Total cultivated areas	—	45,293	—	12,762	—	23,392	73,540	81,447

* Official estimates as at 31st March, 1928—probably over-estimates; see comments on trend of Samoan production on page 14.

** Negligible.

This table summarizes the only information available on land use that sheds any light on long-term changes in the form and volume of production. Briefly, the figures disclose a reduction of 3,000 acres in the area of coconut plantations administered by the New Zealand Reparation Estates and private planters. The coconut plantations directly concerned, however, have not all gone out of production, for an appreciable part of these 3,000 acres has been transferred with bearing trees to Samoan owners.

An increase of 700 acres in the area under cocoa administered by New Zealand Reparation Estates and private planters is shown, which offsets to some extent the reduction in the area in coconuts that has been shown by both European and Samoan producers. The reduction of over 2,000 acres in unspecified acreage cultivated by the New Zealand Reparation Estates is due principally to cessation of rubber production on the estates. The estates have land still in productive rubber trees, but most of the area so planted in 1927/28 has been cleared and/or used for other purposes.

In most respects, the above table is uninformative or even misleading. An increase of only 7,900 acres or eleven per cent. in the area of cultivated land in Western Samoa as shown by the table would, if true, indicate an alarming situation if related to the increase of about 100 per cent. that occurred in the population of its territory during the same period.

That these estimates of cultivated areas are unreliable indicators of the volume of agricultural production is fairly definitely established by the changes that have occurred in the volume of produce shipped overseas as shown in the following table. There is no information available on changes in the volume of agricultural production for local use.

VOLUME OF COPRA AND COCOA EXPORTS

Annual Average Quantities

Average for 5 years,	1910/14	Copra (tons)	Cocoa (tons)
" " " "	1915/19	9,664	755
" " " "	1920/24	10,847	926
" " " "	1925/29	11,709	707
" " " "	1930/34	16,473	689
" " " "	1935/39	10,940	876
" " " "	1940/44	12,526	1,038
" " " "	1945/49	8,804*	1,549
" " " "	1950/54	16,436*	2,150
" " " "		14,381*	2,737

* Includes allowance for the copra content of desiccated coconut exports.

AVERAGE PRODUCTIVE EFFICIENCY IN EXPORT TRADE

One of the most frequently-quoted opinions on Samoan economic affairs is the conclusion stated in the 1945 Annual Report of the Apia Chamber of Commerce that, "on the whole we seem to be back to approximately the conditions of 1913-15. True, our total trade in 1913 was only £539,468, whereas in 1945 it was £1,035,016, but, although the gross annual total trade doubled, so did the population which brings the trade per head to about the same."

Since the purchasing value of the currency concerned has declined substantially in the thirty-year period covered, it follows that the per capita volume of total trade had actually been reduced correspondingly, and this fact was not apparent in the money value comparison used in the Chamber of Commerce Report.

Since 1945 there has been a substantial increase in the value of export trade per head of population and a desirable increase in the per capita volume of this trade as compared with the earlier wartime years. As compared with the standard of productivity in the nineteen twenties, however, the volume of export production per head has fallen appreciably. The economic consequences of this retrogression have not become obvious because favourable export prices during and since World War II have obscured the position.

The following table shows that after World War I the overall efficiency of export production per head increased slowly but steadily until civil disorders from 1926 and the difficulties of the financial depression years of the early nineteen thirties slowed down and reversed the trend. After a short-lived recovery in 1935-39, the impact of World War II on Western Samoa's economy diverted productive effort away from export industries to such an extent that the per capita volume of exports in those years was some 22 per cent. less than that recorded during World War I. Since the second World War the value of trade has soared upward, but the volume of production per head as indicated by export trade has increased merely enough to restore the production standards obtaining fifty years ago, and not enough, by some 18 per cent., to reach the position ruling in the nineteen twenties.

INDEX NUMBERS OF THE VOLUME AND VALUE OF PRODUCTION FOR EXPORTS PER HEAD OF TOTAL POPULATION

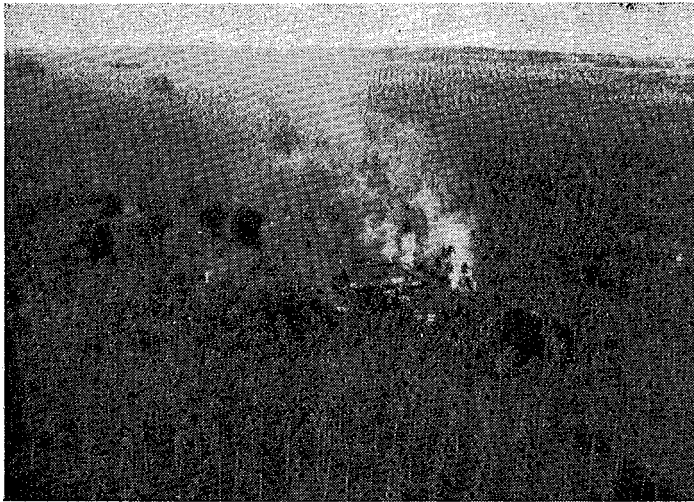
Annual Average for 5 years	Estimated Total Population	Annual Average Value of Total Exports	Index of the Value of Exports per Capita	Index of the Volume of Exports per Capita*
1910-1914	38,500	£226,000	100	100
1915-1919	42,000	£331,000	134	108
1920-1924	38,500	£329,000	146	116
1925-1929	43,000	£350,000	138	120
1930-1934	50,000	£193,000	65	95
1935-1939	57,000	£255,000	76	102
1940-1944	66,000	£305,000	78	80
1945-1949	75,000	£1,032,000	233	110
1950-1953 (4 years)	85,000	£1,689,000	338	100

* Weighting in this index based on 1951-52 average export values per ton, viz.: Cocoa 247, desiccated coconut 127, rubber 250, copra 59, bananas 24.

It must be admitted that changes in the physical volume of export trade provide a rather crude measure of standards of general productivity, but it is difficult to over-emphasize the seriousness of the trends disclosed in the above table in relation to the territory's capacity to maintain satisfactory living standards when times become relatively less favourable to food-exporting countries.

Lack of progress in agricultural production gives rise to much comment in the territory at the present time. Opinions such as the following are frequently expressed and widely supported. The above statistical evidence confirms their basic assumptions.

- (i) The high prices received for copra and cocoa since the war disguise an overall reduction in general conditions of productive efficiency in the territory as a whole.
- (ii) Progressive achievements on limited areas of privately-owned and New Zealand Reparation Estates-administered lands are sufficient only to offset part of the per capita retrogression that is occurring in the very much



Aerial view of New Zealand Reparation Estates' copra plantation at Mulifanua.



Food crops flourish in the rock-strewn volcanic soils of Savai'i.

more extensive and increasingly-populous Samoan areas.

- (iii) Recorded increases in export tonnages are small relative to population growth and seriously inadequate in relation to the expectations of the Samoan people in the field of social and political achievement.
- (iv) Highest priority should be given to measures for increasing the current standards of efficiency in production on Samoan land.

Lacking other statistical measures in the territory, it is customary to regard changes in the value and volume of exports as almost entirely satisfactory measures of economic progress in the widest sense. In a country as dependent on imports as Western Samoa is now, and is likely to be in the future, it would be difficult to over-emphasize the importance of export income per head. However, to obtain a more accurate assessment of the trends disclosed in the above table some allowance should be made for changes occurring in forms of productive effort other than on exports, including the increasing participation of the Samoan people in the various useful activities discussed elsewhere in this report.

To emphasize this point it is necessary to draw attention only to the rapid improvement that has occurred recently in the capacity of the Samoan people in general to provide continuing service for wages. In the 1928 Annual Report for the territory, attention was drawn to the dependence of copra and cocoa production on Chinese and Melanesian indentured labourers and it was pointed out that the "experiments on Government plantations to substitute Samoans for Chinese have shown that it will be many years before local native labour can be obtained for permanent work."

At the present time, for example, the New Zealand Reparation Estates employs in its plantations, with satisfactory results, few if any Chinese, and up to 4,000 Samoans on contract and day labour. Some 900 Samoans are, for example, also employed as "semi-permanent" labourers by the Public Works Department, while all the cocoa plantations of the territory are dependent for their labour supply on a steady flow of men, women and youths from the Samoan village communities. The extension of health, educational and other social services throughout the territory has been achieved by the employment of more than a thousand trained Samoans in government service.

These favourable developments indicate commendable and promising progress in some productive fields, but their effect in relation to the economy as a whole is not of sufficient weight to allow any material departure from the general conclusion

that during the past twenty-five years the economic growth of Western Samoa has not kept pace with the numerical increase of its people.

In progressive countries productive efficiency as measured by volume of production per head increases at a sustained rate averaging from one to two per cent. each year. In New Zealand the latest available statistics show that the volume of production per capita increased by 38 per cent. in the twenty-three-year period ended June 1952. Providing an outstanding example of progress, Canada during the past twenty-five years has maintained an increase of nearly 3 per cent. per annum in the volume of production per head of its people.

There are, of course, many countries where, as in Western Samoa, the general rate of productivity is stationary or declining. Most of the heavily-populated, under-developed countries of the world are in this condition, facing the prospects of even lower standards of living as their people become more numerous. In many of these countries today strenuous efforts are being made to remove physical, social and financial impediments to economic progress by internal reorganization and by making full use of the technical and financial help that the progressive countries are providing directly or through the agency of one of the many international organizations established for this purpose. Behind these efforts to raise stationary or declining rates of general productivity lies a sense of urgency and realistic appreciation in the countries concerned of the human and social costs of the increasing poverty that go hand in hand with population growth where progress is lagging.

In Western Samoa, notwithstanding increasing awareness of the territory's phenomenal surge in population numbers and serious misgivings on local standards of productivity, there is as yet no general sense of urgency on broad economic and social grounds. There is wide agreement that political progress and expanding welfare services require the support of improved standards of production, but the presence of large tracts of undeveloped fertile land and the abundance of local foodstuffs in normal seasons are assumed usually to guarantee maintenance of at least the existing standard of living. So sure are the Samoan people that their fertile lands will continue to provide the customary plenty that, with few exceptions, even among thoughtful people, the prolonged food shortages of the dry years 1951 and 1952 were regarded as chance misfortunes rather than a preview of the future.

There is no doubt that under conditions of efficient production and distribution, Western Samoa has the resources of labour, soil and climate needed to provide a high standard of living for a population twice or three times its present size,

but despite the territory's headlong rush to population of these magnitudes, only a handful of its people today see urgent need to initiate anything more than a few gradual changes of a beneficial kind that involve little disturbance of customary institutions.

COPRA

Although under increasing pressure from cocoa for leading position, the production of copra continues to be the most important industry in the territory. Prior to World War I exports of copra averaged some 9,700 tons during the five years immediately preceding hostilities and earned nearly 80 per cent. of the territory's export income. During the five years ended December 1954, when copra exports, including allowance for the copra content of desiccated coconut, averaged 14,380 tons annually, shipments of this commodity earned 47 per cent. of the total export income.

In official publications it is usually stated that indigenous Samoan producers provide about 80 per cent. of the territory's copra exports. The corresponding percentage quoted twenty years ago was 75 per cent. Returns provided by the New Zealand Reparation Estates indicate that its plantations yield about 12 per cent. of Western Samoa's total copra production. It may be assumed therefore that the sixteen commercial plantations currently in operation and the few small-scale mission-owned plantations provide rather less than 10 per cent. of the total production.

Production Trends and Prices

Notwithstanding continuing advice and pleas to grow more coconuts and the implementation of compulsory planting projects in the villages from time to time during the past forty years, the expansion of the copra industry has disappointed the hopes of all who sought to increase the productivity of Samoan lands through this crop. In contrast with intense developmental activity of the German commercial concerns which resulted in a rapid expansion of coconut areas in Western Samoa from the closing years of last century until World War I, during recent years the European-administered plantations have given little attention to clearing and planting operations, and in general have assumed a passive role as far as copra was concerned. Although production from these plantations increased in the inter-war period, the improvement was the result of the increasing yields of the maturing trees rather than evidence of more effective or extended husbandry. Recently there has been a tendency among European landholders to withdraw from copra production in favour of cocoa, cattle and, to a very limited extent, coffee growing.

In the village plantations new plantings, replantings and natural regeneration have all contributed to a gradual increase in production, a development discussed in some detail under the heading, Samoan Copra Production.

The export of copra for the territory as a whole increased steadily from an average annual total of 9,700 a year for the five years 1910-1914, to 13,500 tons fifteen years later. Political troubles culminating in the Mau disorders and the unprofitable prices ruling in international markets during the period 1930-1934 were no doubt jointly responsible for bringing the average totals down to less than 11,000 tons a year.

The following table, which shows the average volume of exports and the trend of prices on international markets, provides some information on the extent to which copra production is influenced by price changes. It shows, for example, that the improvement in prices which occurred during the period 1935-1939 was marked by an increase of nearly 15 per cent. in the average volume of imports. Reports indicate, however, that the reduction to an average annual export total of 8,800 tons during the years 1940-1944 reflected the competition of new forms of lucrative wartime employment rather than the discouragement of unrewarding prices.

COPRA PRICES AND VOLUME OF EXPORTS

	Representative prices per ton as at mid-June (approx. local currency equivalent of sterling prices)*	Average annual exports for the 5-year period (tons)		Representative prices per ton as at mid-June (approx. local currency equivalent of sterling prices)*	Average annual exports for the 5-year period (tons)
1920	£47 8 0	11,709	1935	£14 10 0	12,526
1921	24 16 0		1936	14 16 6	
1922	24 0 0		1937	19 6 0	
1923	25 18 0		1938	21 1 0	
1924	27 8 0		1939	12 19 6	
1925	29 6 0	13,473	1940	15 18 0	8,804**
1926	29 4 0		1941	15 18 0	
1927	26 0 0		1942	14 16 6	
1928	26 10 0		1943	18 11 0	
1929	20 0 0		1944	N/A	
1930	19 0 0	10,940	1945	23 12 6	16,436**
1931	11 6 0		1946	23 12 6	
1932	13 2 6		1947	37 18 6	
1933†	13 6 6		1948	55 19 0	
1934	9 17 6		1949†	48 3 6	
			1950	48 13 6	14,381**
			1951	53 19 0	
			1952	65 5 0	
			1953	65 5 0	
			1954	70 5 3	

* Prices for the period 1920 to 1931 were local currency equivalents of c.i.f. quotes for Fijian sun-dried copra. Those for period 1932 to 1939 were local currency equivalents of c.i.f. quotations for South Seas sun-dried copra quoted in Pacific Islands Monthly. Local currency equivalents of official quotations are given from 1940 to 1948.

The British Ministry of Food f.o.b. prices in Samoa for sun-dried copra bought under the bulk purchase contract are quoted for the years 1949 to 1954.

No allowance is made for export duties and contributions to the Samoan Stabilisation Fund payable prior to export.

** Includes allowance for the copra content of desiccated coconut.

† Local currency depreciated approximately 25 per cent. in terms of sterling in January 1933 and appreciated to approximate parity again in September 1948.

Although copra production is stimulated by price improvement and retarded by unprofitable returns, it is nevertheless worthy of note that the very absence of alternative sources of income for the plantation owners and village producers concerned ensures that a remarkably high level of production is maintained in spite of extremely unprofitable prices. This fact has been dramatically illustrated at various times during the past forty years, particularly in the outlying districts, where prices offered at the trading stores have fallen almost to zero without eliminating turnover.

During 1926, village stores were purchasing copra at about 9/- per 100 lbs. and Samoan-produced copra was being purchased at the rate of about 10,000 tons a year. Later in 1931 prices declined to as low as sixpence per 100 lbs. in village stores in remote areas, with payment in store goods only, but purchases of Samoan-produced copra still exceeded the rate of 7,000 tons per annum. Even more recently, during the difficult wartime conditions of 1941, notwithstanding the remission of the export tax of £1 per ton, trading stores in and close to Apia were offering only 1/9d. per 100 lbs. for copra and sixpence less in South Upolu and Savaii. Estimates indicate that purchases of Samoan-produced copra that year were not less than 6,000 tons.

Since July 1942, the total production of copra has been purchased by the British Ministry of Food at remunerative prices, and the minimum prices paid by merchants to producers have been fixed by the Administration.

Long-term Bulk Purchase Contract

Price and marketing uncertainties were practically eliminated as far as copra producers in Samoa were concerned for a period of nine years, when as from 1st January, 1949, a bulk purchase contract was negotiated under which the exportable surplus of the territory was to be sold to the United Kingdom Ministry of Food at prices to be settled each year by negotiation, subject to the condition that variations up or down could not be more than 10 per cent. higher or lower than the price ruling in the preceding year.



Drying copra on mats. A typical village scene.

The following prices in sterling have been paid per ton f.o.b. ex Apia for copra in bulk:

BULK PURCHASE CONTRACT PRICES

Period	Price per ton f.o.b. Apia for fair merchantable sun-dried copra		N.Z. Equivalent	Premium for hot air dried copra (per ton)	
	£Stg.	£N.Z.		£Stg.	£Stg.
1st Jan. 1949-31st Dec. 1949	£48 0 0	£48 3 9	£48 3 9	£1 2 6	£1 2 6
" 1950 "	£48 10 0	£48 13 7	£48 13 7	£1 2 6	£1 2 6
" 1951 "	£53 15 0	£53 19 0	£53 19 0	£1 2 6	£1 2 6
" 1952 "	£65 0 0	£65 4 10	£65 4 10	£1 10 0	£1 10 0
" 1953 "	£65 0 0	£65 4 10	£65 4 10	£1 10 0	£1 10 0
" 1954 "	£70 0 0	£70 5 3	£70 5 3	£1 10 0	£1 10 0
" 1955 "	£65 0 0	£65 4 10	£65 4 10	£1 10 0	£1 10 0

The prices and terms quoted require payment by the exporters of all charges to f.o.b., including export duties. In terms of the contract, the United Kingdom Ministry of Food is responsible for shipping arrangements, including the provision of adequate cargo space at regular intervals to avoid undue congestion of copra stores in Apia.

Factors Restraining Copra Production

In addition to the record of extreme price instability on international copra markets during the past fifty years, other factors play an important part in the restricting of the copra industry in Western Samoa. The coconuts grown in the territory yield their first harvest eight to ten years after planting, and about fifteen years must pass before a satisfactory production rate is achieved. This period of waiting without financial return imposes a discouraging strain on the resources of the European landholder that is not cancelled out by the prospect of steady yielding for 50 years or more thereafter. In addition to the expense of protecting the young trees from suffocation under lush weed growth during the first years of their life, it may be necessary to fence either the newly-planted area or the individual trees as protection against cattle and horses. In addition to the trouble and expense of building and maintaining fences, this precaution on plantations using cattle for weed-control and meat production reduces the area available for grazing. Special varieties yielding nuts in three to five years after planting have been introduced into Samoa, but as yet they have been used more or less experimentally.

In the villages the long time that must elapse between planting and the first harvest of nuts involves relatively little financial strain, for Samoans in their communal life are much less dependent on money incomes than European landholders, but other factors operate against any marked expansion of their

village coconut plantations. These restraints on village production are discussed in some detail in later sections of this study.

In spite of the fertility of the soils of Western Samoa and climatic advantages usually enjoyed, the coconut does not appear to be, botanically speaking, well suited to the territory¹, and in this respect the tree and its husbandry are at a relative disadvantage as compared with the local hybrid variety of cocoa. Investigators² have commented that, quite apart from rhinoceros beetle damage, the appearance of the coconut trees in Samoa is often disappointing, and their annual yield of nuts surprisingly poor. Yields average less than 40 nuts per tree a year on most plantations, with much variation in size, including a high proportion of nuts that are undersized.

Until recent years commercial copra producers in the territory experienced difficulty in securing adequate plantation labour, being dependent on the services of the limited numbers of indentured Chinese and Melanesian workmen who were made available through Government agencies. At the present time Samoans from the villages are offering themselves for regular and seasonal work in adequate numbers, and in comparison with most other regions of the South Pacific, the territory is now well supplied with unskilled and semi-skilled plantation labour.

It seems possible that the policy of reserving unalienated land for Samoan use has checked the expansion of the copra industry a great deal, but in view of the instances where European freehold and leasehold plantations have gone out of production or reverted to the Samoans as cultivators, the overall effect of this land policy as far as the copra industry is concerned is obscure and may be less than is generally stated.

Any discussion on trends of copra production in Western Samoa and the factors retarding the growth of this industry cannot get far away from the competition that cocoa has exerted on the resources of land, labour and capital that have been available for productive use in the territory since World War I. Once cocoa was satisfactorily established as a commercial crop, its quicker returns, the premium prices that Samoan cocoa secured on world markets and other relative advantages appealed strongly to both European and Samoan landholders at the expense of the copra industry. Typically, the largest single producer of copra, the New Zealand Reparation Estates, concentrated most of its development and research programme on the extension and improvement of its cocoa plantations.

Rhinoceros Beetle Damage

Copra production in the territory has suffered severely from the depredations of the rhinoceros beetle (*Oryctes rhinoceros*), which is reputed to have reduced Western Samoa's coconut yields by some 20 to 30 per cent. The total loss to production in the territory that can be attributed to this pest is doubtless very much greater than this estimated 20/30 per cent., for in addition to the actual destruction of young and mature trees and the reduction in the yield of growing coconut palms, the risk of severe damage (sometimes complete destruction to new and replanted areas in coconuts), is so discouraging to commercial enterprise that few have the financial resources or the confidence in the future of the copra industry to become involved in what is something of a hazardous undertaking. Apart from avoiding areas that are known to be vulnerable to attack, the individual planter can do little to protect his trees from the depredations of beetles emerging from surrounding areas beyond his control. On large estates it is possible to reduce damage very materially by destroying breeding places and trapping beetles in search of breeding sites, but on most plantations the general standard of infestation in the district determines the damage, and this varies with the general stan-

¹ Note: This may be due to the use of inferior parent stock when the industry was first established and subsequent failure to introduce better planting materials.

² Refer: Unpublished report to Government of Western Samoa dated October 1933, by H. W. Simmonds, Fiji Government Entomologist.

andard of efficiency of beetle extermination by adjoining owners and circumstances peculiar to the locality affecting the habits and numbers of the beetle population.

In general, the damage from rhinoceros beetle fluctuates both with districts and time. Some areas notorious for the pest some years ago are now comparatively free from damage; other areas previously free are now seriously infected. Organized destruction of beetles, although important in restraining and confining beetle damage wherever practised efficiently, provides only part of the explanation for the changes that have occurred. The passage of time and natural environmental changes appear to influence the position, and in spite of less intensive efforts to control the rhinoceros beetle in Western Samoa for quite long periods during the past 25 years, the situation today could be perhaps likened to a chronic complaint rather than a fatal disease.

In 1915, about five years after the advent of the rhinoceros beetle in Western Samoa, the pest had spread so extensively and its damage had become so serious that it was generally agreed that the very existence of the copra industry in the territory was threatened. At the present time it is claimed that existing control methods designed to trap the pest and eliminate its breeding places can keep the rhinoceros beetle in check. The problem of eradicating the beetle is considered to be in the field of biological control, and with the assistance of the South Pacific Commission, a working programme is under way which includes investigations and experimental work by an entomologist stationed in the territory.

Copra Plantation Areas

In 1950 it was estimated that there were 45,300 acres of coconuts in the territory, of which 36,000 acres were cultivated by Samoans. Of the balance, about 7,700 acres were held by the New Zealand Reparation Estates; 1,300 acres were under European and part-Samoan administration; and an estimated 200-300 acres were owned by religious organizations.

Of the Samoan coconut plantations, it was estimated that just over 9 per cent., or 3,200 acres, were in young trees, then unproductive. The proportion of young, non-bearing trees on European or Government-administered land was very much lower, the estimated 325 acres representing only 3.5 per cent. of the area concerned.

(a) SAMOAN PLANTATIONS: The only available acreage estimates of Samoan-owned coconut plantations record a net decline of 2,400 acres in the period 1925-1950. The estimate for 1950 was based on scientific techniques and a great deal of surveying work in the field. It seems probable that the 1925 estimate of 38,400 acres was more in the nature of an informed guess, and no doubt overstated the area involved quite considerably. There is a good deal of evidence that during this twenty-five-year period Samoan-owned coconut plantations have become more extensive. The fact that "Samoan" copra production has expanded by over 2,000 tons p.a. on average is, of course, significant, especially in view of the increased demand for coconut foodstuffs that occurred as the result of the growth of about 120 per cent. in the Samoan population during the period.

The 1950 estimate of 3,200 acres, or 9 per cent. of Samoan coconut plantation areas in trees too young for production, suggests with reasonable certainty that new plantings and re-planting around the villages proceed slowly but steadily. To some extent this would be due to natural regeneration, but in the main it would be the result of initiative and persuasion, spurred on by mounting economic pressure.

There are various regulations in force in Western Samoa designed to bring about an extension of village coconut groves, and to secure better upkeep and control of rhinoceros beetle infestation. Plantation inspectors (pulefa'ato'aga) are authorised and expected to specify minimum planting programmes of coconuts as well as foodstuffs. The results achieved suggest, however, that having established a grove for domestic use with a small margin for copra production, the typical Samoan family is not too keen to extend its coconut areas. The wait for

maturity is too long and the work of protecting the young trees too troublesome for willing co-operation with the pulēfa'ato'aga's instructions. Although at times a keen inspector may persuade or coerce village people to plant more coconuts, his influence over unwilling people is seldom sufficient to ensure protection for the young trees during the first critical years of their growth.

If villagers are unwilling to carry out the pulēfa'ato'aga's instructions, the penalties that this official may impose are nominal—a mere shadow of the punishment applied in former times, when compulsion was the order of the day. Various disincentives and a lack of capital are features of contemporary life in the villages, which operate against any significant expansion of copra production in the outer districts. In some respects these factors apply, too, in the restriction of cocoa growing. As is the case with Europeans, the production of cocoa in the villages has achieved some of its progress at the expense of copra.

Most of the Samoan-produced copra is prepared in small lots and dried in the sun on mats. The task is regarded as a domestic chore rather than an industrial process, and little attempt is made to take advantage of labour-saving devices.

Through the Department of Agriculture, efforts have been made from time to time to demonstrate the advantages of simple type hot-air dryers for village use, but only in the wetter areas where cloudy conditions prevail for long periods is there any evidence that the advantages of drying equipment appeal. Most of the village copra dryers seen appeared to be rather too small and too poorly designed to confer really worth-while labour-saving economies.

(b) NEW ZEALAND REPARATION ESTATES AND COMMERCIAL PLANTATIONS: Most of the coconut trees in the plantations of the New Zealand Reparation Estates were planted prior to 1890, and being sixty to ninety years old, are now at or approaching the end of their useful life. On two plantations, re-planting programmes are under way, rejuvenating some 400 acres in the more accessible situations. Other areas less favourably situated are not being re-planted. In comparison with practices in Ceylon, where trees of 40 to 45 years of age are considered for replacement to maintain maximum yields, the Estates' re-planting programme is of modest proportions.

On most privately-owned plantations, over-age coconut trees are not replaced either because of plans to substitute cocoa (or coffee) for coconuts or because of the fencing costs involved in protecting young trees from the free-ranging cattle that are used for weed control. There are exceptions among the private plantation owners who are maintaining the productive capacity of their groves, even increasing their areas, but in general it seems certain that European-administered commercial plantations will provide a steadily-decreasing proportion of the territory's total copra production.

In the absence of more specific information, the production trends of the New Zealand Reparation Estates demonstrate the initial progress and the subsequent decline of the commercial coconut plantations of the territory.

During the year ended March 1914, the Estates produced 2,613 tons of copra. Five years later the output was slightly reduced to 2,249 tons, but in 1922-23 the Estates' production peak was reached with an output of 2,842 tons for the year. The following table illustrates the gradual decline in the Estates' copra production since 1923:

NEW ZEALAND REPARATION ESTATES COPRA PRODUCTION

Year ended March	Tons	Year ended March	Tons
1923	2,842	1950	2,148*
1925	2,705	1951	1,734*
1930	2,263	1952	1,993*
1935	2,087	1953	1,706
1940	2,119	1954	1,859
1945	1,659*	1955	2,063

* Includes allowance for the copra content of desiccated coconut manufactured by the Estates during these years.

In 1925 when the Estates produced 2,705 tons, this represented about 22 per cent. of the total copra exports of the territory. During recent years the Estates' production has averaged 1,870 tons, representing 12 per cent. of the total copra shipped from all sources.

Although age decline of the Estates' coconut plantations is the principal explanation for the steady reduction in output since 1923, some allowance should also be made for the fact that during the past 25 years about 10 per cent. of its coconut lands (850 acres) has been transferred to Europeans or Samoan village communities or converted to other use.

Copra yields in Western Samoa are not high in comparison with those obtained elsewhere³. Under European management production ranges from 6 cwt. to 15 cwt. per acre. Few plantations secure average annual returns of more than 40 nuts per tree and, in areas suffering seriously from the rhinoceros beetle, returns are lower.

Most commercial plantations in Western Samoa are maintained under a sward of paspalum grass and sensitive plant, controlled by cattle. During recent years the success of the New Zealand Reparation Estates in improving the quality of its control cattle to produce good quality beef for sale to retail butchers in Apia has impressed other plantation owners, and efforts are being made on several plantations to improve herds by management techniques and purchases of quality breeding stock. Until recently cattle on coconut plantations were maintained to reduce the cost of weed control rather than to secure additional income.

On commercial plantations, nuts are collected with the aid of donkeys, bullock-drawn or powered vehicles. No artificial fertilisers are used.

Production Costs and Profit Margins

Information on the cost of producing copra is difficult to secure without specific authority. There is ample indirect evidence to suggest, however, that the current Ministry of Food bulk purchase contract prices are providing remunerative returns to planters and traders associated with the copra industry.

An analysis of the expenses incurred on the New Zealand Reparation Estates' largest plantation indicates that even on smaller estates it was possible during 1952 to produce copra at a cash cost (excluding capital charges) of about £20⁴ per ton delivered to storage in Apia.

The Copra Board in 1952 paid £56/- per ton for merchantable quality sun-dried copra delivered aboard overseas ships at Apia. A small premium was paid in addition for hot-air dried copra. The minimum purchase price fixed for copra purchases at stores in outer districts was 32/6 per 100 lbs., or £36/8/- per ton. The rate authorized in and around Apia was 33/9d. per 100 lbs.

In examining these costs and prices, it is interesting to note that, while some merchants were offering to purchase copra in Zones B and C at the approved price of 32/6 per 100 lbs., others were offering up to 35/- per 100 lbs., and one Samoan merchant was providing keen competition on a remote part of the South Coast of Upolu (beyond reach of roads) by advancing his price to 40/- per 100 lbs. Since all merchants were receiving the same return for merchantable copra at the export port, it is difficult to avoid questioning the accuracy of the estimated costs in the above computation and also the modest amount of £2/11/11 shown as the merchant's average profit on handling the copra purchased in the villages at 32/6 per 100 lbs. If these average costs were precisely accurate, the price competing merchants purchasing copra at the increased

³ Comparative yields provided by Dr. Alex. Kroon, Executive Officer for Economic Development, South Pacific Commission.

Talisse	(Celebes)	13.5	cwt per acre	(Reyne)
Pangandaran	(Java)	13	" " "	(")
Poigar	(Celebes)	11	" " "	(")
Malakka		8-16	" " "	(Cooke)
Serapoh	(Sumatra)	10.5	" " "	(Reyne)
Seruwai	(")	6.5	" " "	(")

⁴ The actual cost of production figure for 1951-52 recorded for this plantation was £16/17/2 per ton, including allowance for the use of sacks.

price of 35/- per 100 lbs. could be expected to incur a loss of some shillings per ton, while the Samoan merchant offering 40/- per 100 lbs. could expect to lose up to £4/15/- per ton on resale of his purchases.

The following brief summary of prices and costs is based on more detailed analyses published in the official report of the territory for 1952, recording prices and estimated costs allowed by the Copra Board as from 14th February of that year:

COPRA BOARD PRICES AND COST ALLOWANCE as from 14/2/52

	Per Ton
Price to producers (in Zones B and C)	£36 8 0
Plus allowance for shrinkage (12½% of 2,560 lbs.)	5 4 0
Cost per ton at village stores	41 12 0
Allowance to cover cost of transport to Apia	5 13 9
Cost delivered in Apia	47 5 9
Allowance for shrinkage at Apia pending shipment (5%)	2 7 3
Allowances to cover storage and expenses to f.o.b.	3 15 1
Total cost to exporting merchants	£53 8 1
Profit margin allowed to merchants	2 11 11
Price paid to merchants f.o.b. Apia	£56 0 0
Export Tax	6 10 6
Copra Fund deduction*	2 14 4
British M.O.F. bulk contract price	£65 4 10

(Local currency equivalent of £Stg.65)

* This deduction is used for the establishment of a reserve fund to stabilize the price of copra within the territory. Funds accumulated for this purpose totalled £196,480 as at the end of 1953.

COCOA

There is impressive botanical evidence that Western Samoa provides an unusually favourable environment for some varieties of the rather selective cocoa tree. This advantage was not immediately apparent when the variety first introduced, Criollo cocoa from Venezuela, suffered so severely from "black pod" (*Phytophthora palmivora*) and the "canker" associated with it that the pioneering plantations were threatened with extinction. Forestero variety cocoa was later introduced from Ceylon to replace Criollo trees destroyed. From these two varieties of cocoa a hybrid has developed in Western Samoa which, under careful management, is sufficiently resistant to disease to provide good crops in all but the most adverse seasons.

In the territory and overseas at the present time a good deal of attention is being given to the development of a strain of high-yielding *Phytophthora*-resistant hybrid cocoa from the cuttings of a noted tree, referred to as Lafi 7, which was discovered in one of the plantations of the New Zealand Reparation Estates. Although some years must elapse before confirmation is available that planting material from Lafi 7 provides the territory with a way of reducing or escaping from the wastage of "black pod", there are favourable indications already that the Estates' experimental work in this field will be richly rewarded.

Production Trends and Prices

Exports of cocoa from Western Samoa began about 1900 and increased to an average annual total of 755 tons for the period 1910-14, the last years of German administration. As indicated in the following table, production (and exports) was maintained at about this level until 1936, when rapid expansion of the industry occurred. During the calendar years 1950 to 1954 an average export trade of 2,740 tons p.a. of cocoa was reached, with prospects of steady expansion as newly-planted areas of Samoan-owned lands come into production:

AVERAGE ANNUAL COCOA EXPORTS FROM WESTERN SAMOA

Average weight in tons for Five-year Period	
1910-1914	755
1915-1919	926
1920-1924	707
1925-1929	689
1930-1934	876
1935-1939	1,038
1940-1944	1,549
1945-1949	2,150
1950-1954	2,737

Twenty years ago cocoa provided about 22 per cent. of the

territory's export income. The corresponding percentage for the calendar years 1950-1954 was slightly less than 42 per cent. of total export earnings. In 1953 cocoa receipts at £931,000 actually exceeded the export earnings of copra for the year by £198,000. This achievement owed a great deal to shipping arrangements, especially the chance inclusion in 1952 copra exports of a large shipment on the last day of that year.

Although there is no evidence that production of cocoa moves in any close correlation with price changes, export trade in cocoa is sensitive to market changes. Sales are sluggish during periods of disappointing returns, and brisk when the market is favourable.

As with the copra industry, cocoa production has been handicapped by wide and sudden price changes throughout its history. The extent of these changes during the past thirty years is indicated in the following table of the average annual export values recorded for shipments of Western Samoan cocoa. Only for the brief period of a year in 1941, when Samoan cocoa was marketed under a bulk purchase agreement with the British Ministry of Food, has Samoan cocoa been sold under conditions other than those of free market prices and international competition.

AVERAGE VALUES PER TON RECORDED FOR WESTERN SAMOAN COCOA EXPORTS

Calendar Year	Per Ton f.o.b. Apia £	Calendar Year	Per Ton f.o.b. Apia £
1920	114 19 0	1938	36 5 0
1921	48 10 0	1939	38 4 0
1922	58 4 0	1940	41 15 0
1923	57 17 0	1941	45 7 0
1924	57 1 0	1942	69 19 0
1925	59 14 0	1943	73 19 0
1926	56 12 0	1944	80 14 0
1927	60 18 0	1945	89 6 0
1928	72 10 0	1946	109 17 0
1929	68 7 0	1947	188 5 0
1930	60 17 0	1948	226 14 0
1931	56 18 0	1949	133 19 0
1932	60 5 0	1950	233 18 0
1933	46 10 0	1951	249 8 0
1934	28 14 0	1952	243 11 0
1935	34 2 0	1953	248 14 0
1936	43 15 0	1954	390 17 0
1937	56 16 0		

Prices were so unprofitable for commercial plantation owners from the financial depression of the 1930's until 1941 that a subsidy of £2 per ton was paid on first quality beans to help to keep European-administered estates in production. Samoan producers, being less dependent on financial profits and receiving relatively high prices for second-grade cocoa (estimated at about 90 per cent. of the market return for first-grade cocoa) apparently found these depressed prices sufficiently remunerative to stimulate further production.

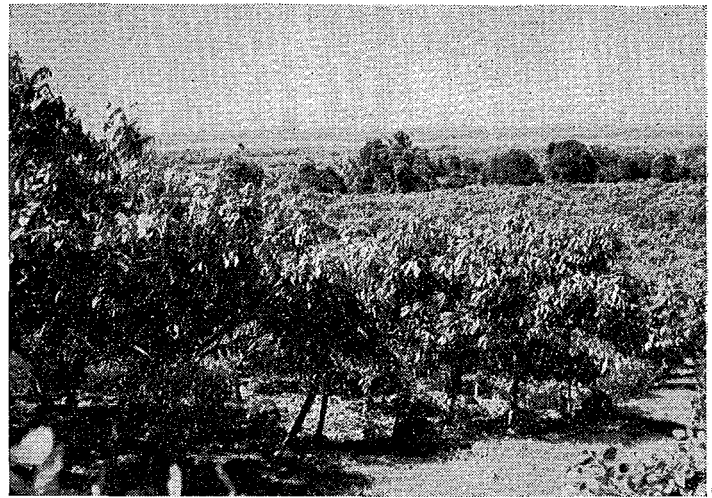
Twenty-seven years ago it was recorded officially that very little cocoa was produced by the Samoan people on their own land. As a matter of policy, however, steps were then being taken to develop Samoan interest and participation in this industry by giving instruction in planting and pruning. Ten years later (1937) it was estimated that 22 per cent. of the territory's cocoa production was from Samoan village plantations. In 1946 estimates based on the differential prices paid for sun-dried and kiln-dried cocoa showed that steadily-increasing participation of Samoan people was then one of the conspicuous features of the industry.

The following percentages quoted in the Apia Chamber of Commerce Annual Report for 1945 were compiled by the Secretary (the late Mr. P. W. Glover):

COCOA PRODUCTION IN WESTERN SAMOEA

Estimated percentages produced by European and Samoan plantations

European		Samoan		European		Samoan	
%		%		%		%	
1937	78	22		1942	70	30	
1938	79	21		1943	51	49	
1939	71	29		1944	63	37	
1940	74	26		1945	59	41	
1941	74	26					



Cocoa trees on one of the New Zealand Reparation Estates' plantations.

Unfortunately these statistics are not available for later years. It is generally considered, however, that at the present time rather more than half the cocoa exported from the territory is produced on Samoan plantations. In view of the practice in the villages of inter-planting cocoa in most of the banana cultivations and some of their taro and ta'amu gardens, too, it can be assumed that not only will the upward trend in total production be maintained, but Samoans will contribute a steadily-increasing proportion of the territory's cocoa exports.

Factors Influencing Production.

There is no doubt that the policy of reserving unalienated land for the indigenous Samoan people has restrained development of the industry on commercial lines. There is, of course, no way of estimating how much land would have been taken up and how much capital would have been invested in cocoa production if suitable land in Upolu and Savai'i could have been purchased by private negotiation. For some years the cocoa plantations of Samoa have been held in high regard as profitable ventures, and an unsatisfied demand for this land is known to exist at the present time. However, notwithstanding the record of good returns in the post-World War II years, instability of world cocoa prices undermines the confidence in the future of the industry among European planters and investors.

The table shown above emphasizes the wide fluctuations that have occurred in annual average returns per ton. This table, however, gives no indication of the wide variations that can occur within the space of a few months. For instance, during 1954 the following were recorded variations in quotations per ton for first-grade Samoan cocoa:

REPRESENTATIVE FIRST GRADE COCOA PRICES IN 1954
(Prices f.o.b. Apia)

January	£405
February	£425
March	£400
April	£450
May	£460-£500
June	£485
July/August	£490-£492
September	£455-£370
October	£350-£380-£340
November	£350-£400
December	£380-£385

With prices ranging between £340 and £500 per ton during the year, obviously an undesirable element of speculation enters into cocoa management, and good fortune in the timing of sales may often yield more impressive profits than efficient husbandry.

In times of unfavourable prices it has been found that production costs could be reduced substantially on the rather small cocoa plantations that are typical in the territory. For instance, during the period 1931-1936 it was estimated⁵ that production costs in Western Samoa had been reduced from about £87 per ton to approximately £36. This saving was achieved through various economies, including the reduction of hired labour costs by increasing the efforts of a proprietor himself and of his family.

It is generally agreed that in Samoa the production of cocoa has gained support at the expense of copra because of the scope that exists in small-scale cocoa cultivation for adjusting production costs under the stress of unprofitable prices.

At the present time, Western Samoa is by far the most important cocoa-producing territory in the Pacific, providing in 1951 some 2,730 tons⁶ compared with 390 tons from the New Hebrides, its nearest rival in the area.

It is interesting to note that cocoa from Pacific sources during the years 1934-38 averaged 2,950 tons annually, of which New Hebrides produced 1,670 tons, Western Samoa 1,075 tons, and New Guinea 100 tons. The increase in Samoa's production since 1938 has been offset by an almost equal reduction in production from other Pacific sources.

The most important factors encouraging cocoa production in the territory are both botanical and economic. The relatively high yield of Samoan hybrid cocoa was discussed recently by Mr. D. H. Urquhart in his report on the industry⁷. Mr. Urquhart stated that "the average yield per acre of cocoa in Samoa is about four times that of Trinidad, and from this it can be assumed that average yielding capacity is high and that there must be some particularly high-yielding trees". On the New Zealand Reparation Estates yields up to 16 cwt. (dry weight) per acre have been obtained on new developed blocks. After a few years yields from these high-producing areas settle down under good management to some 6 to 9 cwt. of dry cocoa per acre.⁸ On Samoan village plantations, yields are much lower in general, because of poor standards of husbandry and the less suitable soil and climatic conditions available in some of the areas where some of this cocoa is being grown.

A high cocoa-butter content ensures that Samoan cocoa ranks in the world's markets with the high-grade products of Ceylon, Venezuela and Bahia. These cocoas secure premium prices in comparison with the bulk of the international supply which comes from West Africa. In the past, flavour, too, has played a part in securing premium prices for Samoan cocoa.

The progressive and successful operations of the New Zealand Reparation Estates have stimulated increasing interest in the industry among both Europeans and Samoans. In some cases, Samoans have offered themselves for employment on the Estates for the express purpose of gaining technical knowledge. As a rule, however, the knowledge of cocoa management gained from experience on the Estates would be acquired by accident rather than by design, but nevertheless, the example of New Zealand Reparation Estates (and of the progressive European producers, too) is followed by the more successful Samoan cultivators.

At the present time the Banana Scheme operated by the Department of Agriculture⁹ is playing an important part in extending cocoa production on the principal island, Upolu. The mechanics of the scheme and its achievements in re-establish-

⁵ See Reference List, page 66, Report 5.

⁶ As a source of supply, however, Western Samoa is dwarfed by the Gold Coast (210,000 tons in 1951), Brazil (108,000 tons in 1951) and Nigeria (100,000 tons in 1951), which between them supplied 60 per cent. of the total world production in that year.

⁷ Published as South Pacific Commission Technical Paper No. 39, *Cocoa Growing in Western Samoa*, by D. H. Urquhart, January 1953.

⁸ This "settling down" suggests depletion of initial soil fertility and scope for maintaining high yields with use of appropriate fertilisers.

⁹ Note: During 1954 arrangements were made to transfer management of the Banana Scheme to the New Zealand Reparation Estates. On 15th September, 1955, it became an independently-administered government project.



Spreading cocoa beans for kiln drying.

ing the banana export trade are discussed in some detail elsewhere in this study.

The value of bananas as a catch crop financing the establishment of cocoa plantations is a feature of the industry in Western Samoa worthy of special mention. Bananas give their highest yields of export quality fruit on recently-cleared bush lands. Possessing the important advantage of quick return, bananas yield their first harvest within a year to eighteen months of planting. With its organized collection service and marketing arrangements and the promise of prompt and satisfactory financial returns, the Banana Scheme provides Samoans in suitable locations with an incentive to clear the bush and plant accessible parts of their undeveloped lands. In practice, the scheme encourages the growing of cocoa almost to the same extent as the cultivation of bananas. Most of the village cultivators appear to be growing both trees simultaneously, with the obvious intention of cutting out the bananas when their cocoa trees require more space.

Bananas and cocoa appear to be unusually compatible in this association. Usually on these combined plantations the cocoa beans are planted at the base of exhausted banana stems, finding in the fibrous roots of their host plant a suitable seed bed offering little apparent competition for the nourishment and water required by the growing seedling. As the young cocoa trees develop, the spreading banana leaves provide for them not only essential shade, but apparently some protection, too, from leaf damage by the Rose Beetle. Apart from these botanical advantages, the cash income from bananas provides both incentive and finance for maintenance work in the combined plantations.

It seems certain that many promising Samoan-owned cocoa plantations now approaching production owe their existence to the fact that the Banana Scheme provided sufficient incentive, organization and finance to ensure that essential developmental and maintenance work was performed. The prospect of rewarding returns from a future cocoa plantation on their part no doubt provided an additional inducement to Samoan village people to support the Banana Scheme.

Pests and Diseases

As in other cocoa-producing territories, the fungoid disease known as "black pod" destroys a considerable part of Western Samoa's cocoa crop each year. Under adverse weather conditions, losses from "black pod" are often of serious proportions, even on well-managed properties. In most village plantations and wherever poor standards of cultivation exist, damage from this disease is proportionately higher, and losses from

the "canker" associated with it, where trees are unskilfully handled, are also serious.

Young cocoa trees in Western Samoa are subject to attacks from the leaf-eating Rose Beetle (*Adoretus* Spp.) and as yet no satisfactory protection from this pest is available. Notwithstanding these troubles, Western Samoa is, in comparison with the other countries concerned, relatively free from the serious pests and diseases that so often make cocoa-growing a difficult and rather hazardous occupation.

Land Areas in Cocoa

There has been no systematic collection of statistics on cocoa production. In 1928 it was estimated that the European-administered cocoa plantations in the territory totalled some 3,933 acres. No estimate was made of the area of Samoan cocoa land then considered to be nominal.

The following table shows the increases that have been recorded during twenty-three years in the few statistics that are available on cocoa plantation areas and ownership:

COCOA PLANTATION AREAS IN ACRES

	1927/28	1950
N.Z. Reparation Estates	1,406	1,850
N.Z. Reparation Estates' land leased to private planters	1,736	2,800
Privately owned and leased	791	
Mission stations	Nil	86
Total European Administered	3,933	4,736
Samoa village plantations	Nominal	8,026
Total Areas	4,000 (approx.)	12,762
Approximate annual production (in tons)	700	2,500

Unfortunately there is little information available on newly-planted cocoa areas. It is widely known that there have been quite extensive plantings on Samoan lands during the past two years. An indication of recent expansion is to be found in the 1950 estimate that of the 8,026 acres of village plantations, no less than 1,171 are described as immature non-bearing trees.

Cost of Production

Information on Samoan cocoa production costs is not freely available. The following figures from the New Zealand Reparation Estates' accounts provide a useful indication of costs on efficiently administered plantations. For the financial year 1951/52 the cash cost of producing a ton of cocoa to bulk store Apia (including £4/7/6 for sacks) was £117/15/2. The Estates practise "clean-weeding" on their plantations and set an example generally followed on commercial plantations of maintaining soil fertility by interplanting cocoa with the tree legum Dadap.

Keeping plantations weeded, disease-free and pruned provide the main expense items in the schedule of production costs. The Estates rely on the incentives in contract work to keep production costs as low as possible, and during 1953/4 offered the following contract rates per acre per month for various field-work operations:

Weeding (clean weeding except legumes and shade trees)	3/4*
Pruning (light pruning and water shoots)	1/8
Control of Dadap	10d.
Black Pod removal	10d.
Pests and diseases other than "black pod"	10d.
Total	7/6

* On difficult blocks this rate may be increased up to a maximum of 6/-d.

Harvesting contractors during 1953/4 were paid at the rate of 3/6d. per 100 lbs. (net weight) in sacks delivered at plantation roadside. Employees on wages received the following daily rates on the Estates:

Foreman	10/-	per day plus rations
Forewoman	7/6	" " " "
Men	6/6	" " " "
Women	5/-	" " " "

Overtime is paid at "time and one half" rates.

Production Standards

Successive administrations in Samoa have maintained systems of inspection to prevent the marketing of inferior cocoa (and copra) and to penalise offenders. Production and processing standards are usually high on the commercial plantations, but cocoa from village smallholdings is often handled in sub-standard condition. Much is poorly fermented, indifferently washed (sometimes in brackish water) and imperfectly dried, requiring reprocessing in the special plants maintained for this purpose by the larger merchants in Apia.

There is wide variation, too, in horticultural standards in village plantations. In rather exceptional cases standards observed and results achieved compare favourably with European plantations. In most cases, however, there is abundant evidence of indifference or ignorance on the part of the village cultivators of the elementary rules of cocoa management. There is much scope in Western Samoa at the present time for increasing the productivity of most Samoan-owned cocoa plantations and increasing the efficiency of village processing methods.

Future Prospects

The keen and increasing interest of the Samoan people in the industry, and the encouraging prospect of developing local strains of cocoa that are both Phytophthora-resistant and high-yielding, are favourable happenings that have been discussed above in some detail. The prospective advantage to the industry arising from these developments should be considered in relation to external factors of importance to cocoa producers everywhere.

The population of the world has increased from about 2,000 millions in the pre-World War II period to about 2,652 millions, while world cocoa production has remained stationary at under 725,000 tons¹⁰. Governments throughout the world accept increasing responsibilities for maintaining employment and achieving equitable distributions of national incomes. Both these factors should operate to support high consumer demands for cocoa products.

Until the ravages of the "swollen shoot" disease are checked effectively, world production of cocoa appears unlikely to advance in proportion to increased demands. The Gold Coast, the world's leading cocoa producer and principal sufferer from "swollen shoot" destruction, demonstrates the effects of this disease in its production statistics. For the years 1934-38 this territory produced on average 279,000 tons, or 39 per cent., of the world's supply. During the years 1949-1952, Gold Coast production averaged less than 250,000 tons a year, despite the stimulus of profitable prices in these post-war years. It is estimated that during the 1953-54 production season the Gold Coast's output will not exceed 225,000 tons.

On his return to Apia from the 1953 Cocoa Conference in London, the General Manager of the New Zealand Reparation Estates, Mr. D. R. A. Eden, is reported to have stated that manufacturers of cocoa products take a grave view of the short supply of cocoa in relation to world demand, fearing a substantial gap between supplies coming forward and their requirements in the event of adverse seasonal conditions in West Africa. Seeing no prospect of a substantial increase in supplies from non-African sources, chocolate manufacturers apparently expect cocoa prices to be maintained at high levels for a considerable time.¹¹

N.Z.R.E. Proposal for Assisting Cocoa Production

It has been announced that Mr. D. R. A. Eden has recommended the establishment of the New Zealand Reparation Estates properties of a nursery for the propagation and distribution of cocoa plants from high-yielding trees to stimulate production in the territory. If finance is available, Mr. Eden

¹⁰ Forecast for 1952-53 production was 721,000 tons, which was 7 per cent. above the estimated 1951-52 production of 673,000 tons and 2 per cent. above the pre-World War II average.

¹¹ Note: On 27th May, 1954, prices in London for Gold Coast cocoa established an all-time record by advancing to £557 sterling per ton.



Packing bananas at a contractor's "depot".

proposed that this planting material be distributed free¹² to Samoan and European applicants who have prepared suitable areas for planting under the direction of the Department of Agriculture. To protect the flavour quality of Samoan cocoa, Mr. Eden suggested that each planting under the scheme should be made from an assortment of clones.

The proposal is based on successful achievements of a government-sponsored scheme operating in Trinidad, where the use of selected high-yielding plants and appropriate fertilizers has enabled progressive planters in that colony to obtain yields of up to 2,000 lbs. dry weight per acre per year.

BANANAS

Several varieties of bananas thrive in the territory, and today, as in the past, these fruit provide the Samoan people with an important part of their food supply. The variety Gross Michel, which is sufficiently protected by a thick skin in the green state to make it suitable for export, is grown most widely in Western Samoa. These bananas have been shipped in quantity to New Zealand markets since 1928, when the New Zealand Government and the local administration actively sponsored the trade. The New Zealand Government-owned vessel *Maui Pomare*, specially designed for fruit transport between the Dominion and its Pacific Island dependencies, initially provided the shipping space required. Later the Union Steamship Company's vessels *Matua* and *Tofua* offered suitable refrigerated cargo-space and the *Maui Pomare* withdrew from the Samoan banana trade.

The provision of adequate shipping space has been a continuing problem, lack of which, it is claimed, has on some occasions restricted development of the Samoan banana export industry. For instance, while commenting on the year's increase in banana shipments, the territory's Annual Report for 1930 stated that the progress recorded was "not to the extent that might have eventuated if sufficient and more reliable means of transport had been available". This relationship is apparent also in the remarkable increase that occurred in 1953 compared with previous years. This improvement coincided with the more frequent shipping schedule and additional cargo space allocation that became available when the Union Company's *Tofua* supplemented the monthly service that had previously been provided by the *Matua* alone.

The following table of banana exports shows how the trade developed quite rapidly until the depression years of the early

¹² A "token" payment would have the advantage of eliminating frivolous requests and ensuring the use of plants to best advantage after despatch.

1930's reduced both the price and the demand for bananas in New Zealand.

During 1932 the price per case paid to Samoan growers was reduced from five shillings to three shillings and sixpence¹³. After 1932, with increasing prosperity, the volume of shipments gradually increased, reaching a peak of 226,000 cases in 1940. During World War II the attraction of higher wages in competing occupations reduced Samoan interest in the banana export industry. After World War II shipments returned to the annual rate of about 100,000 cases a year, but lack of shipping space precluded both expansion and any keen revival of general interest in the trade. The dry conditions obtaining during 1951 and 1952 so reduced local food supplies that bananas that would have been exported in the usual course of events were consumed locally.

The prospect of a great increase in available refrigerated cargo space with the advent of the *M.V. Tofua* on the regular New Zealand-Pacific Islands service saw special efforts on the part of the Administration (operating through the Department of Agriculture) to build up the banana export trade to the limit of space available. Assisted by favourable climatic conditions in 1953/54, a remarkable surge in the production of bananas for export was achieved with total shipments for the year establishing new records.

BANANA EXPORTS FROM WESTERN SAMOA*

(in thousand cases)

Calendar Year	Cases (000)	Calendar Year	Cases (000)
1928	23	1942	80
1929	54	1943	64
1930	96	1944	32
1931	85	1945	110
1932	67	1946	128
1933	82	1947	102
1934	96	1948	100
1935	109	1949	87
1936	128	1950	97
1937	188	1951	63
1938	206	1952	66
1939	200	1953	253**
1940	226	1954	276
1941	173		

* Excluding small quantities of dried bananas, exported in 1945, 1946 and 1947, and 8,145 baskets of bananas exported in 1941.

** From 1st March, 1953, "standard" 73 lb. cases replaced the 90 lb. cases formerly used. This total compares with 370,000 cases of bananas exported from Fiji during 1953.

The territory's banana export trade in most years has been relatively unimportant in relation to the total value of exports as a whole. For instance, during the period 1950-52, bananas provided only 4 per cent of the total export earning. In 1940-41, however, the banana export income provided no less than 22 per cent. of the total visible trade earnings. Similarly, in 1954 export earning from this industry exceeded £300,000, and provided more than 13 per cent. of total visible trade earnings.

It would be misleading to assess the economic value of the Samoan banana export trade merely in terms of the financial proceeds earned. The "Banana Scheme"¹⁴ as it is called has

¹³ In 1939 the price paid to growers was 5/- per case. This price was increased as follows:

1939	5/- per case	1948	7/- per case
1943	6/- " "	1951	8/- " "
1945	6/6 " "	1952	9/- " "

Official estimates in 1954 apportioned the Banana Scheme's unit costs as follows:

Paid to growers	9/-
Transporters and labourers	2/10½
Administration costs	-/6
Export duty	-/6
Cost of cases	7/2
Margin retained	-/8½

Apia price f.o.b. £1/-/9

¹⁴ The "Banana Scheme" was established and managed as an activity of the Department of Agriculture until 1954, when its management was transferred to the New Zealand Reparation Estates. On 15th September, 1955, it became an independently-administered Government project.

been specially designed to meet the needs of Samoan village people, who without a good deal of instruction, organization and supervision could not develop and maintain an export trade in bananas. Through their association with the Scheme, some hundreds of Samoans are learning to be dependable and business-like in organizing part of their economic life.

The growers concerned live in most cases in the outer districts of Upolu, and would have little personal contact with the town of Apia if it were not for their fortnightly visits to receive the cash proceeds due to them under the Scheme. In Western Samoan there is evidence of the need for breaking down parochial barriers, particularly those resentments and misunderstandings that develop between town and country dwellers where contact is limited. There is perhaps no more effective way of convincing people from outer districts that Apia serves all Samoan interests directly and indirectly than through the regular personal participation of rural people in the workaday life of the town.

As it operates today, the Banana Scheme allocates to applicant growers "quotas" in the form of specified quantities of packed fruit. These quotas are based on impartial estimates of quantities likely to be forthcoming on regular shipment dates. Inspectors ensure that the quota holders, or "contractors" as they are called, are familiar with the Scheme's quality and packing standards. Unassembled banana cases are distributed several days before each shipment is due, and when the Department of Agriculture has definite information on a fruit boat's arrival and departure times all contractors are advised of the day or days on which the Scheme's trucks will pick up cased bananas at roadside "depots" for transport to Apia. Every case of bananas submitted is opened and examined at the wharf for faulty packing or sub-standard fruit, and as a rule about 5 per cent. are rejected during the Department's checking procedures. Rejects are sold locally and the defaulting contractors are charged one shilling per case to cover costs involved in collecting unsuitable fruit. On the Thursday following each shipment, the Banana Scheme issues cashable vouchers to each contractor (or his nominee) for the amounts due at the rate of 9/- per case accepted for shipment.

The following details of transactions relating to a shipment of bananas exported to New Zealand per *M.V. Tofua* in May 1953 supplement the above comments on the economic and social worth of the Banana Scheme's operations. Contractors on this occasion were allotted quotas totalling 14,161 cases. Trucks hired from local merchants picked up full cases at 1,070 roadside depots located in close proximity to the individual banana plantations of the 1,100 matais, tauleale'a, and even women who were holding quotas and packing bananas for export on this occasion. Of the 13,712 cases sent in to Apia, 688 were rejected for faulty packing, for being too dirty, damaged by scale, too ripe or too green. The remainder, 13,024 cases in all, were accepted and shipped to New Zealand. For their contribution to this shipment, growers received cashable warrants aggregating £5,850, much of which was promptly spent on goods and services in Apia. In respect of the same shipment the sum of £2,112 was paid to truck owners and the casual labourers assisting on and around the wharf.

It was estimated in 1953 that each banana shipment resulted in an immediate addition of some £9,000 in business turnover in Apia. The boost to local business activity that has come with the resumption of regular fortnightly banana shipments is widely known and appreciated in the commercial community. Less obvious benefits of both economic and social value as mentioned above include the important part that bananas play as a catch crop pending the establishment of cocoa plantations on Samoan land, and the advantage to the Samoan people of active participation in a commercial activity where exacting standards and timing are rigorously maintained. "Near enough" is not "good enough" in the Banana Scheme. Failure to dust fruit as a protection against scab moth, failure to grade fruit correctly or to wash and pack it efficiently result in penalties directly affecting the neglectful or dishonest people concerned. The Scheme thus provides training of rather exceptional value in Samoa, for in both copra and cocoa production and market-



Re-nailing banana cases after inspection prior to shipment.

ing slipshod methods, although not encouraged, are at least tolerated. There is advantage, too, in the fact that the Scheme is Samoan-administered for the direct benefit of Samoans. The individual banana producers have little, if any, direct participation in the actual administration of the Scheme at the present time, but prior to each pay-out the manager or his senior staff assemble growers together and explain, in detail, policy and administrative decisions affecting current and future shipments. In addition to imparting useful information to the village people directly concerned with production, these fortnightly meetings generate a sense of participation and often achievement among people who would otherwise have little opportunity to develop any understanding of industry and trade other than the rather distorted views emanating from transactions with the village trade stores.

In view of these advantages it is unfortunate that the Banana Scheme is almost exclusively limited in its operations to Upolu, and in the main those parts of this island well served by road communication with Apia. Some quotas are allotted to a few contractors beyond the limits of road transport, but only to growers in areas known to be in a position to ship their bananas to Apia with certainty at short notice.

Towards the end of 1953 the Scheme was extended to Savai'i and during 1954 some 10,000 cases were exported from that island. With the object of providing facilities in Savai'i for direct export shipping, a wharf was constructed at Salelologa and the harbour linked by road with the main highway. Unfortunately, technical reports on the potential value of Salelologa are disappointing in relation to the high expectations held by the people of the Fa'asaleleaga district that a direct banana shipping port could be developed around these harbour facilities.

Dried Bananas

To meet transitory demands on New Zealand markets for dried fruit when wartime conditions interrupted supplies of dates and figs, the New Zealand Reparation Estates principally, and a few private planters, exported to the Dominion some 150 tons of dried bananas valued at £33,500 during the three years 1946-48.

COFFEE

The main commercial varieties of coffee ("robusta"¹⁵, "arabica" and "liberica") all appear to grow well in Western Samoa. A cocoa plantation owner¹⁶ has been producing coffee for the local market as an important sideline for a number of years. This planter has provided planting material of the three varieties

¹⁵ The variety in Western Samoa is a near-Robusta (*Canaphora quillou*)—see Gerlach Report.

¹⁶ Mr. F. M. Yanke.

to other planters, who now grow the crop on a small scale for their own use and for sale locally. One copra plantation owner is in the process of changing over from copra production to commercial coffee-growing. Samoan village cultivators, too, are beginning to plant a few trees for domestic use.

It would appear that in coffee production Western Samoa could find a most suitable industry to broaden the base of its economy. The trees are more easily cultivated than cocoa and suffer less through mismanagement. Adequate labour resources are assured. Processing and marketing could be organized on a Samoa-wide basis without opposition from established commercial interests. World demand for coffee is increasing rapidly, while production has fallen below pre-World War II output. Total world production for the three years 1949-1951 averaged 2,190,000 tons a year, as compared with an average annual production total of 2,380,000 tons for the pre-war years 1934-1938.

With the object of demonstrating the virtues of coffee as an alternative to cocoa production in Western Samoa, the New Zealand Reparation Estates is gradually establishing blocks of Arabian and Liberian varieties in selected areas. Of the 500 acres planned in this project, 130 acres will have been planted at the close of 1955. The territory's total area in coffee is not recorded, but at the present time it is almost certainly less than 250 acres.

CATTLE RAISING AND DAIRY FARMING

Until fairly recent times cattle in Western Samoa were esteemed almost entirely for their value as weed controllers on coconut plantations. Where used for this purpose, the rapid plant growth necessitated high stocking rates to keep the tropical creepers and shrubs under control, and this factor, associated with poor standards of cattle management, resulted in steady deterioration of quality of the livestock. This deterioration was so obvious that it became the generally-accepted view that Western Samoa was unsuitable for milk and beef production.

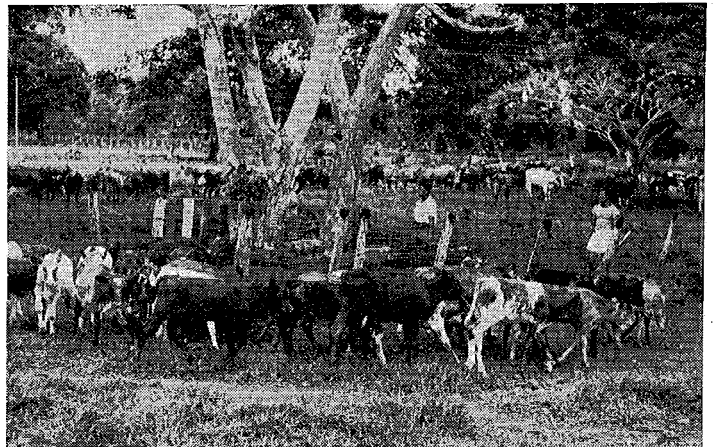
Today, on New Zealand Reparation Estate properties, on a local town supply dairy farm and on a few European-administered plantations, it is being demonstrated that some breeds of cattle of European origin produce quite satisfactorily in Western Samoa. Although average fattening rates and milk yields per beast are below standards obtaining in temperate zones¹⁷, advantages in carrying capacity and other favourable circumstances applying in Samoa are so helpful that cattle-grazing could and should play an important part in Western Samoa's economic life.

It was not surprising that weed-control herds in the past deteriorated on most properties in the territory. The practice of heavy stocking the free-ranging pastures of coconut plantations resulted in overstocking when dry spells checked growth on the swards, and in some cases also virtually eliminated water supplies. Culling and castration were seldom practised, and the runts and diseased stock reproduced to the limit of their capacities, while demands for beasts in relatively good condition for Samoan celebrations and domestic use ensured the gradual elimination of better-quality stock from the herds. With no sub-divisional fencing and no stockyards, cattle management in any real sense of the term was physically impossible. Stunted, gaunt and diseased cattle became a typical feature of rural life in Western Samoa.

In the villages the few cattle owned by Samoans were, and are still, subject to even greater abuse, for most are tethered by ropes with limited feeding range and no access to water. Many village cattle suffer and succumb each year because their owners fail to water them or shift them from exhausted feeding areas.

¹⁷ Stud bulls of the Zebu breed have been introduced by the N.Z. Reparation Estates to develop a strain of cattle more tolerant to tropical heat. The four bulls concerned were mated with 50 selected Hereford heifers and 43 crossbred calves were obtained during 1952-1953 breeding season.

¹⁸ September/December, 1955.



Calves from a local dairy herd.

At the present time¹⁸ there are about 12,000 cattle on European-administered properties in Western Samoa, of which 8,500 are on New Zealand Reparation Estates land. The total number of Samoan-owned cattle is not known, but it is unlikely to exceed 1,000 head.

Milk Production

Two dairy herds are maintained as commercial propositions serving the town area of Apia, one privately owned and the other owned by the New Zealand Reparation Estates. One or two small Samoan-owned herds also supply milk to town consumers. The Department of Agriculture estimated that during 1952, 37,000 gallons of milk were produced for sale from the cows used for dairying. The average annual yield per cow was estimated to be 334 gallons, with an average butterfat content of 3.5.

Beef Production

During 1952, 1,760 cattle¹⁹ were slaughtered for local consumption, the beasts providing an average dressed carcass weight of 352 lbs. and in total some 277 tons of edible beef (excluding offal). In the same year Western Samoa imported, mainly from New Zealand, at least 165 tons of frozen fresh meat, 105 tons of preserved meat in kegs, 304 tons of tinned meats. These facts indicate great scope for increasing beef production for local consumption. The inability of the New Zealand Reparation Estates to provide the full requirements of local butchers for their retail trading, which during recent years has necessitated an unofficial system of rationing in Apia, emphasizes the growing and unsatisfied demand for fresh meat in the territory. Some years ago a cattle-improvement programme was introduced on New Zealand Reparation Estates plantations, which included, among other innovations, the regular importation of breeding bulls from New Zealand and Fiji. The success achieved encouraged the Estates to clear 3,000 acres of elevated bush land²⁰ for cattle grazing, initially on an experimental basis, but more recently as part of its regular land development programme. In developing these lands for grazing, the Estates take advantage of environmental conditions applying in Western Samoa, which reduce capital costs most strikingly. For cattle grazing it is sufficient merely to "open up" the bush sufficiently to encourage growth of the ubiquitous "mile-a-minute" creeper (*Mikania micrantha*), which within a few weeks quickly covers the ground, as well as fallen tree trunks and stumps, providing suitable fodder for beef cattle in sufficient abundance to support a beast to 1½ acres. The dense moist cover of "mile-a-minute" speeds up the decomposition of logs and stumps, and burning is therefore unnecessary. Gradually

¹⁹ Principally from N.Z. Reparation Estates herds. The Estates slaughtered 1,500 cattle for local meat supply during the financial year 1953-54, and 2,024 in the following year.

²⁰ At an elevation of 1,000 to 2,000 ft. above sea-level.

larger trees are removed from the 25 to 30 per cent. cover that is left after the initial clearing, and as the land becomes more open, naturally-generated "hilo grass" or "Vailima grass" (*Paspalum conjugatum*) dominates the pasture, to be replaced in time to an association of "carpet grass" (*Axonopus compressus*) and "sensitive plant" (*Mimosa pudica*), which forms permanent pasture suitable for fattening and dairying provided systematic hand-weeding is adopted from time to time to ward off any threatening invasion of guava, lantana or other forms of unpalatable weed growth present in the territory. An ample cover of trees is retained permanently on these pastures to guard against erosion and provide adequate shade for the cattle. On established pastures the New Zealand Reparation Estates are able to graze cattle at up to 1½ head to the acre.

During 1952 the Estates were "opening up" virgin bush areas for grazing by felling smaller trees and scrub at a cost of about £1/18/- per acre. This expenditure, which compared with £8 to £10 per acre, the current cost of felling all standing timber in preparation for banana, taro or cocoa cultivation gives some idea of the comparative effort involved. In 1953 it was costing the Estates about £180 a mile for five-wire²¹ battened fences, of which about £50 was for labour costs. In other parts of the territory where volcanic stone was plentiful, cattle-proof stone fences could be constructed at a cost of £200-£220 per mile.

Western Samoa appears to provide a healthy environment for cattle irrespective of the altitude of their grazing. The former prevalence of tuberculosis in Samoan herds is now regarded as evidence of neglect rather than uncongenial climatic conditions. The territory is completely free of some of the serious cattle diseases (e.g. contagious abortion) which handicap production elsewhere.

In some areas, especially in Savai'i, lack of permanent water supplies would operate against any extensive conversion of bush lands into cattle pastures. It has been found, however, that under conditions of light stocking in partly-cleared areas where cattle feed on abundant growth of "mile-a-minute" the animals appear to secure adequate water supplies from the liquid content of this succulent plant, supplemented by rainfall and the heavy dew precipitated at nightfall. "Mile-a-minute" is unsuitable fodder for dairy cattle because it taints milk unpleasantly.

Samoan Cattle Husbandry

In addition to the extensive areas of high country potentially useful for cattle grazing, there is much scope in the territory for extending grazing in the coconut plantations of the Samoan village people. Although most European planters appreciate and practise the technique of running cattle on their copra plantations to reduce maintenance costs and supplement income, this example is rarely followed on Samoan-owned lands. There are a few notable exceptions, but in general the problems of establishing and maintaining a herd of cattle under conditions obtaining in the villages are so difficult that most Samoan attempts to graze cattle end in failure.

Of the reasons for this, the village people's unfamiliarity with the methods and objectives of all forms of animal husbandry is undoubtedly the most important single factor. Lack of finance, too, is important. A trader in one village explained that most industrious Samoans at some stage or other in their lives endeavour to acquire and breed cattle. Usually lacking capital or status to secure cattle-proof fences, the would-be Samoan graziers purchase rope halters to confine their animals. The expense of replacing worn and broken rope halters is so high in relation to the earnings of these tethered cattle that most participants are soon discouraged.

Special problems of land ownership and tenure exist in Samoan communities, but in practice the tradition of generous giving and maintaining status through impressive presentations has undermined most Samoan attempts to establish dairying or

²¹ Barbed wire is used exclusively on these fences.

grazing herds. The demand for cattle to grace Samoan ceremonies is ever present, and the typical matai who owns or controls cattle (or even a house cow) is under continuing pressure to enhance his social status by contributing his most worthy animal to add prestige to a social occasion.

One important Samoan chief of part European descent who in 1953 was grazing some 200 cattle on his coconut plantations has been able to withstand this dissipation of his breeding stock by declaring a "sa", or prohibition, on the disposal of all the beasts from his property until 1956. The existence of this "sa" gives impressive evidence of his authority in Samoan society and his realism. It may be added that the same chief is keen to purchase quality breeding bulls and has encouraged the people in his village to form a co-operative cattle raising venture.

In some districts of Western Samoa, cattle and horses are prohibited by local decrees of village fonos because of the damage done to growing crops when these animals are ineffectively controlled.

Little, if any, attention has yet been given to fostering cattle grazing in Western Samoa as part of a long-range policy for maintaining or improving soil fertility. In view of increasing evidence²² of fertility depletion in certain districts, the value and practicability of rotational grazing as a land policy measure under Government auspices should be investigated.

LOCAL FOOD PRODUCTION

About 10,000 acres of Samoan land and nearly 1,000 acres of European-owned and Government land is in cultivation producing food for local use. Very little of this produce is handled commercially. Taro, ta'amu, bananas, plantains, breadfruit, tapioca, yams, pineapples, pawpaws, oranges, mandarins, lemons, limes, mangoes, tomatoes, Chinese cabbage, spring onions and other table vegetables are usually grown for domestic consumption or to provide rations for plantation employees.

To an increasing extent taro, ta'amu and bananas are grown for sale in and around Apia, where there is a steady demand for the staple foodstuffs. Surplus production of other fruit and vegetables is sold on the streets and in the stores in Apia in an unorganized way, but the volume of business is small and likely to remain so until suitable marketing facilities are available under conditions attractive to both producer and consumer. There is a privately-owned "market" in Apia which operates with rather limited usefulness in relation to the purpose it was established to serve. Its operations and limitations are indicated on page 62 of this study.

OTHER PRIMARY PRODUCTION

(a) *Rubber*

Hevea (para) rubber grows satisfactorily in Western Samoa. In 1928, the peak year for rubber production in the territory, the sole producer (the New Zealand Reparation Estates) had 2,072 acres planted in trees of this variety. Remnants of these early-established plantations (some 500 acres in sparse growth) remain, and more recently planted blocks totalling about 1,000 acres are available also for tapping when market prices for crude rubber increase sufficiently to induce the Estates to re-enter production. Since 1910 the beginning of Western Samoa's export trade in rubber shipments ceased entirely on four separate occasions, pending return to sufficiently remunerative prices. On the first occasion there were no rubber exports for the six years 1919-1925; then again for the three years 1932-1934, and the post-war years 1948-1950; and finally in 1953 tapping was discontinued.²³

The quantity and value of rubber exports during the past 30 years are as follows:

²² See *The Soils and Agriculture of Western Samoa*.—Reference List page 66. Report 5.

²³ Under the stimulus of favourable prices, tapping was resumed in the last quarter of 1955.



Slaughtermen dressing carcasses of locally-bred cattle.

EXPORTS OF SMOKED SHEET RUBBER

	Tons	Value		Tons	Value
1924	nil	—	1939	48	£4,509
1925	3	£1,165	1940	61	7,930
1926	34	6,702	1941	75	10,887
1927	158	24,802	1942	81	14,096
1928	167	17,268	1943	79	16,674
1929	110	9,613	1944	68	15,102
1930	101	6,461	1945	65	14,644
1931	41	1,140	1946	80	17,827
1932	6	85	1947	26	3,941
1933	nil	—	1948	nil	—
1934	nil	—	1949	nil	—
1935	25	1,372	1950	nil	—
1936	51	3,408	1951	37	14,232
1937	61	5,505	1952	86	16,742
1938	49	3,293	1953	25	5,219
			1954	—	—

The New Zealand Reparation Estates have no plans for extending their rubber plantations at the present time. Plantings during recent years of approximately 1,000 acres were made primarily as a contribution to Commonwealth defence.

(b) Hides

There are no commercial tanning facilities in the territory and little effort has been made to use the hides of cattle slaughtered in Samoa.

As shown by the following table, exports of hides have been nominal during recent years.

EXPORTS OF HIDES

Year	Value
1947	£182
1948	193
1949	273
1950	141
1951	286
1952	40
1953	175
1954	175

(c) Papain

Pawpaws grow prolifically in the territory from naturally broadcast seed, and from time to time in the past papain has been harvested in small lots and exported by enterprising individuals. The last occasion was in 1947, when shipments totalling 163 lbs. were recorded, valued for export duty purposes at £193.

No papain was being produced in 1953, notwithstanding the lucrative prices ruling.

(d) Grapefruit

On elevated land close to Apia, a businessman, the Hon. E. F. Paul, has established a small grapefruit plantation to supply local and New Zealand markets. In 1954 some 1,700 cases of grapefruit valued at £1,400 were exported.

THE GERLACH REPORT ON AGRICULTURAL DEVELOPMENT

In April 1952 the New Zealand Government decided to establish a Tropical Section in its Department of Agriculture to assist its Pacific Islands territories and dependencies in their agricultural development. Mr. J. C. Gerlach, a Senior Agronomist with 15 years' experience in tropical agriculture, was appointed to organize the section. Mr. Gerlach visited Western Samoa in September-December 1952, and submitted a report on his survey of the agricultural development of the territory (a summary is attached as Appendix II). In this report, which examined in detail the actual and potential resources available for primary production, existing conditions and scope for improvement, Mr. Gerlach drew attention to four basic problems restraining agricultural progress at the present time, viz.:

- (i) Lack of essential information on the territory's topography, climate, soils and land use on which to base a development scheme;
- (ii) problems of land tenure associated with Samoan lands and customs;
- (iii) pressure of increasing population on available food supplies;
- (iv) deficiencies in the agricultural education of the Samoan people.

He recommended that urgent consideration should be given to:

1. The provision of an accurate topographic map of Upolu and Savai'i, supported by a reconnaissance soil survey and the collection of comprehensive information on crop production, land occupancy, rainfall and other climatic data;
2. the reorganization of the Department of Agriculture and its staffing with adequately trained personnel. The reorganized department should be able to provide educational services to plantation owners and village people and conduct experimental work without reducing the standard of its supervisory functions;
3. the securing of some solution to Samoan land tenure problems which would not prove too disruptive socially;
4. the transfer of produce inspection work from the Department of Agriculture to a Board of Trade and Commerce;
5. an investigation of the livestock industry and its potentialities in the territory.

In the report Mr. Gerlach drew attention to the need for various trials and experimental projects which should be undertaken when facilities are available, including proposals for the propagation of selected coconut seedlings and investigational work with selected tropical grasses. Improvements in the agricultural education of Samoan students at higher government schools were also recommended.

IV: FORESTRY AND TIMBER

After a survey of the forest resources of the territory in 1950, Mr. Colin Marshall, of the British Colonial Forest Service, in his "Report on Forestry in Western Samoa", states that: "The natural forests of Samoa are poor in both quantity and quality of timber". This expert and Mr. T. S. Thompson, Soil Conservation Officer of the New Zealand Forest Service, who was associated with him in this survey, nevertheless emphasize the scope that exists for making more effective use of present timber resources and for developing the industry by re-forestation.

Under existing conditions only a small proportion of the timber trees felled each year which are suitable for milling are in fact used for that purpose. The two small sawmills operating in the territory are both situated in Apia, drawing their logs from Northern Upolu bushlands being cleared for plantations and grazing areas. Their operations are of necessity confined to lands within reasonably good road haulage distance from Apia, and for some time to come their small milling capacities will be taken up with logs drawn exclusively from nearby areas. Both mills cut selectively, producing only the timber the local market demands, rejecting mature timber trees less highly regarded. Outside the range of operations of these two small mills, that is the entire area of Savai'i and the major part of Upolu, practically all timber trees lie where they fall and rot, or are burned when lands are cleared for food crops and cocoa.

It has been estimated¹ that since World War II, Western Samoa is using milled timber at the rate of about 1½ million superficial feet a year, of which the local mills provide about half the supply. In 1953, 714,000 superficial feet of dressed and rough sawn timber were imported; principally softwoods from Canada. From New Zealand during the same year the Department of Agriculture brought in pinewood shooks for banana cases valued at over £71,000. It seems fairly certain that local timber stands could have provided satisfactory substitutes for most of these importations if more efficient utilization of the forest resources existed.

Of the two sawmills in the territory, the larger, owned and operated by the New Zealand Reparation Estates, has a capacity of up to 700,000 super feet a year. The other, operated by Mr. J. E. Curry, produces up to 400,000 super feet annually. Neither mill is equipped suitably for dealing with a mixed log supply nor with equipment for cutting banana case shooks. The logging and extraction equipment of both mills is not up to the standard required for efficient operation in the rugged rocky terrain of inland areas.

The need for increasing the productive capacity of the timber industry is strikingly illustrated in the case of banana shooks, now imported from New Zealand. At the present time it is

costing about 7/- to provide a case for each 90 lbs. of Western Samoan bananas exported. Fijian bananas are shipped to the same markets in cases built from shooks cut from local forest timbers, currently costing less than 3/- each. Both Fiji and Western Samoa are increasing production of bananas rapidly, and it seems probable that selling competition between these two sources of supply will result at some stage² in a downward adjustment of prices. In the event of competition of this nature, Fijian producers, with the benefit of a favourable margin of 4/- per case in the cost of boxing and 6/6d. per ton in freight and lighterage costs, could apparently dominate the situation, since the Western Samoan banana price and cost structure appears to offer little scope for protecting the grower from the impact of a fall in wholesale prices.

Although in general from the forester's point of view the natural forests of Western Samoa are "poor both in quantity and quality of timber", some of the trees available are eminently satisfactory for milling, and their timbers are prized by furniture-makers. Notwithstanding keen demand for all timbers within the territory and high prices obtainable locally, a small export trade has developed during recent years supplying Samoan hardwoods to the New Zealand furniture-makers.

The following table summarizes the territory's external trade in timber from 1938 onwards:

EXTERNAL TRADE IN TIMBER

Year	IMPORTS				EXPORTS		
	Rough Sawn Sup. Ft.	Value	Dressed Sup. Ft.	Value	Banana Shooks Value*	Samoan Sup. Ft.	Hardwood Value
	(000)	£	(000)	£		(000)	
1938	808	£4,215	369	£5,055	£20,095	—	—
1939	303	2,280	174	2,167	16,768	—	—
1941	14	147	24	574	17,699	—	—
1942	—	—	4	87	8,388	—	—
1943	—	—	10	409	6,710	—	—
1944	N/A	1,144	5	221	6,930	—	—
1945	6	240	16	1,035	11,851	—	—
1946	129	3,319	127	2,174	18,833	—	—
1947	420	10,962	406	12,678	18,072	—	—
1948	490	14,303	281	12,621	16,040	—	—
1949	131	10,684	229	6,133	20,852	25	884
1950	227	14,001	373	15,201	16,172	1	53
1951	575	33,991	327	16,852	12,341	50	2,217
1952	209	9,169	460	21,046	27,494	5	436
1953	279	11,260	436	23,093	71,037	29	1,216
1954	97	3,455	918	41,115	53,541	5	201

* Includes small quantities used for other purposes.

The local demand for timber is bound to increase steadily with both the increase in Western Samoa's population and the

² At the present time Samoan bananas cost more to land than Fijian but a New Zealand control regulation is relied on to ensure that the Samoan production is absorbed.

¹ SOURCE—*Forestry in Western Samoa*, by Marshall & Thompson. See Reference List, page 66, Report 6.



Forest clearing on Upolu, invaded by secondary species.

economic development of the country. The stage has been reached where further neglect of forestry resources is more serious than lost opportunity in an environment where nature can be relied on to restore soil fertility and the forest cover removed. There is increasing evidence that the traditional shifting agricultural practices of the Samoan people in the denser populated areas are resulting in soil fertility depletion of serious proportions and endangering some water supplies.

THE MARSHALL AND THOMPSON REPORT ON FORESTRY
IN WESTERN SAMOA³

In 1950 the Government of Western Samoa sought the advice of forestry experts as a preliminary step in the formulation of a forestry policy for the territory. Messrs. Marshall and Thompson, who conducted this survey and reported separately to the Government, were in agreement on the need for establishing a Land Use Board or committee with statutory authority to reserve forest lands for water supply and hydro-electric catchment areas, and to prevent removal of cover from steep erodable land and the banks of rivers. In addition, this authority was recommended to prepare a land use plan for defining areas for shifting cultivation, for grazing and for arable farming on the basis of soils, topography and the long-term interests of the Samoan

³ See Reference List, page 66, Report 6.

people. The urgent need for a Forestry Department for investigational, supervision and re-afforestation work was stressed, with particular reference to the need for developing under its supervision a supply of locally-grown timber suitable for banana case shooks.

While financial resources are available, Mr. Marshall claimed that local revenues and investment funds should be used in developing a scheme for commercial afforestation in the territory which should be continued even if its extension required borrowing externally. Mr. Marshall pointed out that unless timber is grown as a crop, it inevitably becomes difficult to obtain. In Western Samoa at present most of the trees felled in bush clearings are too far from an existing mill to be sawn into planks as a paying proposition. To meet this situation he advocated help being given to Samoan communities to acquire and maintain small portable sawmills and gasoline-powered chain saws so that all trees cut during clearing operations could be used for timber or firewood.

There is little information available on the growing characteristics, durability and usefulness of Samoan timbers and the possibilities of commercial afforestation. Pending the establishment of a Forestry Department, Mr. Marshall advocated the setting aside of forestry blocks for experimental purposes under the supervision of the Department of Agriculture. The establishment of seasoning sheds and the maintenance in reserve of a minimum of 18 months' supply of imported timbers by the Public Works Department were also recommended as measures urgently required to improve the timber supply situation in the territory.

NEW ZEALAND REPARATION ESTATES' SAW-MILLING
OPERATIONS

In the past ten years the sawmill operated by the New Zealand Reparation Estates has been moved on three occasions, working nearby timber supplies until exhaustion or transport costs precluded profitable operation.

Until late 1946 the mill was situated on the Cross Island road in central Upolu, cutting mainly Mamalava softwood. In June 1947 the mill began cutting at Asau in Savai'i, using logs from nearby stands of Tamanu, Talie and Kava hardwood timbers. Millable stands in Asau were then considered sufficient to provide the bulk of the territory's timber needs for many years, with a surplus for export to the furniture trade in New Zealand. Broken lava fields and heavy boulders made logging a difficult task, and towards the end of 1950 recurrent breakdowns of logging equipment, particularly tractors, interfered seriously with production, and operations ceased to be profitable.

The mill was transferred to Apia in 1952, initially milling teak that had been grown as windbreaks on the Estates' cocoa plantations, and subsequently logs extracted from bushlands being cleared for cattle grazing. The output of the mill since April 1944 was as follows:

N.Z. REPARATION ESTATES' TIMBER PRODUCTION

	Year ended March,	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
"Cross Island" Road site (Upolu)	329,000	534,000	283,000	337,000	552,000	453,000	405,000	364,000	243,000	321,000	95,000*
	super ft.	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "
	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "
Asau site (Savai'i)	337,000	552,000	453,000	405,000	364,000	243,000	321,000	95,000*			
	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "
	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "
Apia site (Upolu)	243,000	321,000	95,000*								
	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "
	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "

* Pending the installation of a new main sawmill engine in November, 1954, the mill was closed for several months.

V: MANUFACTURING AND SERVICING INDUSTRIES

1. DESICCATED COCONUT MANUFACTURE

As a result of wartime supply and shipping difficulties which drastically reduced supplies of desiccated coconut in New Zealand, the possibilities of Western Samoa as a convenient source of supply were investigated, and the New Zealand Reparation Estates were encouraged to establish a manufacturing plant on their Mulifanua copra plantation. Although no formal undertaking was asked for, or given, there was a general understanding (in Western Samoa at least) that an assured market in New Zealand would be established for Western Samoan desiccated coconut. New Zealand's import licensing procedure gave practical expression and support to this situation for the first seven years of the factory's operations.

Production of desiccated coconut began in 1943. As the industry increased its efficiency it also increased its tempo, operating its expensive equipment "around the clock" and building up production to about 700 tons a year, or about 200 tons less than New Zealand's annual requirements. During World War II and in the immediate post-war years, the production of this factory was sold for £130 to £140 per ton f.o.b. Apia, which in general was less than the cost of other supplies, including the shipments from Ceylon delivered during those years. Sales at these prices were quite profitable. For example, for the three years ended March 1950 the New Zealand Reparation Estates recorded profits averaging some £38,000 from its sales of desiccated coconut. These favourable developments encouraged New Zealand Reparation Estates to extend their operations by building another manufacturing plant on Vailele plantation, close to Apia.

Before this second factory could be brought into operation the Board of Trade, which was examining New Zealand's import control system with a view to eliminating unnecessary restrictions on trade, announced in December 1950 that imports of desiccated coconut were no longer subject to licensing control. At this time desiccated coconut from Ceylon, which had been quoted at over £200 a ton earlier in the year, was on offer to New Zealand manufacturers at £141/10/- per ton. Quotations for Ceylon desiccated coconut continued to fall steadily, reaching £116/5/- per ton in August 1951, thereby forcing the New Zealand Reparation Estates to reduce its selling price accordingly. The reduced selling price caused the Estates to operate at a loss on their manufacturing as distinct from their growing operations. When allowance was made in their costing for the certain profits that could have been earned if the raw material had been used for copra instead of desiccated coconut, the manufacturing operations were found to be unprofitable.

It is interesting to note that in July 1952 Ceylon copra was realizing about £100 per ton c.i.f. European ports. Since the raw material in eight tons of copra would produce only five tons of desiccated coconut, it seems certain that at that time Ceylon was selling desiccated coconut at very much less profit than was freely available on the world markets from sales of copra, and there was general belief in Western Samoa, and in some administrative circles in Wellington, that desiccated coconut exports from Ceylon were receiving the support of some subsidy in an officially-sponsored drive to recapture former markets.

In addition to losses then accruing on its production of this commodity, the New Zealand Reparation Estates were called

on to meet the cost of reducing the selling price of stocks of its product held in New Zealand by the Marketing Department, which were unsaleable at £163/5/- per ton ex New Zealand store, the price formerly quoted.

Although energetic representations were made to the Board of Trade to reinstate the abolished control in the interests of the Samoan desiccated coconut industry, these failed to achieve their object. In recommending against reinstatement the Board of Trade drew attention to the limited value of this manufacturing venture as a means of "diversifying" the territory's economy, the profitable returns currently available from copra, and the sound financial position of the New Zealand Reparation Estates and the fiscal position of the territory as a whole. In the opinion of the Board, "if any financial assistance to the Samoan industry should later prove to be necessary, and at the present this seems very unlikely, we are of the opinion that some method of providing that assistance should be considered which does not involve a direct impost on the New Zealand consumer of desiccated coconut". This passage is quoted verbatim because it has indirect but important bearing on a critical problem in Western Samoa—the problem of employing its people. In stressing the advantages of providing a protected market for Samoan-manufactured desiccated coconut, loss of regular employment was given greater weight than any other factor by the advocates concerned.

As at the end of 1953 the position of the territory's desiccated coconut industry was, briefly, as follows:

The plant and equipment, which had been assembled at a capital cost of £37,480, was idle, but maintained intact for future production. The plant at Mulifanua was complete, and recently-installed equipment would ensure a higher standard of productive efficiency than past performance. The second factory building was ready for service, but machinery had not been installed, although some of the desiccating equipment was available in the territory for this purpose. Of the 250 former employees, the manager and other key personnel were employed elsewhere on the New Zealand Reparation Estates' properties, and about 60 of the Samoan employees had been engaged to meet the demands for additional workers for the increased copra production of Mulifanua plantations. The remaining 200 Samoans had been paid off and dispersed as a labour force.

The volume and recorded value of the territory's export trade in desiccated coconut since its inception is as follows:

EXPORTS OF DESICCATED COCONUT

Year	Tons	Value	Year	Tons	Value
1943	96	£8,686	1949	691	£95,142
1944	297	23,753	1950	555	74,934
1945	376	30,114	1951	339	43,272
1946	568	50,462	1952	21	2,229
1947	616	79,249	1953	Nil	—
1948	509	71,424	1954	—	—

As indicated in this table, production of desiccated coconut in Western Samoa ceased at the end of 1951 after some months of reduced activity pending representations for protection on New Zealand markets. Suggestions that New Zealand Reparation Estates should keep its factory in operation and absorb any processing losses as a charge against its profits in other activities were not acceptable to the General Manager of the Estates, who pointed out that current prices then yielded a

net profit of £27 per ton on copra compared with a loss of £10 per ton on processing desiccated coconut, and the decision was made to revert to copra production exclusively until prices in New Zealand and/or other markets yielded satisfactory returns to the Samoan desiccating industry.

2. SOAP MANUFACTURE

With the temporary (or perhaps permanent) closing of New Zealand Reparation Estates' two desiccated coconut factories, the small plant of Samoa Industries Limited producing laundry soap achieved prominence as the principal manufacturing enterprise in the territory. The plant, which operates in Apia, is locally owned and controlled. Production began in August 1953, using only one of the two soap-making "pans" installed. Both pans have a maximum capacity of ten tons of soap a week, but since it was assumed that the local demand for washing soap would not exceed a rate of about eight or nine tons a week, it is unlikely that full manufacturing capacity will be drawn on regularly. Although capable of producing toilet soaps, the management did not seriously contemplate entering this highly-competitive field.

By mid-September 1953 the plant was producing about four tons of laundry soap a week and selling its production at a rate that exceeded earlier expectations. Enquiries had been received from American Samoa, and the prospect of a small export trade of up to two tons per week seemed probable.

This locally-manufactured product is placed on the market in free competition with other laundry soaps. However, it enjoys a measure of protection, since imported soaps are subject to *ad valorem* import duties of 25 per cent. (or some 11 per cent. more in the case of non-British soaps), which is offset to some extent by the duty at similar rates which Samoa Industries pays on its raw materials.

During September 1953, the local soap was selling retail at from 2/- to 2/6 per 2 lb. bar (unwrapped), which was approximately 1/- per bar less than similar imported lines. Its principal ingredients were New Zealand tallow, Canadian caustic soda, United States resin, and small amounts of soda ash as a filler.

Originally it had been intended to use up to 25 per cent.¹ Samoan coconut oil as a substitute for tallow, and the original plans included the installation of oil expressing equipment. The rising price of copra has caused this development to be postponed.

A manager with previous experience in soap manufacture was in charge of operations, assisted by three Samoan labourers.

3. OTHER MANUFACTURING INDUSTRIES

A few small manufacturing plants are operating in Apia making bulky and perishable consumer goods. Their products have effective protection from overseas competition in the difficulties and expense of sea and air transport as well as customs tariff advantages. It seems certain that these small plants will grow in number and efficiency as time goes on, but at the time of writing none of the industries listed appears likely to expand operations beyond the limits of the local market. For this reason, the following description is confined to the type of manufacturing and the number of concerns with supplementary comments on ownership and materials used.

Furniture and Cabinetmaking

Both sawmilling concerns and Morris Hedstrom Limited, one of the largest of the inter-island trading firms in the territory, have cabinetmaking workshops supporting their establishments. In addition, there are ten small workshops operating part or full-time on furniture construction, where the self-employed owners and sometimes one or two assistants cater for local needs. Local timbers are used a good deal in this furniture

¹ A higher proportion of coconut oil would tend to make the soap rather too harsh for local preferences. Experience indicated, however, that the factory's all-tallow soap was deficient in lathering qualities for local tastes and that some admixture of coconut oil was required.

work, with advantage in both appearance and durability. Nearly all production is made to order, a limited amount only being produced for stocking the furniture department of Morris Hedstrom's store.

Boat-building and Repairs

The whaleboats, lighters and some of the copra boats which play a vital role in transport in the territory are of local construction. The building and repair work is quite widely dispersed for most local tradesmen, and engineers are engaged at some time or other in maintaining sea-going craft. The largest trading concerns maintain their own boat repair and construction units. In Western Samoa, where trading in much of the territory is dependent on transport by coastal vessel and whaleboat tenders, work of this nature is a continuing operation.

Bread Baking

There are sixteen bakeries operating in the territory, all but a few in or near Apia. Several of the larger trading concerns maintain bakehouses in their establishments, supplying regular over-the-counter demands and accepting orders from time to time for quite large deliveries of up to 1,000 loaves and more, for feasts and celebrations. In addition there is a Chinese-owned bakery of some size which supplies the smaller stores and maintains its own retail distribution, operating two delivery trucks. A staff of nine is employed producing about 1,200 twenty-ounce loaves daily (including Saturdays), which sell retail at 1/- per loaf. This is the largest bakery in the territory. There are in addition several smaller units in and around Apia and in the outer districts run as family businesses by Chinese and part-Samoan owners.

Ice Manufacture

The largest ice manufacturing business is associated with the leading retail butchery and cool store. Three smaller plants are also in operation, providing principally for the needs of their parent trading establishments.

Cordial Manufacture

Two small plants² manufacture carbonated soft drinks for the local market. The drinks are bottled in 8 to 10-ounce second-hand bottles from a wide variety of sources. In at least one case, however, a royalty is paid when bottles of a particular New Zealand manufacturer are used. The retail price charged for locally-made soft drinks ranges from 6d to 10d, which compares with up to 1/8 per bottle for a 10-ounce bottle of a well-known New Zealand brand. Notwithstanding the adverse price margin, New Zealand-made soft drinks sell readily in some of the larger stores in Apia.

Tailoring and Piece Goods

The largest tailoring and dressmaking establishment in the territory employs about twelve female machinists, ten of whom are Samoans. Of the remaining two, one is of Chinese-Samoan and the other of Japanese-Samoan parentage. One of the larger trading companies has a clothing workroom supporting its soft-goods department. In addition, there are at least fifteen smaller establishments operating with one or two machines, and little if any paid assistance supplementing their proprietors' efforts.

Mattress Manufacture

Using locally-grown kapok, two workrooms in the territory are equipped to manufacture soft mattresses.

4. PRODUCE BUYING AND RETAIL DISTRIBUTION

In the urban area of Apia, retail trading is conducted in general stores ranging from the spacious modern departmental stores of the inter-island universal providers, Messrs. Morris Hedstrom Limited and Burns Philp (South Seas) Limited, employing some 30 to 40 shop assistants, to the cramped back-room store of the Samoan or Chinese trader in a very small way of business. In the villages of Upolu and Savai'i, a typical

² One of these is operated by New Zealand Reparation Estates primarily to supply its own requirements.

feature of the landscape is one or more of the solidly-constructed typical European-style trading stores. Although sometimes achieving an appearance of suburban respectability, they are essentially utilitarian, usually with a retail shop, a bulk store for produce, and living quarters for the manager (or owner) in the one establishment. The manager (or owner) is usually a Samoan or part-Samoan with previous commercial experience at one of the larger concerns. These traders residing in the villages are accepted and recognised as playing an important part in Samoan everyday life, and although occupying no traditional or formal position in communal affairs, they are usually afforded privileges including gifts of foodstuffs. In return they are expected to support village activities.

Although somewhat confined by informal trading agreements between the principal merchant houses concerned and by the operation of a limited range of official price controls, there is usually keen competition in village trading. Inaccessibility in a few places, however, tends to provide a limited form of monopoly.

It is usual for village traders to be under continuing pressure to supply goods on credit to Samoans for personal use or for celebrations and ceremonial occasions. A "Trade Debts Ordinance", which in effect made legally unenforceable all trade debts contracted by Samoans, operated to restrain the granting of this form of credit until its repeal in 1953.

Partly because of this ordinance, the larger trading companies usually placed very strict limits on the amount of credit which could be granted by managers in stores operated on their behalf. Not infrequently the managers concerned were forbidden, without special approval, to grant credit in the villages in excess of pre-determined total limits or the amount of the individual trade store manager's credit balance with his employing company. Any credit granted beyond these limits was regarded as a misappropriation of funds, and dismissal with a criminal charge for recovery of this form of cash shortage has been a regular feature of court proceedings in Apia.

The records of the court and an extremely rapid turnover in trading store managers through the years support the view that three factors, viz.:

- (i) the inflexible provisions of the managers' employment contracts;
- (ii) keen competition for the limited business available;
- (iii) pressing demands for credit from village communities

operate in combination to provide a critical testing ground for even the most energetic and conscientious trade store managers.

Most of the village stores are owned by and operated for one or other of the larger trading concerns in Apia, of which one has more than sixty trading stations in outer districts in addition to its town stores. Four other large trading companies have between 30 and 60 village stations each, and with one exception all are tending to extend this form of representation throughout the territory. At the same time, however, during recent years there has been a tendency for an increasing number of village stores to transfer to, or be established under, local Samoan owners. Although ostensibly independent, most of these Samoan stores are tied legally, financially or informally to some larger concern in Apia. During the past two years a few "co-operatives" (unregistered and not supervised as yet

under the Co-operative Societies Ordinance) have been formed to establish or purchase village trading stations. This development is discussed in a subsequent section of this survey.

Since 1947 the total number of trading stores in the territory has increased by 127 to a total of 411. Of this increase, 84 were single unit establishments, of which 56 were in the rural districts of Upolu and 18 were in Savai'i. The table below summarizing the location and number of general storekeepers' licences issued in the territory illustrates this trend and other changes occurring during recent years:

There is evidence that the change to a higher proportion of separately-owned and operated village trading stores has occurred, with a good deal of administrative and financial help from some of the larger trading companies, and it is interesting to note also that two Samoan-owned and operated trading concerns have grown from single-store units to fifteen- and ten-store establishments in the period under review.

MISCELLANEOUS COMMERCIAL AND CONSUMER SERVICES

Supplementing the services provided by the general trading stores in Apia, there are seven restaurants, ten men's hairdressers and one women's hairdressing salon, two photographers' studios and two billiard saloons. Two social clubs provide bar services and recreational facilities for European members. There are no licensed public hotels or saloons in the territory, but there is some evidence of illicit brewing and sale of "home brew" (fa'amafu). One press investigator claimed that the consumption of illicitly-brewed beer exceeded that of the imported commodity.³

A recent development in Apia is the establishment of a motor-tyre retreading plant equipped with moulds for both car and truck tyres. Its output under optimum conditions is estimated at 80 car tyres and 80 truck tyres per month. Up to September 1955 the plant had been operating at about one-third maximum capacity.

In addition to the engineering workshops associated with two of the larger trading companies which act as local agents for motor car manufacturers, there are in Apia at least nine other smaller workshops providing repair and general engineering services to the public. The largest road transport organization also undertakes motor repair and servicing work for private individuals.

The printing works of the weekly newspaper published in the territory provides a job-printing service for the general public, commercial houses and the Administration.

The sole moving picture theatre in Apia gives four matinee and four nightly performances each week. Two 16 mm. circuits, one in the rural district of Upolu and the other operating in Savai'i, provide a cinema entertainment service for people living in the villages.

There are four registered accommodation houses in Apia. The largest is the Casino Hotel, operated by the New Zealand Reparation Estates, which provides accommodation for about 40 permanent guests (mainly government employees) and for a proportion of the tourist and casual traffic as well.

³ SOURCE: *Samoan Bulletin*, 20th November, 1953, editorial.

LOCATION AND NUMBER OF TRADING STORES

Owned and operated by:	In Apia		Elsewhere in Upolu		In Savai'i		TOTAL	
	1947	1955	1947	1955	1947	1955	1947	1955
(a) The five largest trading companies	15	25	88	112	84	87	187	224*
(b) The five next largest companies	6	8	29	26	7	9	42	43
(c) Smaller concerns each holding two general storekeepers' licences	1	1	3	6	—	2	4	9
(d) Single licence holders	31	41	19	75	1	19	51	135
	53	75	139	219	92	117	284	411

* Including three stores on Manono Island.

VI: TRANSPORT, COMMUNICATIONS AND ELECTRIC POWER RESOURCES

1: EXTERNAL TRANSPORT

(a) Shipping

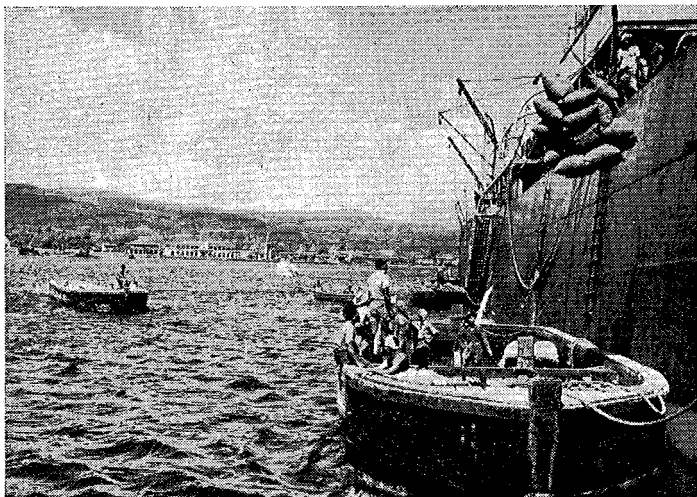
Two Union Steam Ship Company passenger-cargo vessels, the *Tofua* (75 passengers, refrigerated space for 24,000 cases of fruit and 1,100 tons general cargo capacity) and the *Matua* (69 passengers, refrigerated space for 24,000 cases of fruit and 500 tons general cargo capacity) call at Apia regularly, maintaining a fortnightly service between New Zealand ports, Fiji, Tonga, Western and Eastern Samoa. This link with the Dominion and other Pacific Islands is Western Samoa's principal transport and communications service, for in addition to maintaining the bulk of the surface mail and overseas passenger traffic, these two vessels provide refrigerated cargo space for all banana exports, perishable foodstuff imports, inward general cargo from New Zealand and transshipment cargo from the United Kingdom, European ports and elsewhere off-loaded at Suva.

At intervals of from six to eight weeks, depending on quantity of cargo offering¹, one of the fleet of four Union Steam Ship Company vessels maintaining a service between Australian and North American ports (via Suva) discharges general cargo at Apia and lifts Samoan exports to the United States.

Freighters of the Bank Line under charter to the United Kingdom Ministry of Food at intervals of about two months lift copra and limited quantities of cocoa for shipment to United Kingdom and European ports.

Other freighters, of which the Pacific Islands Transport Line's *Thorsisle* is the most regular visitor, bring small quantities of

¹ The Union Steam Ship Company requires a minimum quantity of about 500 tons.



Loading an overseas vessel from lighters at Apia.

general imports and lift cocoa exports for North American and other ports.

Two small coastal vessels, the *Gaumata'u* and the *Samoa*, each maintain weekly services for passengers and freight between Apia and Pago Pago. This service is supplemented at irregular intervals by the *Manua Tele*, the United States Government-operated vessel that is chartered each three or four months by the Western Samoan Government to ship goods and passengers to the Tokelau Group and collect copra from these islands.

(b) Harbour Facilities

It is believed quite widely in the territory that harbours for overseas shipping with deep-water wharfing facilities could be constructed quite readily on at least three locations in Upolu, viz.: Apia, Vaiusu Bay (adjoining Apia) and Saluafata Harbour, some twelve miles east of Apia.

On Savai'i the most promising site for the construction of a port for overseas shipping appears to be at Asau Bay, towards the western extremity of the island's north coast. A project for developing harbour facilities for overseas vessels at Salelologa on the south-east coast of Savai'i has been abandoned in favour of a less ambitious scheme following an adverse report based on the findings of a survey conducted by a naval survey ship *Lachlan* during 1953. Preliminary investigations of the possibilities and costs of harbour development at both Apia and Vaiusu Bay have been prepared, but no specific policy has been defined.

At present Apia has wharf accommodation for small ships only. Overseas vessels are moored to permanent buoys in a reef-protected harbour, and launches and lighters are used for passenger and cargo movement between ship and landing stage. Cargo storage accommodation is available, but there are no cool stores or bulk oil storage facilities at the port.

(c) Air Services

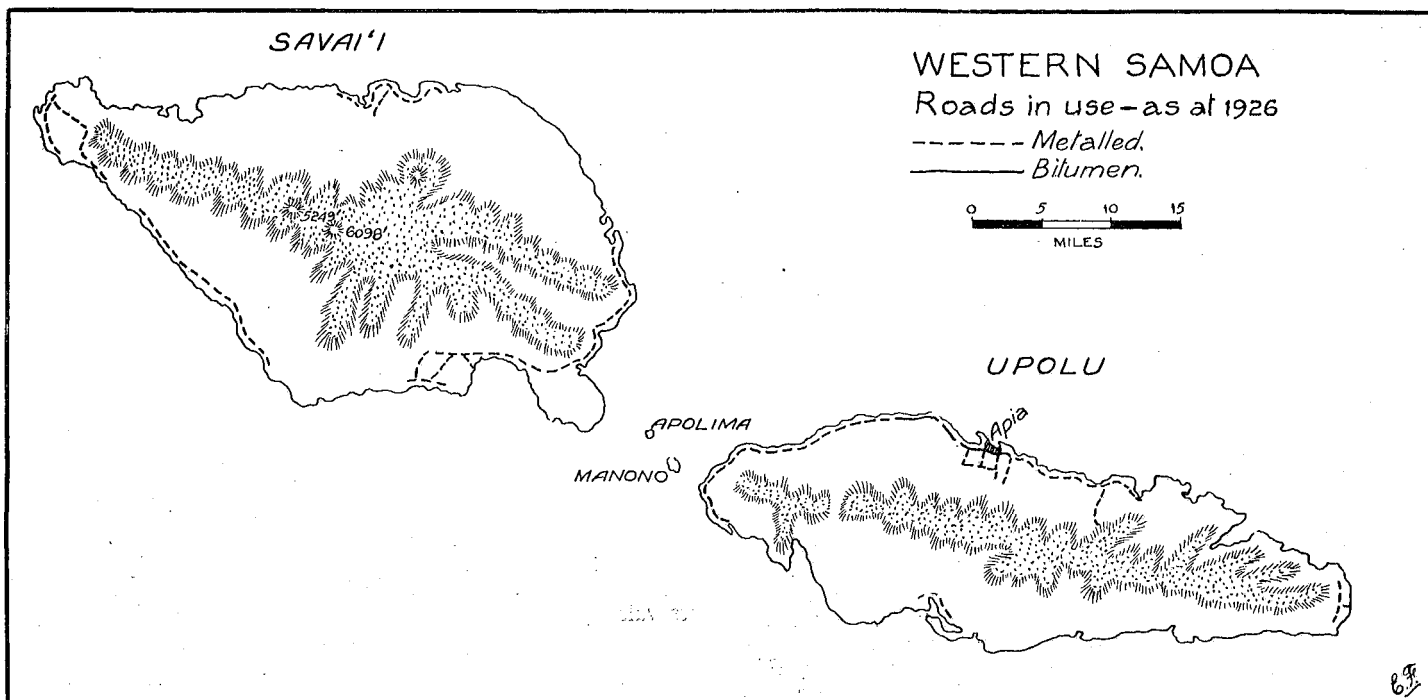
Flying-boats² of Tasman Empire Airways' fortnightly "Coral Route" service (New Zealand, Fiji, Western Samoa, Cook Islands, French Oceania) make outward and return overnight stops at the sea-alighting area some 22 miles westward of Apia. At monthly intervals (if sufficient traffic is operating) an additional Fiji-Western Samoa terminal service is provided. In addition to maintaining airmail and airfreight services to and from the territory, these flying-boats provide transport for about 500 inward and 500 outward passengers to and from Western Samoa each year.

2. INTERNAL TRANSPORT

(a) Shipping

Some twenty-five small vessels, ranging in size from cutters of five tons register to auxiliary ketches of about forty tons gross weight, provide cargo transport and passenger-carrying services

² Solent flying-boats, 36-passenger and 43-passenger, are used.



Map of Western Samoa, showing roads in use as at 1926.

between Apia, the islands of Savai'i, Manono and Apolima and those districts of Upolu as yet inaccessible by motor road. Regular daily services for passengers and freight are maintained between a wharf at Mulifanua on Upolu and nearby villages on Savai'i.

Most of these small vessels are owned by trading firms and operated primarily to link their village trading stores with their establishments in Apia. Four vessels are owned by passenger-carrying concerns and these maintain reasonably regular transport and cargo services.

(b) Roads

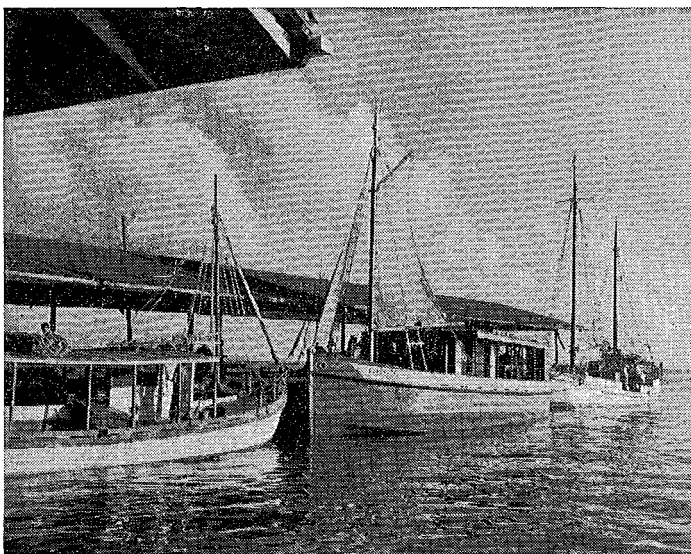
In the Territory's development programme high priority is given to the improvement and extension of roads. The importance of arterial and access roads suitable for motor transport is realised not only by those associated with government and commerce in the territory, but also by the Samoan people in general. As a result, the Administration has been under mounting pressure for an extensive roading programme in both islands. Progress in Upolu was accelerated during World War II, when for strategic reasons United States engineering units completed a highway linking the North Coast from Leulumoega with the South Coast as far east as Siumu. With the ultimate object of completing the circuit of Upolu this road on the South Coast has been extended eastward beyond Poutasi, and by the close of 1955 is expected to link up with the main highway recently constructed across the main dividing hills south of Falefa (on the north coast east of Apia), reaching down to Lotofaga and eastward to the Aleipata District. Construction work is proceeding, too, on the highway which is expected to complete the circuit of Savai'i within two years.

In other sections of this report attention is drawn to the developmental and social advantages that accrued from the wartime construction of the strategic road now known as the Cross Island Road of Upolu. These advantages are now so highly regarded that new arterial road construction is deliberately planned to open up potentially productive land. Previously it was the practice to link coastal villages with greatest convenience by closely following established tracks along the coastline.

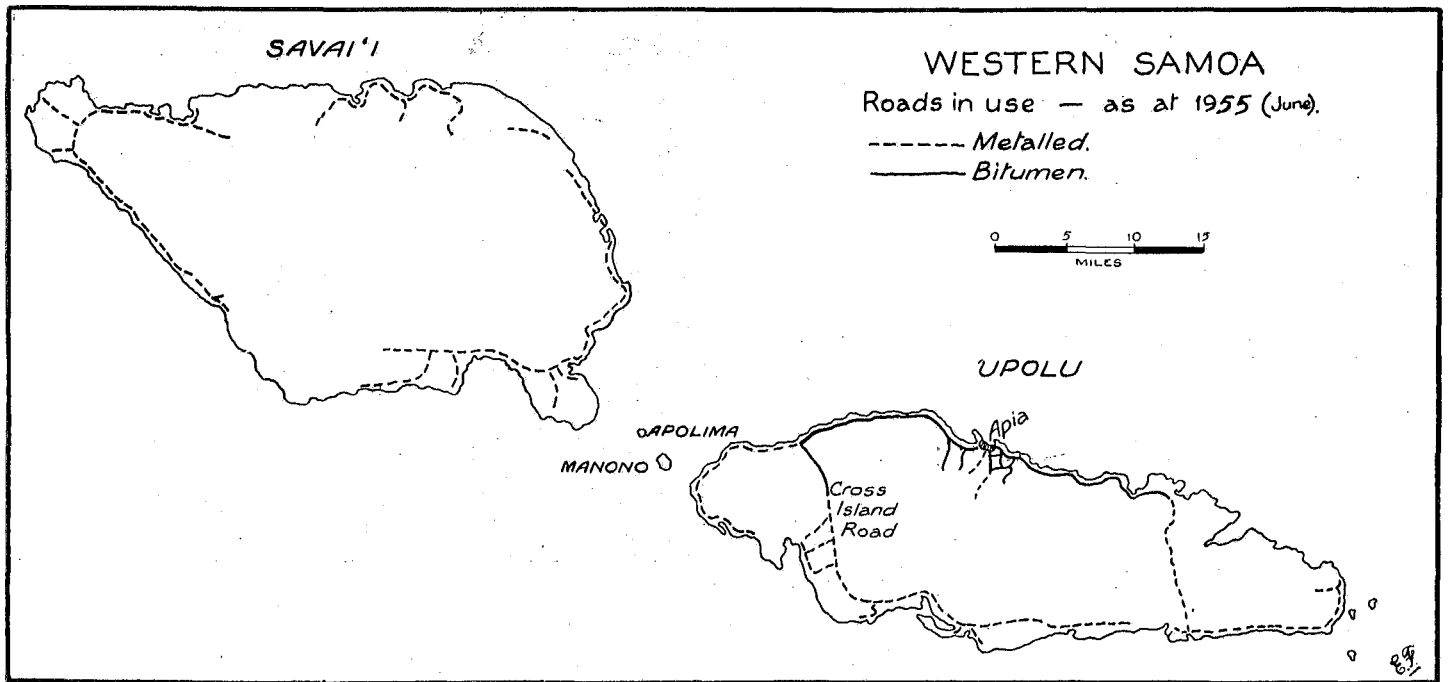
It is generally considered in Western Samoa that lack of adequate roading is now the most effective restraint on economic

progress in both Upolu and Savai'i. Coastal shipping provides its most satisfactory service between Apia and sheltered anchorages on Savai'i such as at Asau Bay, where regular wharf-to-wharf services can be maintained. Where wharf facilities are not practicable the coastal boat is not a satisfactory substitute for motor transport. Reef passages to most villages are usually dangerous and often unworkable, while the expense and trouble of providing lightering facilities between the village store and the copra boat in the roadstead are sufficient to ensure that a truck replaces these boats wherever adequate roading facilities make the transition possible.

In Western Samoa at mid-1955 70 miles of the highest traffic density roads in Upolu were bitumen-surfaced. There were some 240 miles of main roads in the territory constructed for heavy transport up to 18 tons gross loading. In addition, 110 miles (approx.) of secondary, village access and plantation roads were available for light traffic. The maps on pages 29



Coastal vessels berthed at Apia.



Map of Western Samoa, showing roads in use as at June, 1955.

and 30 show visually the progress that has been achieved in extending and improving roads in the territory since 1926.

The average cost of constructing heavy duty roads was estimated in 1952/3 at £2,000 a mile for metal-surfaced and £5,000 a mile for bitumen-surfaced construction.

(c) Road Transport Facilities

Most of the road vehicles listed below operate in Upolu. In general, the roads of Savai'i are in a very much poorer condition than those of the principal island, and traffic is limited to a few trucks, six passenger omnibuses and one taxi.

(i) **OMNIBUSES:** In 1954 there were 72 omnibuses registered in the territory, twenty of which were owned and operated by the leading transport company. The remainder were owned by small operators, including some owner-drivers. In addition to providing cheap passenger transport services, these buses play an important part in the transport of foodstuffs and other goods for the people of the villages. An indication of the increasing use of bus services by the Samoan people is shown in the number of registered omnibuses in the territory, which doubled in the six-year period ending June 1953.

(ii) **TRUCKS AND VANS:** There were 164 trucks registered in the territory in 1953, 61 of which were owned by trading firms and 33 by the Government. Twenty were owned and operated by Samoans. In addition, 46 light vans were registered, most of which were owned by commercial concerns in Apia.

(iii) **MOTOR CARS:** Of the two hundred and thirty-one cars (excluding taxis) registered in the territory in 1953, only eight were owned by Samoans as distinct from part-Samoans, ten were Government vehicles and 17 owned by commercial concerns.

(iv) **TAXIS:** There were 80 registered taxis in 1954, of which some 30 were owned by the leading transport concern. The remainder were operated in the main by owner-drivers or by two to six car operators.

(v) **DRAUGHT ANIMALS:** The use of donkeys and oxen for nut collection has been described in an earlier section of this survey dealing with the copra industry.

Horses are used to a limited extent, principally around Apia, for carrying foodstuffs, but in general the village-bred animals are so weakened by early misuse and neglect that they are of limited worth for transport.

(vi) **PORTERAGE:** Even in outlying districts beyond the limits of existing roads, porters are rarely used to carry goods and equipment. Cutters, whaleboats and canoes are usually available for this task. In and around the villages, however, even where access roads and formed tracks abound, most of the Samoan-produced foodstuffs and unprepared green cocoa and copra are carried on human shoulders as in ancient times. There has been some progress in recent generations with the universal adoption of the Chinese-style "yoke" to carry two laden baskets instead of one, but the time and energy spent in providing this form of transport retards development in most village communities. No doubt the carrying of heavy burdens in Western Samoa, as elsewhere, helps to build the strong physique and graceful carriage for which the youth of village communities is noted, but it is becoming increasingly obvious in Western Samoa that the disadvantages of this primitive transport outweigh its advantages.

As pressure of population numbers and exhaustion of soils force the food gardens of village people further and further inland, the effort and time spent in journeys of up to six miles between the villages and cultivations is a serious drain on productive effort. Examining this problem in relation to banana production, it is certain that the Agriculture Department's willingness to pick up cases of fruit from any roadside location nominated by the grower contributes greatly to the success of the scheme. Nevertheless, the burden of carrying bananas on human shoulders from the groves to the roadside still requires very great effort, and limits the area of cultivation most effectively. Few bananas for export are planted more than half a mile from the roadside on the recently-developed lands opened up by the "Cross Island" highway on Upolu. On a banana collection day in June 1953 only one pack-horse was observed working in the hundreds of banana cultivations that line the "Cross Island" highway from its summit to beyond Poutasi on the south coast of Upolu.

COMMUNICATIONS

(a) Postal Services

Regular fortnightly (or more frequent) inward and outward surface and airmail postal services are provided in Apia through a Post and Telegraph Department conducted in close association with New Zealand's postal services.

(b) Wireless Telegraph Service

External services are maintained through the main radio station located at Apia. Radio telephone stations in outer districts of Savai'i and Upolu provide an internal communications service which is supplemented by a private message service incorporated in the regular evening broadcasts from radio station 2AP.

(c) Radio Broadcasting

Station 2AP, Apia, broadcasts programmes of entertainment and local news in both English and Samoan.

Educational programmes prepared and conducted by the central teaching staff of the Education Department play an important part in the primary school educational programme of the territory as a whole. Receiving sets of simple and rugged design are made available by the Government for installation in village schools or in central locations of villages throughout the territory.

During the six years of its existence radio broadcasting has become the most important means of disseminating information throughout the territory. By methods such as the broadcasting of the proceedings of the Legislative Assembly and of the Fono of Faipule, by educational talks and official information sessions, radio facilities are providing a valuable link between the Government and the Samoan people of all districts. A keen and widespread interest in local events and a "hunger" for news of government activities and significant happenings in Samoa and overseas was noted during 1952 by Mr. L. J. Greenberg, Secretary of the New Zealand Broadcasting Department, in his report on broadcasting policy of that year. This report recommended various improvements and extensions to the existing service designed to make more effective use of broadcasting in promoting political and social progress in the territory.

(e) Telephone Services

The Post and Telegraph Department provides a telephone service in the Apia urban area which extends also about ten miles westward along the North Coast highway. The exchange can accommodate up to about 500 individual and party-line subscribers.

Under the control of a locally-recruited New Zealand-trained supervisor, the line staff and the exchange staff are engaged and trained in Apia.

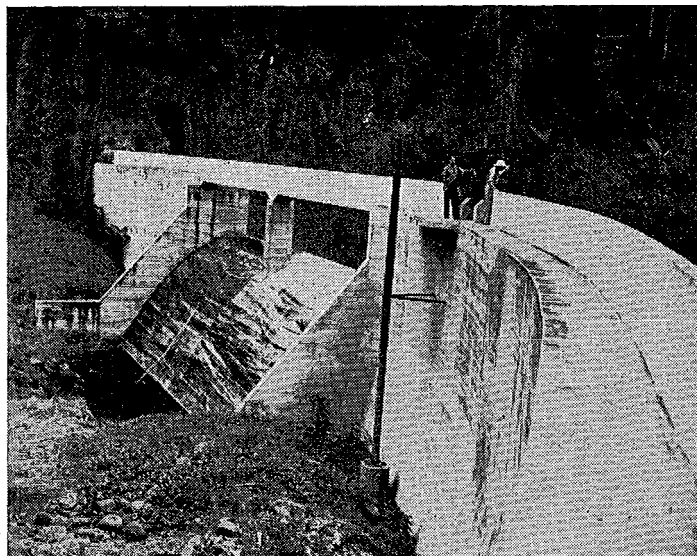
ELECTRIC POWER SUPPLY

In 1953 the maximum demand for the twenty-square-mile reticulated area in and adjacent to Apia was about 400 k.w., which was furnished by:

- (a) Fuluasou hydro-electric plant of 280 k.w. capacity.
- (b) Magiagi hydro-electric plant of 72 k.w. capacity.
- (c) Diesel auxiliary plant of 80 k.w. capacity.

With peak demands continually pressing on maximum productive capacity, there were recurrent supply interruptions and continuing appeals for power conservation. There were also some vexatious but unavoidable restrictions on the use of power for industrial purposes, but in general essential services were supplied satisfactorily.

The installation of a 300 k.w. diesel generating plant at the end of January, 1954, brought emergency power interruptions and restrictions to an end and provided scope for repair and maintenance work that was long overdue. With the installation of another 300 k.w. diesel generating plant at the beginning of 1955, Apia's demands for electric power were accommodated pending the completion of the territory's major hydro-electric generation project at Avele. This plant, which was nearing



Fuluasou hydro-electric spillway and dam.

completion in 1955, is designed to produce 1,000 k.w. under a full head of water.

At the end of 1955 Apia's anticipated production capacity was as follows:

(a) Fuluasou hydro-electric plant	.....	280 k.w.
(b) Magiagi hydro-electric plant	.....	72 "
(c) Avele hydro-electric plant	.....	1,000 "
Installed hydro-electric capacity		..... 1,352 "
(d) Three diesel-electric auxiliary plants	.....	680 "
Total installed capacity		..... 2,032 "

The average maximum demand for power in 1955 was about 580 k.w.

It is anticipated that there is now enough reserve generating equipment supporting the Avele hydro-plant to enable this major unit to shut down completely for repairs or to conserve water because of exceptionally dry climatic conditions.

In addition to the hydro-electric power resources harnessed or under construction, potential resources are known to be available in three other locations in Upolu and at one site in Savai'i. Details of this estimated potential production are as follows:

Vaisigano (Upolu)	.....	750 k.w. capacity
Salani River (Upolu)	.....	2,000 " "
Falefa Falls (Upolu)	.....	150 " "
Palauli (Savai'i)	.....	80 " "

Samoan Domestic Use of Electric Power

Within the reticulated area a considerable proportion of the open-sided fales (houses constructed in the traditional Samoan style) of the Samoan urban villages are served with electric lighting connections. In the evenings this form of village lighting provides the illusion of scores of cheerfully-illuminated kiosks that is an unusual and pleasant feature of life in Apia.

Appreciation of the advantages of domestic electricity is general among the Samoan people. Two progressive villages in Savai'i have installed 18 k.w. and 20 k.w. diesel plants to serve their own village needs, meeting capital and maintenance costs by levying uniform monthly rates on lighting connections installed. In other villages consideration was being given to the installation of small hydro-electric plants to be run as local self-help amenities, but progress was restricted by lack of essential technical knowledge.

VII: EMPLOYMENT AND WAGES

SAMOAN LABOURERS

Until the early 1930's nearly all private and official pronouncements on the labour situation in Western Samoa stated or assumed that the Samoan people in general had neither the desire nor the capacity to work regular hours for wages and that economic progress in the territory was dependent on maintaining an adequate supply of Chinese or Melanesian labourers. As late as 1928, for example, the Royal Commission's Report on the administration of Western Samoa stated, without reservation or qualification, that—"It is accepted that Samoan paid labour cannot be used to any great extent in the case of plantations or in other productive enterprises, and shipping companies trading to the Tongan and Samoan Groups carry their loading and discharging gangs to and from Fiji".

The explanation given on this occasion, as usual, drew attention to the fertility of the soil, the ease with which Samoan people in the villages could procure their basic foodstuffs, their building materials and the small amount of cash needed to buy a few simple goods at the village store. The experience of the past few years suggests that these conclusions and explanations were rather superficial. Nevertheless, they were generally and officially accepted in spite of some sincere misgivings on the racial and social consequences of relying, more or less exclusively, on indentured labour for the copra, cocoa and rubber plantations of Western Samoa.

In 1914, of the territory's total population of about 39,000, some 2,700 were indentured Chinese and Melanesian labourers. During World War I more than half of these indentured employees were repatriated and not replaced, with the result that one of the most urgent problems facing the New Zealand Government when it accepted the responsibilities of Administering Authority in 1919 was the provision of an adequate force of plantation labour. It was then claimed by representatives of the plantation owners that between 2,900 and 3,200 indentured labourers were required in the territory merely to maintain production on existing plantations without providing for further development.

Although in the following years the Administration went some way in relieving the acute shortage of indentured labour, a policy of controlling and limiting the flow of these immigrant workers was pursued in the interests of the racial survival of the Samoan people. The census of 1926 demonstrates the effect of this policy numerically, recording only 1,017 Chinese and Melanesian contract labourers in the territory. By November 1936 the number had been reduced to 585, decreasing further to 369 in 1945. After 1934 recruitment of indentured labour for Western Samoa ceased and most of these labourers were repatriated on expiration of their contracts.

As the inward flow of indentured labourers was reduced, and finally cut off, Samoan men and women replaced the

Chinese and Melanesian workers and to an increasing extent provided the casual labour force for all industrial and commercial activities. The transition from complete dependence on an indentured labour force to the almost exclusive employment of Samoans proceeded with quite exceptional rapidity, in spite of fairly general resentment among employers and some articulate opposition.

Although at the present time a few champions of the past cling to the view that Samoans in general have neither the desire nor any real capacity to work regular hours for wages, the evidence to the contrary is obvious and generally appreciated. Most plantation employers interviewed during this survey expressed satisfaction with their Samoan labourers "on the job", especially where payment was by results or on a contract basis providing a worthwhile incentive to the industrious. Peculiarities of the Samoan temperament, social system and environment (some of which will be discussed later) give rise to local employment problems, but in general it appears that in the supply and capacity of its unskilled and semi-skilled labour force Western Samoa compares most favourably with other territories of the South Pacific at the present time.

Where Samoans are employed at daily rates of pay and supervision is defective, the standard of work is often unsatisfactory. This state of affairs appears to arise as much from defects of supervision and administration as from shortcomings of the labour force. The best results appear to be obtained when supervision comes from an overseer actively participating in the work himself. Working under these conditions (especially when a fairly short-term task is to be accomplished, as in stevedoring) most impressive results are often achieved by a gang of Samoan labourers. Where weeks or months of heavy unspectacular grinding work are involved it is difficult to keep Samoan labourers "on the job" and work must be organized to minimise the disadvantages of a high turnover of unskilled labourers.

Instead of reluctance on the part of Samoans to accept employment at fixed rates of pay or work on a contract basis, there was, during 1953, evidence of keen demand for all the labouring jobs then available. In and around Apia the demand for this type of work from Samoans and part-Samoans was beyond the capacity of the territory to supply, despite unusually favourable conditions of commercial prosperity. In the outer districts, from the employer's viewpoint, the labour situation could be described as "adequate". Where difficulty was experienced in obtaining labour the basic reasons appeared to lie within the control of the employer concerned.

This condition of "under-employment" if not "unemployment" is discussed under a separate heading later in this section.

There is a seasonal movement in the employment of labourers in the territory that is influenced principally by the timing of cocoa harvests. During harvesting, for instance, casual employees on New Zealand Reparation Estates' properties increase from a minimum figure of about 1,600 to some 4,000. There is no information available on seasonal changes in the employment of labourers on other commercial plantations.

Other large-scale users of casual labour include the Public Works Department, which employs up to 900 workmen on a daily basis. The other Government departments and the trading companies offer casual employment to some hundreds of Samoan labourers, while the principal stevedoring and lighterage contracting concern provides a few days' employment each two or three weeks for up to three hundred men and youths from nearby villages.

SAMOAN TRADESMEN AND OVERSEERS

In traditional Samoan society, constructional skill was respected and often rewarded highly. The faithful workmanship and the skilled use of sound engineering principles in the construction of fale in Samoa is the result of developing a craft of specialists for this work. Under Samoan custom no specified sum was paid to a specialist who contracted to do the skilled work of building. The craftsman would rely on tradition and prestige considerations and on his key position to secure a satisfying return for his services. A Samoan builder's capacity under Samoan custom to exploit his position to secure adequate, reasonable or even over-payment for his services would depend on such factors as his chiefly status and that of his employer, his relationship (if any) through the aiga of his employer or on factors such as his diplomacy or willingness to develop a nuisance value when payment in cash, fine mats or in kind did not meet his satisfaction.

In the outer districts at the present time carpenters for fale and church building are usually engaged on the traditional basis briefly outlined above. To an increasing extent, however, "European-style" contractual procedures are being adopted in the villages.

In and around Apia there is keen demand for skilled workers, and rates of pay provide a wide margin of advantage for trained and experienced tradesmen. There is consequently a keen demand among youthful applicants for jobs offering prospects of promotion to tradesmen's status and rates of pay. Samoans have shown themselves adept in learning new techniques, but there is some evidence that as a race their progress in industrial work suffers from prestige attitudes that are often adopted and associated with skilled occupations. There is disadvantage, too, in unwillingness among Samoans to pass on the specialized knowledge they have acquired as trainees.

In the territory today systematic vocational and technical training is limited to the health and educational services and the commercial courses in book-keeping, shorthand and typing at an advanced mission school in Apia. Elementary practical training in agriculture is given to students at two of the intermediate boys' schools and one of the mission schools. Facilities for practical instruction in woodwork and engineering are available for the instruction of pupils at another mission school near Apia.

A Government scholarship system is in operation which can provide advanced training in New Zealand in technical subjects to a limited number of scholarship holders.

There is no specialized vocational training school in the territory and no regulated system of apprenticeship.

The training of skilled workers is by informal "on the job" procedures in places such as the Public Works Department, the furniture and joinery workshops of Apia, and the engineering and repair departments of the trading companies and the principal transport firm.

There is a chronic shortage of trained tradesmen in Apia, which is due in part to the lack of technical training facilities,

but principally to a well-established tendency for skilled workers to leave the territory in search of high wages, new experiences, greater opportunity, and greater freedom from the ever-present demands of the aiga and the obligations of Samoan social life. During 1952, for instance, the Public Works Department lost twenty-three trained and partly-trained employees who left the territory in search of employment in New Zealand. Emigration of Samoans to New Zealand is subject to a control which is designed to limit the outward movement to those Samoans in a position to support themselves adequately, or alternatively to those assured of family support in the Dominion. In practice, the Samoans passing the emigration checks include a high proportion of English-speaking, educated young men and women of the type most likely to obtain and retain well-paid employment in New Zealand. Unfortunately, many of these skilled Samoan emigrants in their search for opportunity or change aggravate a critical shortage of skilled labour in the territory.

The census of 1951 provides the only information available on total employment in crafts and skilled occupations. For various reasons discussed on page 36 the information on unskilled employment is subject to a wide margin of error, but the statistical deficiencies in respect to the occupations listed in the table below are probably very much less distorting than those affecting less-specialized occupations.

TRADESMEN AND UNSKILLED OPERATORS IN INDUSTRY as at 15th September, 1951

	Samoans	Europeans
Bakers	14	2
Mechanics	64	4
Electricians	4	—
Barbers	8	—
Carpenters	325*	72
Printers	22	—
Painters	8	—
Plumbers	2	—
Tailors	20**	—
Drivers	148	9

* Includes craftsmen working under traditional conditions of employment.
** Includes 18 women.

Some idea of the proportion of skilled to unskilled workers on the plantations is available from the following analysis:

NEW ZEALAND REPARATION ESTATES EMPLOYEES as at 31st March, 1950

Administrative and office staff	61
Foremen and Overseers	48
Skilled workmen	150
Labourers	1,652
Total number employed	1,911

SAMOANS IN COMMERCE

Part-Samoans have played a very active part in the commercial life of the territory during and since the German administration. To an increasing extent people of predominantly Samoan blood are taking part in trading activities, principally through the ownership and management of trading stores. A few of the better-educated Samoans are employed as office workers and shop assistants, but a rather general lack of preparatory training for commercial work and difficulties of dissociating their business dealings from practices and standards of Samoan custom present special problems. Most business firms employ Samoan clerks and salesmen rather reluctantly. In comparison with wages for unskilled workers, current rates of payment for Samoans in commerce appear to be low. Supervision is strict and the rate of staff turnover is high.

The information provided on commercial employment in the 1951 census returns is as follows:

EMPLOYMENT IN COMMERCE
as at 15th September, 1951

	SAMOANS		EUROPEANS*	
	Males	Females	Males	Females
Traders	147	42	104	31
Clerks	122	10	95	11
Sales Assistants	53	3	33	33
Typists	—	2	—	42**

* Includes part-Europeans.
** Includes some Government employees.

SAMOANS IN GOVERNMENT AND PUBLIC ADMINISTRATION

As an important feature of policy in relation to its trusteeship obligations to the territory, the New Zealand Government has placed emphasis on the need and desirability of a steadily-increasing degree of participation by the Samoan people in both the legislature and the governmental administration of the territory.

When New Zealand first assumed its responsibilities as the Administering Authority in 1919, the Samoan people were without representation in the internal government of the territory. A conference of Samoan representatives of the traditional political districts, called the Fono of Faipules, then met annually for discussion and for recommendations to the Government, and two official representatives of the highest Samoan nobility, the Fautuas, acted as advisers to the Administration. However, neither the Fono nor the Fautuas had legislative authority.

At the present time, in addition to the influence exerted on their behalf through the Fono of Faipules and the Fautuas, the Samoan people participate in the general government of the territory through the Legislative Assembly, which contains an absolute majority of Samoan members. This Assembly meets twice a year to pass the annual budget, to pass ordinances upon domestic matters, to ask questions, to pass resolutions which bring its opinion on any problem before the High Commissioner and the Administering Authority, and to discuss and investigate, through Select Committees, if necessary, the condition of the territory. As from 1953, the Legislative Assembly has been empowered to nominate from its members four members of the Executive Council of the territory. The High Commissioner, the appointed representative of the Administering Authority, is head of the Government of Western Samoa, but as the officer charged with the administration of the Executive Government of Western Samoa, he is dependent on the Legislative Assembly for funds for all government services.

In 1919 the elementary education of the Samoan people was conducted by missions operating in the villages, supplemented by a small government school in Apia, staffed by European teachers. As at December 1952, of a total staff of 379 in the Education Department, 332 were Samoan teachers, inspectors and administrative officers. Only 21 officers were Europeans recruited away from Samoa. Included in this small number of external appointees, however, were the Director of Education

and most of the senior professional teachers. In addition to the 332 Samoan teachers and officers included in these figures there were some 160 Samoan student teachers enrolled at the Training College in Apia.

Samoan participation in the provision of medical services shows a comparable trend. In 1919 public health services then available were provided almost exclusively by doctors, nurses and administrative officers recruited from abroad. Of a total staff of 309 in the Department of Health at the end of 1952 only 14 were European officers domiciled outside the territory, 4 were Europeans recruited locally, and 332 were Samoans, this total including 31 qualified male medical assistants, 67 certificated nurses and 102 partially-trained nurses.

In the public service as a whole the same policy has been adopted, with the result that at the end of 1952 no less than 75 per cent. of the total number of salaried civil servants were Samoans and only 6 per cent. were European officers recruited externally. The proportional representation of Samoans would have been very much higher if casual employees of the various departments had been included in these percentage calculations. The following table shows the numerical and percentage changes that have occurred in the racial composition of the permanent and temporary staff of the Western Samoan public service at ten-year intervals since 1923:

PUBLIC SERVICE EMPLOYEES

(Excluding casual workers and part-time district and village officials)

	As at 31/3/1923		As at 31/3/1933		As at 31/12/1954	
	Number	%	Number	%	Number	%
Europeans (not domiciled in Samoa)	100	37	87	26	77	7
Local Europeans	18	7	34	10	204	17
Samoans	155	56	218	64	886	76
Total Public Service Employees	273	100	339	100	1,167	100

In the Annual Reports on the territory it is pointed out that racial status is not a factor taken into account in making appointments to the Public Service, and that all sections of the population are eligible for appointment provided they possess the required educational qualifications. (A more detailed racial analysis of public service personnel by departments appears as Appendix III.)

IMPORTANCE OF WAGE AND SALARY EARNINGS IN THE ECONOMY

Disadvantages of the lack of comprehensive information on employment and wage and salary earnings in the territory were clearly evident during a survey conducted in July 1953 by Mr. H. A. Duncan, of the New Zealand Government's Labour and Employment Service. Mr. Duncan was engaged to report on

TOTAL EMPLOYMENT INCLUDING SCHOOL ATTENDANCE

as at 25th September, 1951

	Samoans	Full Europeans	Part Europeans	Male	All Races Female	Total
Under 5 years—not attending school	14,351	45	818	7,922	7,292	15,214
Attending school	22,313	45	1,435	12,803	10,990	23,793
Sub-totals	36,664	90	2,253	20,725	18,282	39,007
Domestic group (housewives, retired dependant)	—	78	377	25	430	455
Planters	7,398	22	135	7,032	523	7,555
Employed for remuneration	6,013	396	910	5,156	2,163	7,319
Traditional economy (Nofo Aiga and Tautua groups)	8,611	—	—	3,707	4,904	8,611
Unstated	21,467	28	467	7,145	14,817	21,962
Total	80,153	614	4,142	43,790	41,119	84,909

the need for introducing labour legislation to regulate conditions of employment. In the course of his investigation, questions concerning the relative importance of employment for remuneration in relation to self-employment in the territory's predominantly agricultural economy were debated keenly, but inconclusively. The *Samoa Bulletin* of 17th July, 1953, summed up the view of the Apia Chamber of Commerce on the subject in the following passage: "Members of the Chamber claimed that the small number employed as labourers and workers, in proportion to the total population, did not justify the passage of labour legislation, and more materially did not justify the money which would need to be spent to maintain a labour organization". In committee discussions on this subject one member of the Chamber is reported to have said that "there were only 3,000 labourers among the population of 85,000".

A great deal could be written on the ethical, social, financial and political considerations involved in the question of labour legislation for the territory, and Mr. Duncan's report, *Labour Conditions in Western Samoa*, of 31st August, 1953, deals with most of the important issues involved. However, lacking much of the statistical information necessary, Mr. Duncan made no attempt to assess the importance of labourers and other paid workers in relation to the population as a whole. He briefly summed up his views on this subject in a statement that "wage-earners at present form a small but not insignificant portion of the population". He then proceeded to draw attention to the following changes that are under way tending to increase the size and importance of the wage-earning group, viz.:

- (i) Increasing reliance of Samoans on goods purchased for cash;
- (ii) a drift of the youthful, the ambitious and the discontented to urban areas in search of money and opportunities;
- (iii) mounting pressure of population on limited land resources;
- (iv) increasing employment opportunities through industrialization and the initiation of developmental schemes.

On the information available it is not possible to present a very much clearer picture of the employment situation than that presented by Mr. Duncan, but since there is a marked tendency in Apia to discuss wage employment against a background of an estimated "3,000 labourers among a total population of 85,000", there is some value in critically examining this particular basis of comparison.

Although the census of 1951 lists only 542 general labourers and 2,336 plantation labourers in its occupational classification, it should be borne in mind that many labourers in Western Samoa who are in fact largely dependent on casual wage earnings actually live in villages under Samoan custom, spending a good deal of their time each year cultivating land in the traditional manner. A significant proportion of these labourers, for prestige or other reasons, appear to have described themselves as "planters" or to have included themselves in the "Nofo Aiga" or "Tautua" classifications.

It is obvious that the occupational returns of the 1951 census understated in a major degree the numerical strength of the

territory's unskilled labour force. The New Zealand Reparation Estates alone employ a minimum of about 1,500 labourers in its organization throughout the year, rising to about 4,000 at harvesting time, while the Public Works Department employs a force of 800 to 900 general labourers regularly, which total is some 250 more than the figure recorded for the territory as a whole. It seems reasonable to assume that in addition to the other commercial plantations, the trading companies and other government departments provide regular employment for at least 2,000 labourers, and casual work in busy times for as many more.

In comparisons of this nature it is of course completely misleading to ignore female, child and aged dependents of the wage-earner in the one set of statistics (labourers) and include them in the other (total population). The table below based on the occupational statistics of the 1951 census, which segregates pre-school and school-attending children from the employable population, emphasizes this point. The table also shows the need for making adequate allowance for a high proportion of dependent women in any employment comparisons.

Despite the incomplete record in the census of the part that unskilled casual labour plays in Western Samoa's economy, it is interesting to note that of the 7,319 adults employed for wage and salary remuneration, more than 6,000 were Samoans.

"URBAN DRIFT"

Indirect but very significant evidence of the increasing dependence of the Samoan people on employment for wages is to be found in population figures showing the movement of people from the outlying districts into Apia and adjoining areas where plantation, governmental and commercial demands for labour are greatest.

The volcanic activity on Savai'i, which began in 1906, led to a mass movement of people to Upolu from lava-devastated areas. The comparisons in the following tables are based on changes since 1926, and so it may be taken that volcanic devastation is not one of the factors involved. These tables suggest that Upolu's Samoan population, which has increased by 135 per cent. since January 1926, gained up to 4,350 people, or 13 per cent. of this increase, as the result of a movement of people from Savai'i¹.

The second table shows that the movement of Samoans from Savai'i to Upolu, although important, was not the principal feature of the "urban drift" that has become so obvious in Western Samoa. The populations of the two selected "remote" districts in Upolu increased by only 35 per cent. and 44 per cent. respectively during a 25-year period when the territory's population as a whole increased by 117 per cent. The "urban" district of Vaimauga increased its Samoan population by 141 per cent. during the same period. The actual increase was probably a good deal larger, since the 1951 census classification included a group of 6,918 Samoans under the heading "Living on European land and not taking part in village affairs". There was no special provision for this group in the 1926 census, but the 1936 census recorded only 2,049 persons in this group.

¹ These estimates assume that rates of natural increase among the Samoan people concerned were equally high on both islands and, in view of the wide dispersion of medical services and satisfactory nutritional standards in both islands, the assumption seems reasonable.

"URBAN DRIFT" IN WESTERN SAMOA

(a) Changes in "Samoan" population—Principal Islands

	As at Jan. 1926	At at Sept. 1951	Increase since 1926		Sept. 1951 est. population assuming constant* 117.3% rate of increase for all districts
	Recorded Number	Recorded Number	Number	Per cent increase on Base Year	
ISLANDS:					
Upolu (incl. Manono and Apolima)	24,204	56,960	32,756	135	52,603
Savai'i	12,675	23,193	10,517	83	27,550
Territory of Western Samoa	36,880	80,153	43,273	117	80,153

* The percentage rate of increase for the territory as a whole.

(b) Changes in "Samoan" population—Selected Districts

	As at Jan. 1926	As at Sept. 1951	Per cent. in- creases since 1926
a. Upolu "urban" district:			
Vaimauga	3,999	9,622	141
b. Upolu "remote" districts:			
Aleipata	1,986	2,676	35
Falealili	1,693	2,431	44
c. Savai'i:			
Fa'asaleleaga	3,837	6,508	70
Palauli West	903	1,677	86

An independent estimate of the national income of the territory was compiled by Mr. A. J. L. Catt of the South Pacific Commission's headquarters staff from information collected in September 1953². This information was not available when Mr. Duncan presented his report, *Labour Conditions in Western Samoa*. In this estimate of national income for the year 1952, the aggregate private incomes in cash from all sources was assessed at £3,420,000, of which wage and salary receipts (including salaries of ministers of religion) provided £1,200,000. Profits from agriculture were estimated to total £230,000, other business profits £360,000, and village cash incomes at £1,500,000 provided the largest separate item. These estimates support the general conclusions in earlier paragraphs dealing with the numerical proportion of wage-earners to the employable population as a whole.

Mr. Catt drew attention in his report to the need for the provision of complete national income estimates for the territory. In anticipation of the establishment of such a service, and to provide satisfactory answers where there are now serious deficiencies in the information available, regular monthly or quarterly returns of employment and wage and salary payments should be collected from all employers. In addition to providing reliable information in a field of critical social and economic importance these returns would furnish material for a highly-sensitive and up-to-date index of productive and business activity.

WAGE RATES

The following rates of payment for day labour and contract employment were in operation during 1953-1954:

(a) In Commercial and Shipping Work in Apia

Unskilled rates:

Casual labourers, 8/6 per day.

Seamen, £2 per week.

(Overtime rates 1/7 per hour, Sunday rates, 2/6 per hour)

Semi-skilled rates in stevedoring and Lighterage (food provided):

Regular lighterage hands, 9/6 to 10/6 per day.

Tally clerks, 12/6 per day.

Hatchmen, 11/6 per day.

Overseers, 14/- per day.

Foremen, 28/- per day.

Office Workers:

Clerks, £16/17/- per month.

Typists, £7 to £7/5/- per month.

Juniors, £5 per month.

(b) In Public Works and other Government Work

Unskilled rates:

Casual labourers, 10/- per day.

Apprentice trainees, 5/- per day.

Semi-skilled rates:

Semi-skilled labourers, 11/- per day.

Handymen, 12/4 per day.

Tradesmen, 15/- to 26/8 per day.

Foremen, 30/- to 38/8 per day.

² See Reference List, page 66: Report 11.

(c) On New Zealand Reparation Estates

Day labour:

Males, 6/6 per day (plus rations).

Females, 5/- per day (plus rations).

Piecework rates:

Cocoa picking, 3/6 per 100 lbs. wet weight.

Copra cutting, 1/9 per 100 lb. wet weight.

Plantation maintenance cocoa, 7/6 per acre per month.

(Weeding 3/4, pruning 1/8, dadap control 10d., disease control 10d.)

(d) On Other Plantations

Day labour (male), 5/- to 6/- per day plus ration).

WAGE RATE CHANGES SINCE 1942

The following specimen wage rates indicate changes that have occurred in daily rates of pay during the past 11 years:

	Av. rates Mar. 1942 per day s. d.	Av. rates May 1945 per day s. d.	Av. rates Sept. 1954 per day s. d.
Casual labour in commercial employment in Apia	3 0	5 0	8 6
Casual labour—Public Works Department	3 0		
	to		
	5 0	5 0	10 0
Plantation labour—(N.Z.R.E. Multifanua)*	1 9		
	to		
	2 6	4 0	6 6
Plantation labour—privately owned*	1 9	3 0	5 0
	to		
	2 6	4 0	6 0
Working foremen (Public Works)	10 0	9 0	30 0
		to	
		12 0	upwards
Stevedoring foremen	10 0	16 0	28 0
		to	
		20 0	

* Including rations and shelter.

RETAIL PRICE CHANGES

Two retail price index numbers are compiled and published quarterly by the Government of Western Samoa as a basis for wage and salary adjustments. One is designed to measure changes in the cost of living of government employees recruited from overseas and the other to measure these changes affecting employees permanently domiciled in the territory living under "European" conditions.

These index numbers, which are available for the three years 1951 to 1954, record overall increases of 18.3 per cent. over the period in the first index mentioned and 18.2 per cent. over the same period in the local employees' index.

The changes recorded in more detail are as follow:

CONSUMERS' PRICE INDEX—APIA

Base 1st quarter 1951 = 1000

	Both Indices		Seconded Employees		Local Employees	
	1st Quarter	1951	4th Quarter	1954	4th Quarter	1954
Food Groups	1000	1271	1335	1283	1328	
Housing	1000	1255	1293	999	1008	
Fuel and Lighting	1000	1023	1072	1052	1140	
Clothing	1000	1145	976	1141	985	
Miscellaneous Groups	1000	1076	1089	1062	1086	
All Groups	1000	1165	1183	1166	1182	

These index numbers were designed for special groups of government employees, and this fact, in combination with the short period of time covered in the series, limits their usefulness in any discussion of retail price changes affecting the economy of the territory as a whole or those affecting wage-earners in general.

In this context it is of interest to examine an official index of the cost of living of a typical Indian workman in Suva which may be used to indicate very approximately the trend of a labourer's cost of living in Apia since 1939.

COST OF LIVING
Indian Workmen in Suva

August 1939	100	July 1948	207
July 1944	169	" 1949	207
" 1945	164	" 1950	211
" 1946	169	" 1951	233
" 1947	186	Jan. 1952	259
		(July 1953)	296)*

* Unofficial report in "Pacific Islands Monthly", July 1953.

As shown by this index, the cost of living of an Indian workman in Suva increased by 159 per cent. between August 1939 and January 1952.

Lacking comprehensive information on retail price changes prior to 1951, when the Apia Consumers' Price Index was instituted, comparisons are often made on the basis of changes that have occurred in the retail prices of a limited range of standard commodities, usually imported foodstuffs. "Market basket" comparisons of this type are unsatisfactory indicators of change in the general purchasing-power of a local currency. The principal weakness of this approach, even where the information is reasonably comprehensive and accurate, lies in the tendency to limit the comparison to changes in the prices of foodstuffs and clothing because this information is standardized and sometimes readily available. It is in these items of the average family budget that greatest variations occur and during a period of rising price "market basket" assessments invariably overstate the loss of purchasing-power of the money concerned.

However, subject to these important limitations, there is value in examining changes that have occurred in the past ten years in retail prices of imported foodstuffs. The items listed below are random samples only, the choice of which was determined by the limited amount of information available.

AVERAGE RETAIL PRICES IN APIA

	As at		As at	
	Oct. 1944	June 1949	June 1953	
	s. d.	s. d.	s. d.	
N.Z. Corned Beef (1 lb. tins)	1 6	2 5	4 2½	
Rice—Australian (lb.)	5	8	1 0½	
Butter—N.Z. (1 lb.)*	2 3	2 3	2 6	
Cheese—N.Z. Cheddar (1 lb.)	1 6	3 1	2 10½	
Kerosene (1 gal.)	3 5	4 1	4 6	
Salt (1 lb.)	3	3	4	
Sultanas (1 lb.)	N/A	1 2	2 0	
Milk (powdered, wholemilk, 2½ lb. tins)		7 6	9 5	
Milk (evaporated, N.Z., 16 ozs.)		1 3	1 8	
Flour (white, 1 lb.)		8½	8½	
Biscuits (plain wine, in pkts.; 1 lb.)		3 6	3 4½	
Cereal (Cornflakes), 8 oz. pkt.		1 9	2 2	
Tea (1st quality, ½ lb. pkt.)		3 2	3 9	
Coffee (Maxwell House, 1 lb.)		7 3	10 0	
Cocoa (Bourneville, ½ lb.)		2 3	3 9	
Sugar (white, 1 lb.)		7½	10½	
Jam (Apricot, Aust., 1½ lbs.)		1 10	2 10	
Jelly Crystals (pint pkt.)		7	1 1	
Dripping—bulk (1 lb.)		1 3	2 2½	
Mutton—leg (1 lb.)		1 10	2 9	
Ham (cooked, sliced, 1 lb.)		5 6	8 0	
Potatoes (1 lb.)		7	8½	
Onions (1 lb.)		7	8½	

* Subsidised by the Government of New Zealand.

"REAL" WAGES IN WESTERN SAMOA

Controversy centring around changes in the purchasing power of wages provides governments everywhere with recurrent problems, often of critical importance. The Western Samoan Government is becoming increasingly conscious of the need to concern itself directly with problems in this field. Typically it is forced to proceed with caution; balancing the need to protect pay envelopes from the erosion of increasing prices against the need to restrain costs of production, distribution and administration.

On 1st July, 1952, salaries for most public servants were increased by rates ranging from £5 p.a. (on salaries not exceeding £89 p.a.) to £50 p.a. (on salaries over £609 p.a.) to offset increases in the cost of living disclosed in the territory's retail price index. On 9th February, 1953, daily wage rates to casual labourers in government employ were increased from 9/- to 10/- for the same reason.

After discussing the implications of this wage increase in relation to their own estimates of higher living costs and the employment situation generally, the commercial firms and the shipping representatives in Apia, acting through the Chamber of Commerce, decided against the adoption of any corresponding increase in casual wage rates in commercial establishments.

During the discussion the opinion was expressed that labour would continue to be readily available at the then existing rate of 8/6 per day because of keen competition for all jobs offering and because of a preference for the type of work the trading concerns were offering. Events subsequently confirmed this prophecy.

There is evidence in the above tables that, notwithstanding the lack of a general wage-fixing authority and the merchants' reluctance to follow casual rates established by the Government, the general trend of wage rates in the territory has moved upwards in some approximate conformity with the increase in the cost of living of unskilled labourers. It is interesting to note in this context that in Fiji during July 1953, although the labourers' cost-of-living index was reported to have advanced by 196 per cent. since 1939³, minimum daily wages for sugar workers and Public Works employees had advanced during the period from 4/- in each case to merely 7/8 and 7/10, respectively.

Apart from these rather general assumptions of limited accuracy, it is not possible to shed much light on the trend of "real" wages in the territory.

In the territory there appears to be no general understanding that unfortunate social and economic consequences would follow any tendency to take advantage of local unemployment to depress "real" wages.

HOURS OF WORK

A six-day working-week of eight hours daily is observed on most commercial plantations. On those of the New Zealand Reparation Estates under normal conditions work ceases at midday on Saturday to complete a 44-hour working week.

In most other forms of employment the 5½-day, 44-hour working week is observed. The principal exception is the 5-day, 40-hour working week operating in Government employment where maintenance of essential services does not call for special hours of duty.

Work in excess of these hours generally qualifies for overtime rates of pay at time plus a half, except Sundays, where double time rates apply. Sunday work is exceptional, however, since strict observance of the Sabbath is a feature of life in the territory.

UNEMPLOYMENT AND UNDER-EMPLOYMENT

On the subject of unemployment, the 1953 Annual Report of the territory, on page 107, states briefly:

There are no problems of unemployment in the territory, nor is there any lack of a labour force save in some districts where the young men have gone to Apia to work.

The principal reasons for this rather fortunate situation are explained in the following passage:—

It can be said with truth that no Samoan is entirely dependent on wages for sustenance, as he also shares in the products of his family lands. But in Apia, the major commercial centre of the territory, there are indications that this traditional way of life is being departed from to some extent, and some Samoan families whose lands are at a distance from town are becoming increasingly dependent on wage-earning.

The accuracy of these observations on the current unemployment situation in the territory depends largely on definition and point of view. It can be claimed, as the report states, that "there are no problems of unemployment" because there is no widespread want due to general inability to find regular work. Actually there is a good deal of evidence of inability to find work, but this condition does not result in destitution under existing conditions because in the territory, hospitality and sharing of foodstuffs, movable property and shelter are general both in Samoan and part-Samoan communities.

³ Source: *Pacific Islands Monthly*, July 1953.



Splitt'ng coconuts and extracting meat at the desiccated coconut factory at Mu'ifanua.

There is no precise information on the number of adults in the territory who are unemployed in the sense that they are able and willing to work regularly, but are unable to do so because employment is not offering. There is, however, general evidence that the demand for employment in the urban area exceeds the number of paid jobs available. The situation was discussed in some detail at the Chamber of Commerce meeting convened in February 1953 to consider the action that the merchants should take following the Government's decision to increase its casual wage rate to 10/- per day. At this meeting the *Samoan Bulletin* reported a prominent member's statement that "the unemployment level at the present time is higher than usual. The number of applicants for any kind of job which might be offering was increasing". Confirmatory evidence is to be found in the relatively high number of applications received by commercial employers with vacancies on their staffs. In the case of clerical work, one commercial employer stated that he usually received about 40 applicants for any vacant position on his staff. The second largest employer of casual labour in the town area, the stevedoring contractor, draws his labour supply from six or seven villages more or less exclusively because of his satisfactory working relations with the matais and untitled men concerned. The reliability and keenness of the labour force selected is no doubt due in part to the fact that some of the villages concerned are forced to depend heavily on wage-earning because of inadequate land resources. Nevertheless, there are several other nearby villages in a similar situation excluded from casual waterfront employment by this practice.

In Apia, particularly during times of food shortage, there has been a good deal of apprehension at the presence of large numbers of "drifters"; that is, men and women from villages of the outer districts who come to Apia in the hope of employment. Failing to establish themselves in casual or regular jobs, they lean heavily on the resources of near and distant relatives until forced to return reluctantly to their homes. Parents quite frequently move into Apia to provide a home for their children attending the advanced schools situated in the town. Once such a move has been made, families tend to remain as a permanent addition to the urban population.

There can be little doubt that there is a large reserve of under-employed people in Samoa—particularly in Upolu. This is clearly indicated in the fact that New Zealand Reparation Estates, for example, regularly builds up its labour force from 1,600 to 4,000 employees during months of the year when the village people, too, are busy with their own cocoa harvesting and all commercial plantations are actively seeking labour. Even under these seasonal pressures most employers experience little difficulty in securing the additional workers required.

It seems reasonable to assume in the light of the circumstances indicated above that the Annual Report's confident

generalisation, "there are no problems of unemployment in Western Samoa", is based on the assumption that obvious signs of want must exist before unemployment becomes a problem. In view of the "share-the-wealth" characteristics of Samoan ways of living which usually preclude the actual physical destitution of an unemployed or under-employed minority, the problem should be examined in terms of "idleness". The two weighty arguments in favour of approaching the situation from this point of view may be summarized as follows:

- (i) Western Samoa is in the midst of problems which cannot be solved unless the most advantageous use is made of all available resources—including labour.
- (ii) Even where basic requirements of food and shelter are provided by others, idleness is a demoralising condition. The feeling of "not being wanted" is the most potent source of social breakdown under conditions of serious unemployment.

It is not an answer to problems of idleness or under-employment in Western Samoa to point to the large areas of under-developed fertile land in Savai'i and Upolu and suggest that the remedy lies within the control of the people directly concerned. Villages such as Leauva'a and Lufilufi, and Samoans generally in the Vaimauga and Faleata districts, are known to lack sufficient land for their needs. Of these, only the people of Leauva'a are in the fortunate position of having recognized rights to resettle on rich lands elsewhere. Problems of land ownership, of tenure and of transport, and other difficulties peculiar to the territory, in addition to most of the human factors universally responsible for the drift of people to town areas, make the problem one of great complexity.

There is urgent need in Western Samoa for factual information on economic aspects of village life. It is generally conceded that in certain districts of Upolu, at least, the Samoan people are becoming increasingly dependent on wages to maintain their standard of living. On this important subject, unfortunately, there is no accurate information available. Recommendations to meet this deficiency are included elsewhere in this report.

THE ALIESA SCHEME

During the difficult years of the trade depression of the nineteen-thirties Western Samoa faced a recognized unemployment problem among its European-Samoans, who through inability to obtain work were reduced to near-destitution. Chinese-Samoans and others of non-European ancestry were as a rule completely assimilated into village society, and therefore related directly to the sustenance economy of the indigenous people. Part-Europeans, lacking both employment and access to land on which to grow foodstuffs, created a special problem, which was approached in 1936-37 through a land settlement project known as the Aliesa Scheme. Some 1,450 acres of elevated Crown land in forest were subdivided into 34 blocks ranging in size from 22 acres to 50 acres each, and allocated to selected applicants on long-term lease. Financial and other assistance was provided to enable these settlers to establish a home and clear and plant the land. Within three years there were 60 adults and 115 children at the Aliesa Settlement, and most of the settlers were exporting bananas and selling foodstuffs to support themselves and their families.

By 1953 most of the settlers had from 15 to 20 acres of their small holdings in cocoa. Four had more than 20 acres in this crop and only nine had less than 10 acres in cocoa. When the project was initiated there were more than 100 applicants for these small holdings from among 2,900 part-Europeans in the territory. With wartime demands for labour and the post-war commercial prosperity based on high prices for copra and cocoa, improved employment opportunities for landless part-Europeans eliminated the need for relief measures for this mixed racial group. In general, European-Samoans are at an advantage relatively to full-Samoans in competition for employment. Their situation has been helped, too, during recent years by readily available opportunities in well-paid employment in New Zealand.

VIII: PUBLIC FINANCE

HISTORICAL REVIEW

Examination of Western Samoa's record in the field of public finance reveals that five clearly-defined periods are apparent in the years of trusteeship administration.

(i) *Period April 1919–March 1932*

During the first 13 years revenue collected in the territory was insufficient to cover the recurring costs of administration and government services, and the New Zealand Government provided grants-in-aid to meet the deficiency. The cost to New Zealand of this form of help during this period totalled £244,000.

The capital cost of developmental works during this period was financed by loans from the New Zealand Government, and in all some £185,000 was provided for this purpose. Of this expenditure, £25,000 was not brought to charge. Thus at the close of the financial year 1931-32 the territory was responsible for servicing a public debt of £165,200 owed to the trustee government.

(ii) *Period April 1932–March 1939*

This was a period of financial self-sufficiency, with small but steady revenue surpluses each year used in the main to repay the debt incurred in the pre-1932 years. Government expenditure overall was kept some £50,000 a year below the annual totals of the earlier period, while an expansion in the volume of export trade ensured that revenue receipts were buoyant.

(iii) *Period April 1939–March 1942*

A curtailment of copra production and wartime difficulties which limited the supply of some imported goods and impeded the shipment overseas of Samoan produce brought short-term budgeting problems and small annual deficits during those three years. To meet this stringency additional taxation revenue was collected by:

- (a) Imposing surcharges of 15 per cent. and 25 per cent. on the duty payable respectively on British and foreign imports. (Effective as from 11th December, 1940).
- (b) Introducing a $\frac{1}{2}$ per cent. tax on business turnover to replace the flat rate tax on general stores previously obtaining. (Effective as from 1st April, 1941.)

(iv) *Period April 1942–December 1951*

Early in 1942 Western Samoa became an operational base for Allied forces in the Pacific war, and almost immediately the budgetary situation of the territory was relieved by the free-spending atmosphere that replaced the former climate of austerity. The value of imports increased from £154,000 in

1941 to £300,000 in 1942 and £606,000 in 1943. Government revenues responded, directly increasing from £101,000 in 1941-42 to £213,000 the next year. A small part of the revenue increase, however, was due to changing (in August 1942) the basis for export duty on copra from a levy of £1/10/- per ton to an assessed charge of 10 per cent. *ad valorem*. The export duty on cocoa was changed also from £2 per ton to 3 $\frac{1}{2}$ per cent. *ad valorem*, and increased to 10 per cent. in October 1950. This amendment enabled the public revenues to benefit directly from the steadily-improving prices paid for both cocoa and copra as wartime scarcities, and inflation overseas forced raw material values upwards.

In addition to the unusually moderate wartime taxation increases listed above, an amendment was made in April 1944 to the turnover tax (Store Tax), introducing graduations ranging from $\frac{1}{2}$ per cent. at the minimum bracket (£3,000) to 5 per cent. maximum (at and above £100,000).

The period 1942-1951 provided a series of budgetary surpluses which enabled the public debt to be repaid by 1945 and surpluses to be accumulated aggregating £781,000 by the end of 1951.

In the war and post-war period of buoyant public finance described above there was a steady increase in public expenditure in Western Samoa, as elsewhere, but the non-combatant status of this mandated territory was unusually helpful as far as the exchequer was concerned. Revenue usually exceeded estimates and expenditure was to some extent involuntarily restrained through physical inability to purchase some of the equipment and services for which funds were readily available. In the early post-war years it was possible to proceed with a stepped-up public works programme and expanded health and educational services, meeting all the capital costs involved from current revenues and at the same time maintaining substantial budget surpluses each year.

(v) *Period 1952–1954*

As equipment and constructional supplies became more readily available and arrears of developmental work more pressing, there was an upward surge in public spending which called for increasing recourse to accumulated reserves. This trend and other important aspects of Western Samoa's public finance during recent years will be discussed in more detail in subsequent sections.

The main characteristics of the abovementioned periods are apparent in the following tables. It should be noted that the 5-year totals in the 30-year table do not correspond precisely with the periods discussed in the text above, but the general trends mentioned are clearly indicated:

PUBLIC FINANCE

(a) Public Finance 1921-1950
(£000)

Five-year period ended 31st March	Total Expenditure (for five years)	Revenue obtained in West. Samoa	Total Receipts for 5-year periods Grants from N.Z.	Loans from N.Z.	Loans Repaid	Public Debt outstanding at end of period
1921-1925	801	606	75	120	—	120
1926-1930	786	602	173*	78	33*	165
1931-1935	534	515	21	6	40	131
1936-1940	611	624	—	—	30	102
1941-1945	868	981	—	—	102	—†
1946-1950	1745	2190	(197)**	—	—	—†

* These items include a gift of £25,000 from the New Zealand Government for loan redemption.

** These grants were made by the N.Z. Government for specific purposes.

They were financed from the accumulated profits of the N.Z. Reparation Estates and not included in the general revenue and expenditure of the territory.

† Accumulated surplus replaced former Public Debt (see Table b).

(b) Public Finance—Annual Totals, 1946-1954
(£000)

Year ended 31st March	Expenditure	Revenue	Annual Surplus or Deficit	Grants from N.Z.*	Loans from N.Z.	Accumulated Surplus
1946	232	284	+ 53	(3)	—	314
1947	231	335	+104	(10)	—	418
1948	359	549	+189	(43)	—	607
1949	465	500	+ 36	(41)	—	643
1950	458	522	+ 64	(100)**	—	707
9 months ended Dec. 1950 Calendar Year	444	471	+ 27	(6)	—	734
1951	630	679	+ 48	(41)	—	781
1952	812	782	— 30	(48)	—	751
1953	1054	929	—125	(29)	—	627
1954	1146	1129	— 17	(52)	—	597

* These grants were made by the N.Z. Government for specific purposes. They were financed from the accumulated profits of the N.Z. Reparation Estates and not included in the general revenue and expenditure of the territory.

** Includes £50,000 granted for health purposes, the actual expenditure of which was spread over the next five years.

GOVERNMENT EXPENDITURE

To an increasing extent the spending programme of the Government of Western Samoa has been dominated by the activities of three services, namely, Health, Education and Public Works. During recent years no less than two-thirds of the annual budget has been spent under these headings. The corresponding proportion in the early years of New Zealand's administration was appreciably lower. Elementary education at that time was conducted principally by the various missions working in the territory. Public health has maintained its relative position (about one-fifth of the total spending) throughout the trusteeship period while public works expenditure moved upwards fairly steadily until the last three years, when a substantial increase occurred.

These general trends are apparent in the following comparative tables:

PUBLIC EXPENDITURE

(a) Annual Expenditure at (approx.) 14-year intervals

Item—	1924/25		1938/39		1954	
	(£000)	%	(£000)	%	(£000)	%
Education	7.6	6	8.6	7	121.6	11
Public Health	24.4	18	25.9	22	176.0	15
Public Works	24.7	18	25.6	21	478.6	42
	56.7	42	60.1	50	776.2	68
Other Expenditure	78.8	58	59.1	50	369.6	32
Total Payments	135.5	100	119.2	100	1145.8	100

(b) Annual Expenditure 1951-1954

	1951		1952		1953		1954	
	(£000)	%	(£000)	%	(£000)	%	(£000)	%
Education	113	18	111	14	129	12	122	11
Public Health	140	22	171	21	174	17	176	15
Public Works	166	26	282	35	456	43	479	42
Total	420	67	564	69	759	72	776	68
Other Expenditure:								
Agriculture	5	1	7	1	9	1	15	1
Police, Prisons, Justice	40	6	57	7	57	5	70	6
Postal, Radio and Broadcasting	35	6	59	7	59	6	61	5
Secretarial, Legislative and Samoan Affairs	84	13	66	8	66	6	80	7
Other Services	46	7	59	7	104*	10	145*	13
Total Payments	630	100	812	100	1,054	100	1,146	100

* Increase due principally to capital expenditure on Customs Department buildings, wharves and equipment.

In view of its importance to this study, a brief analysis of public works expenditure for 1952, 1953 and the Budget estimates for 1954 are set out below. It will be noted that during the three-year period surveyed, no less than £448,000, or 38 per cent., of the total spending has been allocated for the purchase of stores. During the wartime and early post-war years it was impossible to proceed with many projects for which funds had been readily available because vital materials were unprocurable or in short supply locally. To clear this supply bottleneck, a policy of acquiring and maintaining reserve stocks of essential materials was instituted.

With an allocation of £116,000 for the three years ending December 1954, water supply extension and improvement is prominent, being second only to road construction and improvement, which received £134,000. To some extent this relatively high rate of spending on water facilities represents arrears of constructional work held up when pipes were in short supply. The sum also bears testimony to the very high value placed on piped water supplies throughout the villages of the territory. The progress achieved in extending this amenity extensively through both Upolu and Savai'i is shown on the water supply map on page 45.

In a previous section of this study the various Government electric power generation projects completed and planned are described in some detail. Finance for a large proportion of the cost of these projects is included in the allocations shown below under this heading.

In view of the basic importance of access roads in the territory's programme for economic development and the scope for rewarding highways construction in both islands, the sum of £46,000 spent and allocated during the three-year period surveyed may appear to be surprisingly small. The problems which have been restricting progress on new road construction during recent years are discussed later in this study in the special section dealing with the Public Works Department.

PUBLIC WORKS EXPENDITURE 1952-1954
(£000)

	1952	1953	Estimates 1954*	Estimated Total for 3 Years 1952-3-4*
(a) Public Works				
Stores purchased	80	208	160	448
Maintenance and recurring charges	48	60	74	182
Total recurring charges	128	268	234	630
Development costs:				
a. Road Improvements	33	36	19	88
b. Road Extensions	10	19	17	46
c. Water Supplies	39	35	42	116
d. Buildings and Residences	4	20	17**	41**
e. Bridges	23	10	4	37
f. Sea Walls	—	1	2	2
g. Plant, machinery & equipment	15	26	26	53
Total development costs	124	133	127	383
(b) Electric Power Supply				
Recurrent charges	20	23	21	64
Development costs	10	31	45	86
Total Electric Power costs and charges	30	55	66	151
Total Public Works Expenditures	282	456	427	1,164

* The 1954 estimates of expenditure set out in the above tables are those appearing in the Budget statement presented to the Legislative Assembly in March 1954. They have not been amended for adjustments made during the proceedings of the Assembly.

** Nett cost after deducting grant of £25,000 from New Zealand Government.

GOVERNMENT REVENUE

Throughout New Zealand's trusteeship administration of the territory, public revenues have been heavily dependent on the yield of export and import taxes. This feature of Western Samoa's financial structure induces a high degree of vulnerability to changes beyond local control and the inherent instability of this situation is a matter of continuing concern in the deliberations of the Legislative Assembly.

The following table shows the principal forms of revenue collected and percentage comparisons at approximately fourteen-year intervals:

PUBLIC RECEIPTS

Annual Revenue at (approx.) 14-year Intervals.

	1924/25		1938/39		1954	
	(£000)	%	(£000)	%	(£000)	%
Import Duties	43	33	41	33	428	49
Export Taxes	15	11	47	38	180	20
Total	58	44	88	71	608	69
All other taxes	27	21	26	21	146	16
Total Taxation	85	65	114	92	754	85
Other local revenue	27	21	10	8	129*	15*
Total local Revenue	112	85	124	100	883	100
Grants in aid	19	15	—	—	52**	—
Total Receipts	131	100	124	100	883*	100

* Excludes £191,000 for issue and sales of stores and £55,000 for sales of liquor to permit holders; items not included under this heading in earlier comparisons.

** Grant from New Zealand Government for specific purposes which does not appear in the Revenue Accounts of the territory.

Taxation

Basically the fiscal system of Western Samoa is that of a British metropolitan country, simplified and adapted to local conditions. Its purpose is to secure sufficient revenue to meet the annual cost of administration, and finance for the provision of a limited but growing range of social services. Although the Government has assumed unusually wide responsibilities in public investment, its activities in this field have been dealt with as functions of administration as far as finance is concerned. In general, the investment programme has been tailored

to fit the estimated revenue at existing rates of taxation. During the period 1933-1951 a succession of budget surpluses enabled the territory to extinguish its public debt and accumulate liquid reserves. Since 1951 the unspent portion of these accumulated reserves in excess of a specified appropriation of £500,000¹ have been regarded as available for public capital formation.

The yields from the various forms of taxation levied during the past two years are as follows:

TAXATION RECEIPTS 1952-1953

Indirect Taxes	1952		1953	
	(£000)	%	(£000)	%
Export Duties—				
(a) Copra	108	16	73	12
(b) Cocoa	58	9	87	14
(c) Other exports	3	—	5	1
All export duties	169	25	165	27
Import duties	374	56	317	51
Store tax	85	13	96	16
Shipping and port dues	3	—	3	—
Total Indirect Taxes	631	95	581	94
Salary tax	8	1	9	1
Vehicle licences	9	1	8	1
Building tax	5	1	5	1
Water rates	3	—	2	—
Licences and fees (n.e.i.)	9	1	11	2
Stamp duties	1	—	1	—
Amusement tax	—	—	1	—
Total Taxation	664	100	616	100

TAXATION REFORM

In January 1949 the territory's taxation system was surveyed by Mr. A. D. Small, Chief Inspector of the Inland Revenue Department of the New Zealand Government. Mr. Small was impressed with the inequitable distribution of the burden of taxation in the territory, and his principal recommendation dealt with the substitution of graduated taxes on traders' incomes and profits for the "store tax", levied on gross sales and business receipts. On the grounds that export taxes at 10 per cent. and 3½ per cent. (*ad valorem*) on copra and cocoa respectively were unduly favourable to the latter, Mr. Small recommended that the disparity should be reduced by increasing the tax on cocoa to 5 per cent. Other amendments and repeals were recommended to reduce the injustice of arbitrary assessments unrelated to capacity to pay, and to eliminate troublesome and unprofitable taxes. As a matter of general policy, Mr. Small advocated the accumulation of reserves during periods of trading prosperity to support public revenues during periods of depressed prices for copra and cocoa.

A departmental committee has been considering a revision of import duties to give effect to an undertaking to abolish the present preferential rates for goods of British origin. Advantage was taken during this revision to amend the scale of duties so that luxury articles bear proportionately higher taxes than essential imports. In conformity with recommendations of the departmental committee on taxation revision issued in September, 1954, the scope of income tax has been extended to replace the former salary tax, store tax, and amusement tax. Building tax and copra house taxes were abolished and export duties were introduced on sliding scales in substitution for fixed percentage levies.

THE FUTURE ROLE OF PUBLIC FINANCE

As stated elsewhere in this report, two important factors:

- (a) the rate of population growth in the territory, and
- (b) the desire of the Samoan people not only to maintain but to improve their living standards,

make the question of increasing productivity a matter of the greatest urgency.

¹ Transferred to a separate General Reserve Fund.

The general level of productive efficiency cannot be increased unless steps are taken to raise the rate of investment within the territory. In Western Samoa or in any undeveloped country with stationary or falling standards of productivity, the change to a progressive economy cannot be started and maintained unless the government takes the initiative and assumes major responsibilities for encouraging and generating the flow of capital formation. The government must take this initiative because only through its agency can the physical and financial resources available be organized quickly enough and extensively enough in the time available.

In a subsequent section of this study dealing with savings and investment generally it will be shown that in Western Samoa private savings and internal investment are undesirably reduced by local circumstances. To some extent this situation could be corrected by providing inducements for private investors within and outside the territory, to play an increasing part in its economic development. The nature of the problem is such, however, that Western Samoa should examine its fiscal policy and its governmental spending to ensure that savings and productive investment are increased sufficiently to raise the general standard of productivity.

Some of the methods now being adopted by Governments in under-developed areas are almost certain to provide appropriate lessons for Western Samoa in its present situation. Import duties, for example, should ensure that capital equipment and

constructional materials are not made more expensive by local taxation. Raw materials imported for local industrial use should receive the benefit of preferential rates of import duty. Taxation exemptions and depreciation allowances at liberal rates could be used to encourage private investment in productive industrial equipment. In view of the low rate of voluntary savings, graduated export taxes should be used to increase the rate of savings to finance capital formation and provide reserves against future deterioration in the terms of trade. Savings bank and Government investment practices should be established to ensure that savings of local origin are usually invested within the territory. Insurance funds should be established with the same object. In view of the fact that in Western Samoa, only the Government is in a position to secure an overseas loan of sufficient size to make appreciable difference to the rate of capital formation, the Administration should prepare an overall programme for economic development envisaging recourse to external borrowing at an appropriate future time.

The above suggestions are merely examples of techniques in public finance which might be adopted officially as part of a general programme to increase standards of productive efficiency. The suggestions and the comments preceding them are presented in this context to emphasize the increasing need in Western Samoa to consider questions of public finance in relation to broad considerations of economic progress in a relatively backward country.

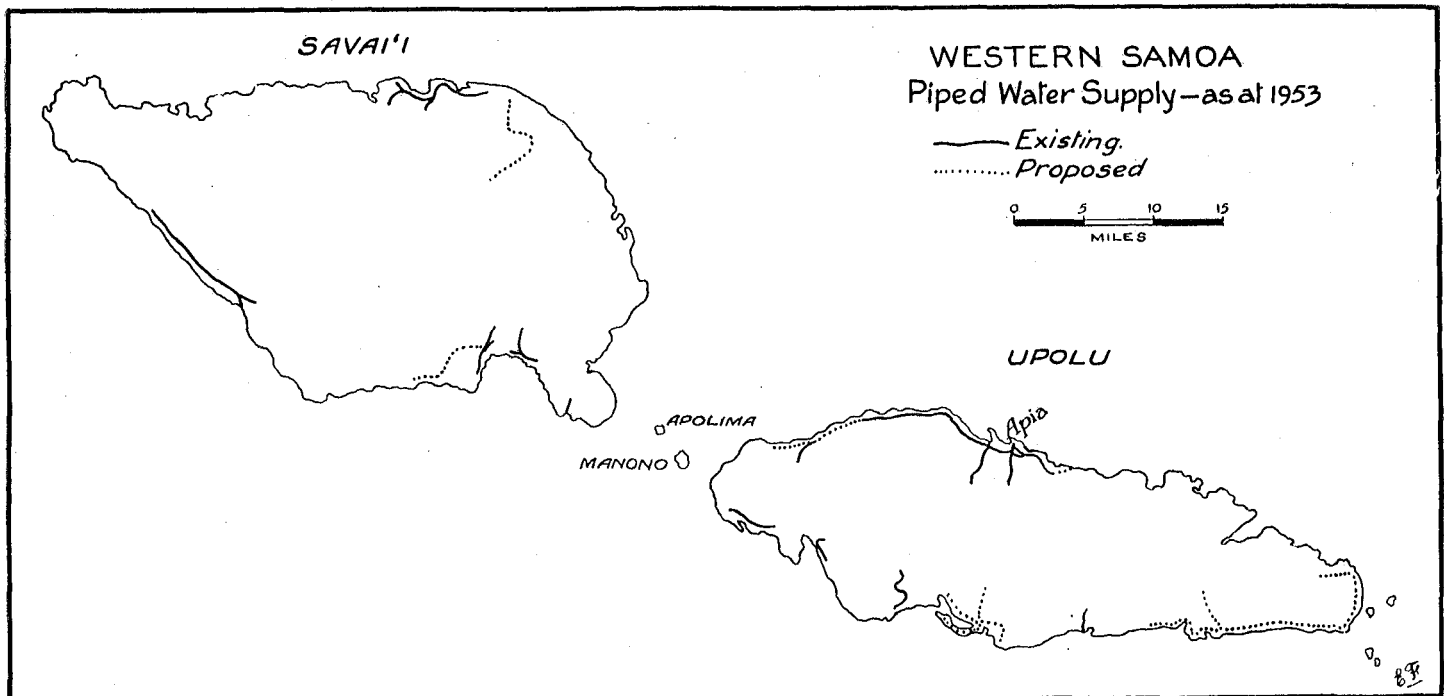
IX: THE PUBLIC WORKS DEPARTMENT

The decision in 1952 to accelerate implementation of the public works programme by making readily available all the funds in the Development Reserve Account demonstrated practical recognition on the part of the government of the need to promote vigorous activity in this important field. During recent years budgetary limitations have not confined public works activity as a whole. When the Director of Works reported that "during the year 1952 the Department continued to be employed to the limit of its resources on capital works in furtherance of the government's policy of expansion of public services . . .", he was contemplating physical rather than financial limitations in his reference to resources.

Because of a conservative approach in the Legislative Assembly to all forms of public spending and a tendency to confine public works expenditures to current (or accumulated) revenue receipts, financial problems are almost certain to cause increasing concern in future developmental programmes. The purpose of this section of the report, however, is not to anticipate developments of this nature, but to describe some of the physical limitations that were impeding the progress of public works during the field investigation of this survey.

Most of these limitations arose from a critical shortage of qualified and trained staff. In the public service as a whole the rate of turnover of key personnel is too high for efficient administration. In the Public Works Department this weakness threw a disproportionately heavy burden of detailed supervision, planning and administrative work on the shoulders of the Director. In this Department, as elsewhere in the public service in Western Samoa, an important cause of this high rate of staff turnover arose from a reluctance to offer salaries¹ and employment conditions sufficiently attractive to secure and retain the services of qualified employees possessing skills now in world demand.

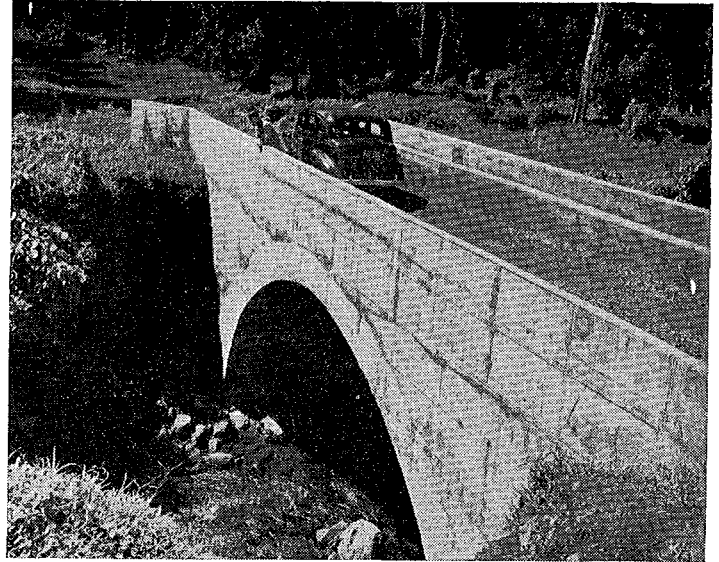
¹ In June 1953 an official notice inviting applications for the position of Chief Clerk; Public Works Department offered a commencing salary of £810, rising to £860 p.a. The duties and responsibilities listed included accounting for expenditures totalling £330,000 a year; liaison with all government departments and the public; co-ordination of the technical branches of the department in the absence of the Director and Asst. Engineer, and supervision and training of office staff. An expatriation allowance of from £75 to £200 would be paid to a candidate recruited from overseas, but even with this addition the total remuneration is less than that paid in New Zealand to a senior official with comparable responsibilities.



Map of Western Samoa, showing existing and proposed piped water supply as at 1953.



A Public Works Department mechanical shovel quarrying scoria at the roadside for road building.



An all-concrete bridge on the south coast road of Upolu.

At the beginning of 1953 the salaried staff of this Department totalled 61 officers, of whom only six were full-Europeans. Casual employees, including many skilled regular employees on daily rates of pay, exceeded 900 in total. During 1953 the director was endeavouring to secure the services of a qualified engineer to co-ordinate work in the outer district and an overseer to specialize in road sealing. He was also advocating the appointment of an experienced technical instructor to establish a course of instruction for Public Works trainees. The provision of such a technical training scheme could do much to provide replacements in the tradesmen's ranks heavily depleted by staff losses² to New Zealand and commercial employers in the territory. Ultimately such training facilities should provide the understanding of theory and principles now conspicuously lacking in the Department as a whole. During 1953 only the Director and the Assistant Engineer were competent to deal with problems requiring theoretical knowledge.

The need for more competent foremen in the Department was a much-discussed topic. The Legislative Assembly provided wide support from among its members for the following motion tabled in September 1953:

That in the opinion of this Assembly, the Government of Western Samoa take immediate steps to engage sufficient overseers and foremen to exercise efficient and satisfactory control of road labour gangs.

In his reply to this motion, the Director of Works expressed confidence in his foremen and claimed that many of the complaints ventilated during the discussion on the motion made insufficient allowance for the difficulties facing Public Works foremen in the territory. Of these difficulties, the Director stressed:

- (a) The inexperience of local foremen who must "learn as they go along;

- (b) the problem of maintaining control over paid labourers recruited in the villages who are under no economic compulsion to earn wages;
- (c) the indifference of unpaid workers from the villages who are often relied on to assist projects directly benefiting their home districts;
- (d) the fact that customary working times and meal hours in the villages do not fit in with the continuous 8 to 10-hour working day of the Department.

Problems associated with the use of mechanical equipment were also then limiting the effectiveness of the Department. Since experience had shown that untrained Samoan workmen were unable to keep mechanical equipment in operation without constant supervision beyond the capacity of the Department to furnish, a conservative policy had been followed in the mechanization of work.

The heavy equipment of the Department included only one large and one small bulldozer, one diesel shovel, one truck-mounted shovel and dragline, five graders, five rollers and six metal crushers. The Department owned twenty 5-ton dump trucks and supplemented this equipment with hired vehicles engaged locally for specific contracts. This mechanical equipment was spread over seven major projects and many smaller ones in Upolu and Savai'i.

Because of this dispersion of resources it was not possible to establish adequate repair facilities "on the job". As a result much equipment was rendered idle for long periods because the only available repair depot was that situated in Apia. The practice of relying on spasmodic unpaid communal labour also tended to keep trucks, rollers and other equipment tied up in part-time employment when they could have been used more effectively elsewhere.

² During 1952 twenty-three Public Works skilled and semi-skilled tradesmen resigned to seek employment in New Zealand.

X: NEW ZEALAND REPARATION ESTATES

Reference has been made in earlier sections of this report to the important part played by the New Zealand Reparation Estates in many aspects of the economic life of the territory. This section briefly summarizes the main activities of the Estates as a single enterprise.

The Estates administer, on behalf of the New Zealand Government, some 33,000 acres of land, nearly all of which was formerly the property of German nationals compulsorily transferred to Crown ownership as reparations after World War I. Of this land, some 11,250 acres situated in Upolu is in cultivation. A further 2,500 acres of Upolu land leased from Samoan owners is also cultivated by the Estates.

Although its staff, with the exception of the General Manager, is part of the civil service of the territory, the Estates are managed as a separate commercial undertaking. The General Manager is directly responsible to the Minister of Island Territories of the New Zealand Government in his administration of the enterprise.

Proposals to convert the Estates into a Statutory Corporation controlled by a local board of directors, including one nominee of the New Zealand Government, have been advanced in a recent policy statement¹ issued by the Prime Minister of the Dominion. In this statement reference was made to past use of all the profits of the Estates for the welfare of the Samoan people and to the important part that the organization plays in the economy of the territory. The conversion proposal was made both as a gesture of New Zealand's sincerity and goodwill towards Western Samoa, and as a practical means for ensuring that the enterprise would continue to operate efficiently and in the best interests of the Samoan people as a whole.

Most of the Estate's activities centre around the production of copra and cocoa. Approximately 15 per cent. of the territory's total exports of both these commodities is now being produced on the Estate's plantations. In addition, all the rubber and a dominant share of the fresh beef, fresh milk and timber that is produced and used in the territory comes from the Estates' properties.

The table in the preceding column shows the trend of Reparation Estates' production since 1925.

Profits and Losses

For the first few years of the Reparation Estates' operations until 1924-25, the business was unprofitable and losses of £107,000 were accumulated. Steady profits averaging £16,000 a year were earned in the next five years. From 1930 until 1936 depressed market prices created financial problems; the small profits earned in some years were offset by deficiencies in others, and net losses of some £23,000 were incurred. Since 1936, profits averaging more than £50,000 a year have been earned. As shown by the following table, the financial years 1947-48 and 1954-55 were the most successful:

NEW ZEALAND REPARATION ESTATES *Annual Profits since 1935*

Year ended	£	Year ended	£
March		March	
1935	—*	1945	46,654
1936	6,751	1946	31,589
1937	17,240	1947	89,064
1938	26,322	1948	112,405
1939	4,386	1949	77,630
1940	2,938	1950	84,869
1941	9,532	1951	64,200
1942	15,941	1952	93,746
1943	39,320	1953	83,083
1944	19,925	1954	101,506
		1955	157,465

* Net loss of £4,864 incurred.

As stated elsewhere in this survey, it has been the practice of the New Zealand Government during recent years to make gifts from the accumulated profits of the Estates for specific purpose of social and economic benefit to the territory. During the eight-year period ended December 1954, grants totalling £369,300 have been made for the following purposes:

FUNDS GRANTED FOR SPECIFIC PURPOSES FROM N.Z.R.E. PROFITS

	Totals for eight-year period ended December 1954
For: Education and scholarships	£191,500
Public health	50,000
Roading and public works	100,000
Broadcasting	23,800
Rhinoceros beetle control	4,000
	£369,300

The Reparation Estate's operations are conducted without taxation privileges. Its payments under this heading during the financial year ended March 1953 totalled £39,400. Aggregate salaries and wages paid during the same year exceeded £132,000, of which some £93,000 was spent on plantation labour.

NEW ZEALAND REPARATION ESTATES *Annual Production Totals*

Financial Year ended March	Coconut Products		Total Desiccated Content of Copra		Cocoa (tons)	Rubber (000 lbs.)	Timber (000 super feet)	Beef Sales (£000)
	Copra	Coconut	(a)	(b)				
1925*	2,705	—	2,705	—	—	—	—	—
1930	2,263	—	2,263	—	—	—	—	—
1935	2,087	—	2,087	247	—	—	—	—
1940	2,119	—	2,119	357	120	—	—	—
1945	1,001	402	1,660	242	171	329	10	—
1950	1,114	632	2,148	410	—	453	18	—
1951	837	548	1,732	267	6	405	16	—
1952	1,677	193	1,993	361	123	364	22	—
1953	1,706	—	1,706	405	142	242	22	—
1954	1,859	—	1,859	402	—	321	20	—
1955	2,063	—	2,063	405	—	95	30	—

* The "peak" year for copra production on the Estates was 1922-23, when 2,842 tons were produced.

¹ As an interim measure a committee was established in 1954 to advise the Minister and the General Manager in matters of policy concerning the administration of the Estates. The committee included the two Fautuas, one Samoan high chief, a local European businessman and the Secretary to the Government. It is hoped that this committee will provide experience that will enable its Samoan members to assume with confidence the direction of the Estates.

XI: BALANCE OF TRADE AND EXTERNAL PAYMENTS

As shown in the following table, the territory's balance of visible trade is normally "favourable".

BALANCE OF VISIBLE TRADE

Calendar Year	Exports (£000)	Imports	Export Surplus
1920	387	561	—175*
1921	242	409	—167*
1922	366	283	83
1923	289	269	20
1924	361	275	87
1925	379	346	33
1926	321	325	— 4*
1927	336	304	32
1928	422	327	96
1929	294	289	5
1930	285	275	9
1931	194	165	29
1932	183	151	32
1933	174	151	23
1934	128	93	35
1935	189	136	54
1936	263	167	96
1937	352	268	85
1938	249	196	52
1939	220	195	26
1940	222	165	56
1941	243	154	89
1942	386	300**	87
1943	283	606**	—323*
1944	393	461**	— 68*
1945	636	399**	238
1946	719	479	240
1947	1,352	924	428
1948	1,108	962	146
1949	1,344	882	463
1950	1,304	1,095	209
1951	1,722	1,195	527
1952	1,778	1,688	90
1953	1,955	1,313	642
1954	2,212	1,111	501

* Denotes import surplus in this year.

** Includes defence and Lend Lease supplies.

Western Samoa's capacity to keep its spending on imports so comfortably within its export earnings is due to the following factors, which restrain local incomes and spending on imported goods:

(a) *Creation of Credit*: For reasons explained later in this study, credit creation through the banking system is nominal.

(b) *"Service" imports*: The territory is completely dependent on metropolitan countries for many commercial services such as insurance, freights, royalties, commissions, film hire, etc.

(c) *Outward flow of Capital*: The profits of overseas firms and the savings of individuals and the territory's government are usually invested in metropolitan countries.

This external movement of savings and profits is described later in some detail in the section, "Savings and Investment".

(d) *Controls*: During and since World War II restrictions have been applied on the importing of goods and services from dollar and other "hard" currency areas.

In the long run these restrictions have had but little effect on total spending of overseas currency. A diversion of trading to sterling and other "soft" currency imports would be the ultimate result.

BALANCE OF EXTERNAL PAYMENTS

For most administrative purposes, the currency of Western Samoa is considered to be merged with currency and banking system of New Zealand, and no record is kept of balance of payments transactions between the two countries. Hence the only available statistics on the "invisible" items in the territory's international trading omit all transactions with New Zealand.

Because of the important part that New Zealand plays in the flow of the territory's current and capital overseas transactions, this omission is a major defect that seriously impairs the usefulness of the available statistics. If allowance is made for this defect the following table sheds some light on the importance of some of the "invisible" items in the territory's balance of payments:

OVERSEAS EXCHANGE TRANSACTIONS

(Excluding all transactions with New Zealand)

Year ended December 1954

Receipts (£000)	Payments (£000)
Exports	Imports
Travel	Travel
Expenses of overseas firms	Commission, royalties and earnings of overseas firms
All other receipts	Capital remittances
	Personal remittances
	Insurance
	Religious
	Film hire
	Other payments
1,399	1,210

* Corresponding totals for 1951: £119,000; for 1952: £83,000; and for 1953: £204,000.

The changes that occur from time to time in the amount of the trading bank deposits in the territory provide the best indication of the overall balance of payments position, including transactions with New Zealand. The fact that these deposits have increased by more than £400,000 in total since the outbreak of World War II indicates the magnitude of the territory's accumulated balance of payments surpluses in the 14 years covered.

DIRECTION OF VISIBLE TRADE

Destination of Exports

The direction of Western Samoa's export trade has changed considerably since World War I, when United States copra and

cocoa importers secured the dominant share of the territory's production. European, and more recently United Kingdom, purchasers supplanted United States merchants to a very large extent. This diversion of trade was due mainly to the bulk contract selling of all exportable copra to the British Ministry of Food during and after World War II. In most years United States merchants buy a large proportion of Samoa's cocoa production. As sole importer of Western Samoan bananas and desiccated coconut, New Zealand has occupied an important place in the territory's export trade since 1928.

DESTINATION OF EXPORTS
(including re-exports)

To:	Percentage of Total Exports				
	1917 %	1929 %	1938 %	1947 %	1954 %
United Kingdom	—	—	34	50	63
New Zealand	8	10	34	27	25
Australia	14	—	—	1	7
United States	77	26	10	22	4
All other countries	1	63*	21	—	1
TOTAL EXPORTS	100	100	100	100	100

* Principally exports to "unspecified European countries" recorded at £172,591 in 1929.

Source of Imports

Regular and frequent shipping connections and the Dominion's relatively cheap supplies have secured for New Zealand the dominant position in the territory's food importing trade. To an important extent dollar currency shortages have diverted import business from United States and Canada to British and Australian manufacturers. It is interesting to note the re-emergence of Japan (textiles, fancy goods, etc.) and Indonesia (petrol and fuel oils) after wartime's abrupt and complete interruption of trading relations.

Principal Imports

The following table shows the principal imports during 1953, indicating the main sources of supply:



Samoa imports include a high proportion of varied foodstuffs.

SOURCES OF IMPORTS
(Country of shipment)

	Percentage of Total Imports				
	1917 %	1929 %	1938 %	1947 %	1954 %
United Kingdom	1	20	15	13	23
New Zealand	33	27	30	31	32
Australia	30	22	14	14	18
Canada	—	5	8	11	4
United States	34	18	10	24	3
Japan	—	1	7	—	2
U.S. Indonesia	—	—	3	—	3
All other countries	3	8	12	6	14
TOTAL IMPORTS	100	100	100	100	100

PRINCIPAL IMPORTS
Year ended December 1953

Commodity	Unit	Quantity	Value £	Principal Source of Supply (Values in £000)
Cotton, silk and other piece goods	000 yds	754	103,000	U.K. 68, India 17, Japan 7
Meat in tins	tons	414	91,000	N.Z. 89
Sugar	"	374	75,000	Fiji 39, Aust. 34
Shooks for banana cases	"	—	71,000	N.Z. 71
Drapery and apparel	"	—	65,000	Hong Kong 26, U.K. 16, India 9, Aust. 5, Fiji 4
Herrings—preserved	tons	342	41,000	U.K. 25, Holland 9
Flour	"	1,244	40,000	Aust. 38
Petrol	gals.	461,000	39,000	Indonesia 30, Arabia 3
Tobacco	lbs.	89,000	37,000	N.Z. 34
Hardware, holloware and metal mfrs.	"	—	34,000	U.K. 15, Aust. 11, N.Z. 5
Timber—dressed and rough sawn	000 sup. ft.	715	34,000	Canada 24, Aust. 4, U.S.A. 4
Rice	tons	265	25,000	Aust. 25
Soap	cwt.	4,863	24,000	N.Z. 20
Meat in kegs	"	3,245	20,000	N.Z. 20
Butter	"	1,428	18,000	N.Z. 18
Biscuits	"	3,159	16,000	Fiji 11, N.Z. 4
Perfumery and toilet preparations	"	—	16,000	Aust. 8, U.K. 6
Machinery for local industry	"	—	15,000	U.S.A. 11, U.K. 3
Machinery: electrical	"	—	10,000	U.K. 4, N.Z. 3, U.S.A. 2
Confectionery	cwt.	1,203	15,000	Aust. 8, N.Z. 6
Paints, colours and varnishes	gals.	9,821	14,000	Aust. 7, U.K. 5, N.Z. 2
Galvanised iron and steel	"	—	13,000	Aust. 6, U.K. 5
Trucks, vans and buses	vehicles	16	13,000	U.K. 10, U.S.A. 2
Tyres and tubes	"	1,000	13,000	U.K. 10
Milk—preserved	cwt.	1,252	12,000	N.Z. 12
Motor cars	vehicles	23	12,000	U.K. 8, U.S.A. 3
Ale	gals. 000	50	12,000	U.K. 7, Germany 4
Cement	tons	1,947	12,000	U.K. 5, Aust. 5
Cigarettes	"	—	9,000	U.K. 8
Salmon—tinned	"	—	9,000	Canada 8
Kerosene	gals. 000	122	8,000	Indonesia 5, Aust. 2
Fuel oils (N.E.I.)	" "	126	8,000	Indonesia 7
Whisky	gals.	4,612	7,000	U.K. 7

XII: CURRENCY AND BANKING

Coinage

New Zealand silver, cupro-nickel and bronze coins circulate in the territory as legal tender currency.

Because of the familiarity of the Samoan people with decimal currency as a result of association with United States pre-World War I and German currencies, the New Zealand florin (2/-) is the largest coin in common use. The New Zealand half-crown (2/6) does not circulate.

Note Circulation

Western Samoa issues its own paper currency in the form of Treasury Notes in denominations of 10/-, £1 and £5. This paper currency is required by law to be backed in full by a reserve of New Zealand Government securities deposited with the New Zealand Treasury.

As a result of price and wage increases, population changes and commercial prosperity the total amount of Western Samoan Treasury Notes issued has increased substantially during recent years.

TREASURY NOTES ISSUED

As at 31st March, 1939	£32,000
" " " " 1950	84,000
" " " " 1951	113,000
As at 31st December, 1952	104,000
" " " " 1953	127,000
" " " " 1954	150,000

New Zealand Reserve Bank notes are accepted freely at face value, but do not circulate extensively.

Exchange Rates

A recent amendment to the constitutional legislation authorizes New Zealand's Minister of Finance to fix "a rate of exchange between New Zealand and Samoa". This provision enables the territory to follow an independent course in exchange rates if at some future time parity with New Zealand's exchange rate pattern is considered to be contrary to the territory's best interests. Prior to this amendment Western Samoa's currency was tied¹ inflexibly to parity² with that of New Zealand.

PRINCIPAL EXCHANGE RATES

(Telegraphic Transfers)

As at 31st March, 1955

Western Samoa on:	Buying	Selling
New Zealand (per £N.Z.100) ... T.T.	£100 0 0	£100 10 0
London (per £Stg.100) ... T.T.	100 7 6	101 10 0
Australia (per £S.100) ... T.T.	124 10 9	123 12 6
United States of America (per £S. 1) ... T.T.	\$2.7964	\$2.749

The consequential adjustment of Western Samoa's exchange rates to parity with sterling which followed New Zealand's

decision to appreciate her currency in this way in August 1948 caused a good deal of dissatisfaction in the territory. A Select Committee of the Legislative Assembly was appointed to consider economic and administrative questions relating to a proposal for separation of Western Samoa's currency from that of New Zealand. The recommendations of this Select Committee, which were adopted by the Assembly in April 1954, envisaged the gradual establishment of an independent currency in the territory. It proposed that appropriate administration could be provided (with the agreement of the parties concerned) by reconstituting the sole trading bank in the territory as a separate entity, jointly owned by the Samoan Government, the Bank of New Zealand and the Reserve Bank of New Zealand, with the essential functions of a central bank, a trading bank and a savings bank all included in its field of operations. In particular, this bank would be designed to manage the territory's foreign currency reserves so that instead of maintaining identity with New Zealand in exchange rates and foreign exchange administration, as at present, Western Samoa would be in a position to establish, when required, separate exchange rates and a course of action in foreign currency administration related to its own economy and trading position.

In harmony with New Zealand's trusteeship responsibilities to Western Samoa in developing local capacity for self-government and public administration, it is thought that a new bank on these lines should be able progressively to employ Samoans in positions of increasing responsibility, so that in due course the bank could be transferred completely to Samoan ownership and control as a going concern, with reasonably sure prospects for continuing success. In matters of policy the new bank would be guided by a board of directors, including representatives of the Samoan Government, the New Zealand Government and the bank itself.

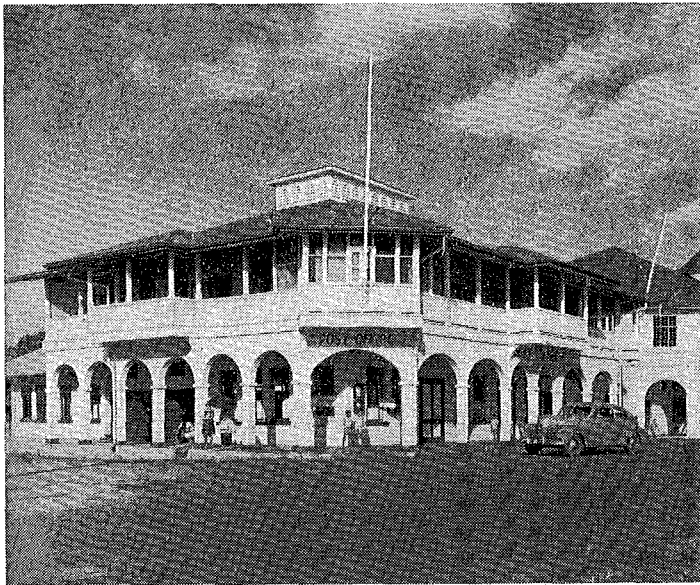
The Western Samoa authorities have been informed that, while not necessarily accepting in full the proposals for a new bank as outlined above, the New Zealand Government would be prepared to consider action along these general lines if it were mutually acceptable to the administrations and banks concerned.

Commercial Banking

The only commercial bank operating in the territory is the Apia Branch of the Bank of New Zealand. This bank, as agent for New Zealand exchange control authorities, receives the foreign currency proceeds of all Western Samoan exports as required by the Western Samoan Exchange Control Regulations 1948. These funds are merged with the foreign currency

¹Section 364 (i) Samoa Act, 1921, reads, "Save as is otherwise provided herein, or in any act or regulation expressly provided, the currency coin-

age and legal tender of Samoa shall be the same as that of New Zealand." ²Subject to bankers' exchange rate "margins" to cover remittance costs.



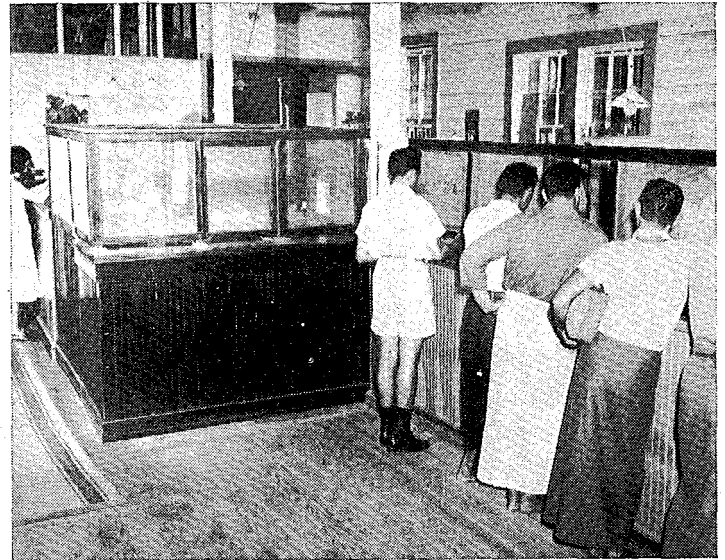
The post office and savings bank at Apia.

resources of the New Zealand banking system and are administered in conformity with procedures current in the Dominion.

Because its business is relatively small and it is the only bank in Western Samoa, the Bank of New Zealand is unwilling to release details of its local business on the grounds that the information may in fact involve breach of confidence. The limited published information available suggests that the bank's total deposit liabilities in the territory have increased from under £100,000 prior to World War II to about £500,000 in 1954. Advance business at this branch tends to be restricted to overseas trading transactions and it is reported³ that for the year ended 31st March, 1954, its advances and discounts averaged £111,000. Local problems of land ownership and the "credit-worthiness" of the indigenous Samoan people which restrict the bank's lending are discussed in other sections of this study.

The branch is staffed by officers from the New Zealand service on short-term (two to three years) appointments, supported by typists, recruited locally, and Samoan messengers.

³ See Reference List, page 66, Report 1.



The Apia Branch of the Bank of New Zealand (new premises should be completed in 1956).

Savings Banking

Although for accounting and procedural purposes the savings bank in Apia is conducted as a branch of the New Zealand postal service, it is administered locally as a branch of the Post Office organisation in the Western Samoan public service.

The upward trend of its savings bank business is shown in the following totals:

	1939 31st Mar.	1946 31st Mar.	1951 31st Dec.	1954 31st Dec.
Total depositors' credit balances	£67,600	£265,500	£310,200	£382,600
Total number of depositors	2,648	4,382	7,735	10,059
Number of Samoan depositors	N/A	3,311	(6,500 approx.)	(8,500 approx.)

Interest is paid on deposits at the following rates:

On amounts up to £500	2½ per cent. p.a.
On amounts from £500 to £2,000	2 " " "
On amounts from £2,000 to £5,000	1½ " " "

The surplus funds of the savings bank are invested in New Zealand Government securities.

The Savings Bank staff comprises part-Samoan and Samoan officers in all positions, including that of Postmaster.

XIII: SAMOAN HANDICRAFTS: THE TOURIST INDUSTRY

SAMOAN HANDICRAFTS

The Samoan people have traditional skills and aptitude in the manufacture of mats, baskets, fans, brooms, cordage, tapa cloth, woodware, etc. Their craftsmanship reached impressive standards in the weaving of the fine mats that continue to play an important part in ceremonial life in the territory. Sinnet, a binding made from coconut fibres, is manufactured extensively and is still used in large quantities in the construction of dwellings (fales). The manufacture of baskets in great variety, mats and tapa cloths is an important leisure-time industry of women in the villages throughout the territory.

In a few villages close to Apia, land shortage and other economic factors have resulted in the development of an infant handcraft industry on commercial lines. Although usually somewhat restricted by the limited supplies of pandanus leaves for baskets and mulberry bark for tapa cloth, a retail outlet for the production of these villages is provided by about six stores in Apia and numerous itinerant vendors in the streets.

When overseas passenger ships are in port, trade is fairly brisk in handicrafts mentioned, and also in a variety of "curios" made from local sea shells, tortoise shell and other materials specially prepared for sale to tourists.

Many of the curios offered are gaudy in appearance, poorly designed and of sub-standard workmanship. Some of the handicrafts, especially the baskets, which have aesthetic and practical qualities of a high order, have been found to be readily saleable overseas. Two prominent businesswomen in Apia have established small markets for Samoan baskets in New Zealand, and for tapa cloths in Hawaii and the United States.

There has been some enquiry into the prospect of promoting the production of high-class Samoan handicrafts in an organized way with the object of developing a regular export trade in these goods to United States markets. It is generally considered that a large potential demand exists, but the task of producing standardized articles in sufficient quantity, with assured delivery, presents problems that appear to be so difficult in Western Samoa that no serious attempt has been made to test the position.

Some idea of the margins available to cover transport and selling costs is indicated in the fact that a large Samoan basket of kit design, freely available in the streets of Apia at eight shillings, has been selling readily in Wellington's leading departmental stores at prices averaging twenty-four shillings per basket.

TOURIST INDUSTRY

In its winter climate, its scenic beauties, and in the special attractions of its native people and their way of life, Western Samoa has some outstanding advantages on which to build a tourist industry.

With few exceptions, the tourists who visit the territory today are overnight air travel passengers to or from Tahiti, or passen-

gers from inter-island or Pacific cruise steamers in port for one or two days.

Two privately-owned guest houses in the territory make an effort to cater for the special needs of the few tourists who stay (or pass through), but, unlike Fiji or French Oceania, no official or group effort is made to encourage the traffic.

The principal reason for lack of progress in developing this industry appears to lie in the disinclination of the Samoan people in general, including their representatives in the Legislative Assembly, to admit or seek the economic advantages of a flourishing tourist trade. Behind this apathy or lack of enterprise there are elements of the independence and racial pride of these Polynesian people who, while willing to receive visitors with unusually warm-hearted hospitality, are quite unwilling to associate themselves with attempts to persuade international tourists to visit the territory.

The development of an unsponsored tourist industry has been effectively precluded by the standard of accommodation facilities available. Liquor licensing regulations which limit purchases to approved persons on the basis of individual "point" allotments are an effective restraint, too, and these regulations provide the principal explanation for the absence of modern hotel accommodation in the territory.

In view of the restraints described and the advertising and capital expenses involved in any worthwhile attempt to develop Western Samoa's tourist traffic potential, it seems unlikely that any action will be taken in the near future to broaden the base of the territory's economy by deliberately encouraging this industry.



Graceful Sivas and other traditional dances are features of most Samoan celebrations.

XIV: SOCIAL SERVICES

Nearly one-third of the public expenditure of the territory is consistently devoted to the provision of curative and preventive medical services and primary and secondary school education. Although it is customary to regard these services as social amenities, any assessment of a country's economic resources is incomplete unless it includes not only an examination of facilities such as trade and agricultural training establishments, but also the whole range of public health and educational services for the vital role they play in the process of human capital improvement. It is beyond question that now and in the future, the territory's most important economic resource is to be found in its physically fit and mentally alert labour force.

In view of the comprehensive information that is published annually in official reports on the activities of the two departments concerned, only a brief summary of the main services provided is included in this study, showing the position as at June/September 1953. All governmental health and educational services in Western Samoa are provided free of charge to the recipient¹.

Education

(a) PRIMARY SCHOOLS: There were 132 primary schools in the territory, of which about 100 were government schools in the villages, staffed by Samoan teachers conducting classes ranging from Primer 1 to Standard 4. In addition, there were some 20 primary schools in the villages of a similar type conducted by various missions. Most of these schools were housed in fales provided by the village people, and built of local materials in the traditional style. The provision of meals and accommodation for the teaching staff is also a responsibility of the village community. An increasing number of schools of this group



Senior pupils at a village school.

were housed in permanent buildings constructed by the villagers according to the Department's designs and standards². These schools were equipped and furnished by the Department. In addition, there were 12 larger government and mission primary schools serving wider areas taking pupils to Forms I or II (Standards 5 or 6). The main schools in this group were mixed race schools.

Of the 21,000 boys and girls of school age in the territory, over 14,000 attended government primary schools where education was free. School attendance, although not compulsory, was about 90 per cent. of total school-age children, and among those attending primary schools, about 85 per cent. regularly was being maintained³. Primary school pupils usually continue their schooling until 15 or 16 years of age, by which time most Samoans are literate in the English language. The subjects taught in village schools were Samoan language and custom, social studies, health, natural science, arithmetic, arts and crafts, singing, dancing and physical education. In the lower classes, all teaching was in the Samoan language, with English taught as a subject and becoming a second language. The average number of pupils per primary school teacher during 1953 was 33, compared with 44 six years earlier.

(b) SECONDARY SCHOOLS: The opening of Samoa College in 1953 with 52 pupils in its secondary department⁴ cleared the way for a wider dispersion of secondary education in the territory. Prior to the opening of this college the government maintained a small co-educational post-primary department for pupils drawn more or less exclusively from Apia primary schools.

In 1953 there were three mission secondary schools in the territory, with rolls totalling some 130 pupils. Catering for pupils in Forms III, IV and V, the curriculum in both government and mission secondary schools was based largely on the practice in New Zealand.

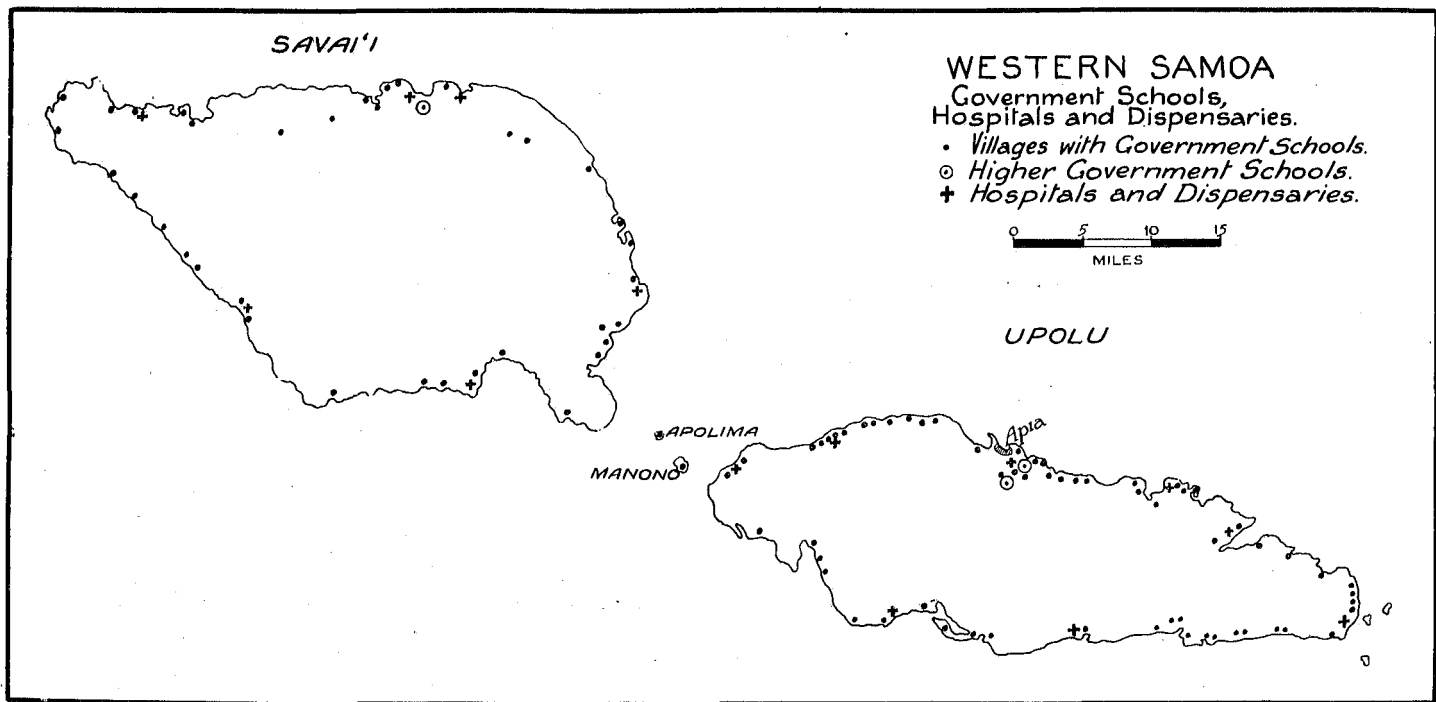
(c) VOCATIONAL TRAINING SCHOOLS: Vocational training was provided for 189 pupils at the Education Department's Teacher Training School and for 126 pupils at the Nurse Training School attached to Apia Hospital. About 50 girls were receiving training in commercial practice, typing and shorthand at a secondary school conducted by a Roman Catholic mission in Apia, and 12

¹ Charges to cover cost of food and accommodation provided are made in some circumstances.

² When a village wishes to erect a school of permanent materials it first collects moneys by levies on adults in the village, sales of produce, etc. From time to time these funds are deposited in trust funds at the Department of Education, and when sufficient has accumulated the work of erecting the school begins. Materials are purchased at cost price from the Government, the site is inspected and plans are supplied. An officer of the Department supervises the work regularly. When a building is complete the Department provides the furnishings and equipment required. In each of the eight education districts villages are combining to raise funds to build district schools of Intermediate School status (Standards V and VI). These eight funds are subsidised £1 for £1 by the Government up to £500 in each case.

³ The least regular attenders were older boys whose services were in demand for manual work.

⁴ The College is designed to accommodate 200 secondary school pupils.



Map of Western Samoa, showing Government schools, hospitals and dispensaries.

boys were receiving agricultural instruction at a Methodist mission.

(d) **SCHOLARSHIPS AND BURSARIES FOR OVERSEAS STUDY:** In the ten years since the Scholarship Scheme establishment in 1945, the New Zealand Government has granted 102 scholarships to pupils from primary and secondary schools in Western Samoa to further study in the Dominion. At mid-1953, sixteen of these students had returned to the territory to take up appointments in the Public Service. At that time, too, six of the scholarship holders had completed their secondary education and were studying at New Zealand universities.

Selected students from Western Samoa attend the Central Medical School in Suva to qualify for employment in the Department of Health as Samoan Medical Practitioners. There were 29 practitioners with this qualification in the Department and 8 student Samoans medical practitioners in their final year of training.

Public Health

The general hospital at Apia had accommodation for just over 200 patients, including 80 beds for tuberculosis cases. It

has facilities for major surgery, radiology, laboratory investigation and dentistry. In the outlying districts there are three small hospitals and ten dispensaries and three mobile clinics providing supporting medical services for village people. Accommodation for a total of 130 patients was available at these smaller hospitals and dispensaries.

The work of a pre-natal clinic and child welfare and maternity sections of the general hospital was being supplemented by a force of 23 district nurses dispersed throughout the territory who worked in close association with the women's committees⁹ of the villages.

The medical staff of the Health Department at September 1953 consisted of the director and four other medical practitioners, a dentist, 29 Samoan medical practitioners, 6 dental assistants, 12 nurses with senior training, 68 Samoan nurses with local certificates, 126 partially-trained nurses and 30 trained assistants in various specialist branches.

Annual hospital admissions total about 6,700, of which some 3,000 were received at the General Hospital. Over 400 major and 7,000 minor operations were performed annually.

⁹ The origin and functions of these committees are described on page 56.



Left: The baby clinic at the Apia Hospital, where mothers bring their babies to be weighed and examined. Right: Kitchen of the Plunket ward.

XV: AGRICULTURE AND ECONOMIC PROGRESS IN WESTERN SAMOA

In earlier sections of this survey attention has been drawn to achievements and promising developments in the economic field which hold out encouraging prospects for the territory's future. In a study of this nature, which is designed as a source of reference for policy decisions, these successes should receive special attention. It would be well to bear in mind, however, that detailed descriptions of these activities tend to emphasize somewhat disproportionately, a few rather cheerful topics, diverting attention from the overall position where there is no reassuring evidence of recent material progress.

The information available from the trade statistics of the territory suggest that from 1880 until 1930 there was steady economic progress, interrupted for short periods only by external happenings of international importance. After 1930, Western Samoa's record of improving productivity deteriorated¹ with the commercial stagnation of the world-wide depression years. The subsequent recovery in production for export has not kept pace quantitatively with the exceptionally rapid growth in the population of the territory.

Advances in public health, education and political development during recent years are most impressive and certain to provide increasing beneficial influences on the economy if they are maintained and integrated with parallel advances in the other important fields of development.

In its fertile soils, its favourable climate and its healthy and intelligent people, Western Samoa is richly endowed with potential resources to provide a much higher standard of living for a very much larger population. At the present time, notwithstanding their rich endowment, the great majority of the Samoan people are well fed but poor. To some extent their poverty is self-inflicted because of collective decisions through the years to spend a high proportion of accruing cash incomes on celebrations and luxuries that add nothing to the general standard of living. To a greater extent this poverty is due to institutional and physical restraints on productive effort inherent in the traditional Samoan way of life and to ignorance of the productive processes that ensure material progress in a free economy.

¹ See pages 10 to 12, which comment on unit productivity in export trade as an index of economic progress and include a table of index numbers showing, *inter alia*, the following changes:

<i>Index Numbers of the Volume of Exports per Capita</i>			
(Base 1910-1914—100)			
<i>Average for</i>		<i>Average for</i>	
1910-14	100	1930-34	95
1915-19	108	1935-39	102
1920-24	116	1940-44	80
1925-29	120	1945-49	110
		1950-53	100

The general standard of living in the territory can rise consistently only if the stock of productive capital rises at a greater rate than total population, and if those operational changes occur which improve the efficiency of Samoan labour or the territory's capital and industrial organization. In the short run, changes in the terms of trade resulting from export and import price relationships are sure to affect the position materially to the general advantage or disadvantage. In the long run, however, Western Samoa's standard of living and its economic, social and political wellbeing are all bound up with the problem of improving the general standard of productive efficiency.

This section of the survey examines local conditions which have an important bearing on productive efficiency in the territory, with special reference to capital formation, both through money savings and their investment and through unpaid individual and community labour use for this purpose. Reference is made also to various factors which encourage or impede Samoan ability to take advantage of improved methods. This important (probably crucial) aspect of technological development in the territory has been discussed under various headings in earlier sections of this study.

DEVELOPMENT ON PLANTATION ESTATES

The little information available on this subject suggests that under German administration for about thirty years prior to World War I there was a period of quite rapid economic development. This progressive era was initiated and maintained by the energetic pioneering efforts of the Deutsche Handels and Plantagen Gesellschaft Company, and a number of individual planters and smaller companies who made liberal use of external capital and indentured labour to establish and maintain commercial coconut, rubber and cocoa estates and ancillary services. Accessible fertile land was at first readily available for this purpose. After the formal ceding of the territory to Germany in 1899, the German Government provided direct and vigorous support to these commercial ventures through its local administration. During and after World War I the environment became less congenial to the plantation economy. In addition to the serious export price instability mentioned in earlier sections of this study, there were physical and mental restraints in the following changes which checked the economic development of the territory:

- (1) The compulsory transfer of plantation properties from their former German owners to New Zealand Reparation Estates upset continuity of development and undermined confidence among those directly affected.
- (2) Under the League of Nations Mandate the welfare of the indigenous Samoan peoples became the over-riding policy objective. In particular, restraints on the inflow

of indentured labour in the interests of Samoan racial survival appear to have caused the greatest resentment and frustration among the plantation owners.

- (3) Almost absolute restrictions on the alienation of Samoan-owned lands tended to confine economic progress to the land areas officially recognized as individually-owned. This area represented less than 5 per cent. of the total land area of the territory.
- (4) The development of political ideas expressly or potentially hostile to European plantation and trading interests discouraged the investment within the territory of the savings and profits earned in these ventures.²

Since World War II, sustained world demand and rewarding prices for cocoa have generated a high degree of confidence in the economic future of the industry. Confidence of this kind would normally express itself in a comparatively high rate of private investment in plantations and commercial undertakings associated with the cocoa industry. The present land policy of the territory, which in effect confines private enterprise to developing those few thousand acres already in fairly intensive cultivation, and providing services for this physically-confined industry, plus a rapidly-expanding but economically unprogressive Samoan population, at present limits investment opportunities in a way which has no parallel in metropolitan countries.

In the absence of any change in policy designed to open up new land areas for development as plantation estates or small holdings under individual ownership, it may be assumed that the most effective contribution towards increased productivity that can be looked for from "European"³ cultivators will come from improvements in technique. Of these improvements, the use of scientifically-selected planting material and the use of fertilizers appear to offer greatest promise.

There is no doubt that rapid economic development of the territory could be achieved in the future, as in German times, through fostering and extending estate plantation enterprises. It is equally certain, however, that the administering Government's trusteeship obligations and political factors in the territory itself preclude an approach to problems of development through expansion and improvement of privately-owned estates. All indications at the present time suggest that the economic progress of Western Samoa will be determined predominantly by success or failure in raising the standard of productive efficiency on Samoan-owned lands where the process of development is handicapped by special problems of psychology, tradition, organization and finance. These problems, which are discussed in some detail in the remainder of this section, will continue to frustrate material progress unless the Government, with the support of all important sections of the community, provides dynamic leadership and practical help.

It is being recognized increasingly by governments that problems of development are basically problems of attitude rather than of physical resources. Even the poorest countries today have the assurance of great improvement in their standards of living if the peoples concerned want economic progress wholeheartedly and are prepared to meet its price in new social disciplines and willingness to discard outmoded methods.

DEVELOPMENT ON SAMOAN LANDS

1: GENERAL OBSERVATIONS AND QUALIFICATIONS

It would be unfortunate if this critical examination of the atmosphere and factors of production on Samoan village lands

² It would be difficult to over-estimate the importance of a persistent outflow of capital as a factor retarding the economic development of Western Samoa. The practice of remitting profits and savings abroad is not confined to expatriates who have come to Samoa to take advantage of profitable opportunities. During the field survey, a Samoan-born businessman's recent investment of £20,000 in a New Zealand farm was common knowledge. The fact that he had no definite plans to follow his investment in person was not considered to be unusual: interest centred around the rapidity of his success in business. There is a tendency for this practice to spread to successful Samoans as they acquire a "European outlook" and find communal living and traditional practices increasingly irksome. This tendency is discussed in some detail later in this section.

³ As explained earlier the term includes part-Samoans.

created an impression that the way of improvement in the outer districts so bristles with difficulties that the shock tactics of a form of social revolution are necessary for worthwhile accomplishments. Already, under the direction and/or encouragement of their local leaders, the Samoan people of some districts are making impressive progress in developing their lands⁴ and improving their productive efficiency.

Most of the problems discussed below are not peculiar to Western Samoa. They are problems of non-materialist semi-feudalistic societies where the people's lives have been changed suddenly and profoundly by progress in public health, education⁵ and public security, without complementary changes in social organization or economic life. The impact of these new social services invariably results in population growth and ambitions for individual and collective progress incompatible with the non-materialistic standards and methods of the traditional social organization.

The traditional institutions and mental attitudes of "fa'a Samoa" (Samoan custom) are in transition—quite rapid transition in some areas—as modifications occur or are made to meet the changing needs and interests of the village people concerned. No systematic study has been made of this subject, and the Samoan people themselves are usually unaware of the economic significance of what is happening or the basic reasons for the changes that have occurred. As a result of a general lack of understanding, the process of social change in the villages of Western Samoa is usually misrepresented and often deplored in public utterances on the subject, whether the opinions are expressed by Samoans or Europeans. It is significant and encouraging for the future, however, that some Samoan leaders are becoming aware of the need to seek and use better methods in production, marketing and finance. Some actually take pride in describing the changes in Samoan custom that have been made deliberately to temper or abandon practices sanctified by tradition, but economically harmful. In general, however, the economic and social life of the Samoan people is still regulated by the feudalistic institutions and relationships of their traditional custom, some of which are briefly described below.

It is axiomatic that economic progress will not occur unless the social environment is favourable to it. The people in general, and their leaders in particular, must desire progress, and their legal and political institutions must encourage and protect the industrious and the enterprising. In the following section these general propositions will be examined in relation to problems of economic development in Samoan village and district communities. The summary will conclude with some general observations on special problems of capital formation and finance which are now restraining economic growth of the territory.

2: TRADITIONAL INSTITUTIONS AND SOCIAL VALUES

(a) *The Aiga and Matai System*

In Western Samoa the basic social and economic unit is not the individual, but the family group or clan. This group, called the "aiga", includes not only related parents and children, but a wider family grouping of blood and marriage ties and adopted

⁴ During 1952 on the field survey work associated with the South Pacific Commission investigation into commercial relations in the Pacific Islands, the writer visited Fiji, New Guinea and Papua, Netherlands New Guinea, New Caledonia and Eastern and Western Samoa. The most vivid impressions of agricultural progress among indigenous Pacific Islands people on this regional survey were those gained in Western Samoa on the South Coast of Upolu, travelling the fifteen miles or so from the summit of the Cross Island Road to Poutasi. In Savai'i, too, for example, the personal achievements of the young Samoan Chief Va'ai Kolone in developing his cocoa plantation of 140 acres from standing bush were quite spectacular; probably ranking among the outstanding economic exploits of his generation in the South Pacific.

⁵ Education is used here in the wide sense, which includes not only formal education and religious instruction, but also dissemination of ideas by cinema films, etc.

persons. Within and outside the aiga a selected person⁶, the matai (who may hold one or more traditional "titles") is recognized as the leader of the family group, with rights and obligations of long-standing traditional origin.

The term "aiga" is used in a restricted sense covering an extended household group numbering 5 to 50 persons, most of whom live in close proximity in a village consisting of from 10 to 50 such households, each under the patriarchal authority of its matai. The term is often used, too, in the wider sense to include "relatives" by birth, marriage or adoption, wherever they may be living.

A matai is entitled by custom to the services of all members of the aiga under his authority. He has traditional rights and responsibilities governing not only the disposal and use of lands associated with his title or titles, but also over the production from those lands. All matai titles connote the status and privilege of chiefs in Samoan society. The titles, however, are of widely-varying degrees of importance, based mainly on traditional considerations of social or political character.

The "untitled" members of an aiga who are required by tradition to "serve their matai" are, in consideration for this service, entitled to the support and protection of the matai and the clan group. The famous anthropologist, Margaret Mead, in *Social Organisation of Manua*, described this traditional security from the point of view of the untitled man, woman or child in Samoa as follows:

"The aiga is always one's ally against other groups, bound to give one food, shelter and assistance. An aiga may ask for any of one's possessions and refuse to take 'no' for an answer; usually an aiga may take one's possessions without asking. Under the shadow of these far-flung relationships children wander in safety, criminals find haven, fleeing lovers take shelter, the traveller is housed, fed and his failing resources reinforced, property is collected for a house building or a marriage, and a whole island is converted into a series of cities of refuge from poverty, embarrassment or local retribution."

Most of the heavy manual work in the village is performed by the untitled men, the "taulele'a", who provide such services as part of their obligation of "service to the matai".

In Samoa the social organization within the family, within the villages and in the traditional grouping of villages and political districts, was and continues to be based on former needs of individual and group protection. The central pivot of Samoan custom, the matai system, developed in times when agreeable living conditions, even life itself, depended on willingness to conform to requirements of group survival. There was no place for independent living. Only efficiently-organized groups were strong enough to survive and prosper in the turbulent conditions of physical and political warfare that dominated life in ancient Samoa.

The fact that so much of the traditional matai system remains today in Western Samoa is no doubt due to the social advantages and satisfaction it still provides for the majority of the village people and the adaptability of Samoan custom and its indigenous institutions. This adaptability is strikingly illustrated in the recent universal establishment of women's committees⁸ in the villages of the territory and the abandonment of formerly important institutions such as the "taupou"⁹ when perpetuation serves no useful purpose and conflicts with newly-accepted ideas.

(b) Social Values and Status

Considerations of prestige continue to dominate thinking and actions in Samoan society. Authority, or "pule", as the Samoans call it, comes mainly from the acquisition of matai titles; not wealth. Such titles provide recognized social status, authority over people and control over land. They are not inherited, but are conferred usually by the family group or groups directly concerned, and they may be revoked when a title-holder loses the support of his aiga. Western Samoan society is therefore somewhat fluid and more adaptable to

⁶ Almost invariably a male member of the clan who for reasons of birth is selected to hold the matai title.

⁷ Used here in the singular—that is, an individual member of the family group.

changing circumstances than other Pacific Island societies where rank is permanently concentrated in an established nobility and protected by direct descent.

Considerations of birth are important qualifications for titles in Western Samoa, but not the sole determinant of qualification. There is no permanent class of chiefs as distinct from the common people of Samoan society. It seems probable that ability and wealth will provide increasing opportunities in the territory for the acquisition of coveted status in the hierarchy of chiefs.

The most difficult problems in any programme for economic development in the territory seem likely to arise from the fact that to Samoans their land is fundamental to their social organization and not primarily a source of income. Claims to land and authority over land are important elements in "pule" for psychological rather than material satisfactions. That being so, it is difficult to persuade Samoans to approach land utilization questions with the objectivity necessary for efficient land use.

(c) Village Life and Conformity

Other serious difficulties to be overcome in developing a progressive economy in Western Samoa lie in the firmly-rooted communal way of life of the Samoan people. As a rule, Samoans want progress for themselves and their country, but it must be in the form of community progress, not individual advancement, to avoid conflict with established ideas and institutions. The Samoan people in general do not yet realize that the progress of a community depends on the provision of adequate opportunities for its most able and energetic members, irrespective of their status in society. Notwithstanding the keen desire among the people in general for higher standards of education for their children, in Samoan village affairs all forms of precocity, youthful innovation or talking above one's customary age or status limitations are effectively discouraged. This is but one aspect of the levelling tendencies of Samoan custom and psychology which are outstanding characteristics of the social life of these people. Although "maintaining dignity" and "paying respect" are all-important in everyday life as well as on ceremonial occasions, no Samoan chief, dignitary or official can rely on his position to protect him if his bearing or actions alienate the sympathy of his supporters to such an extent that a general desire is developed for action to "pull him down". Samoan custom provides infinite scope for this process often with a subtlety that defies the open opposition of the victim of the levelling processes.

The social advantages of this deflationary tendency are great and undoubtedly this form of insurance against oppression is one of the important factors in the vitality of the Samoan communal life. In the economic field, however, its application is liable to have serious consequences, as successful and enter-

⁸ The first Women's Committees were formed in 1925 to foster and supervise child welfare work in the villages under the aegis of this branch of the territory's public health services. With only one or two exceptions, all villages now have such committees, comprising some 10 to 20 women drawn from the wives of their chiefs, pastors and the better-educated residents.

The duties and beneficial influence of these committees have increased each year, and they now play a most important part in initiating and supporting village improvement in various ways in addition to the child welfare and medical work undertaken initially.

Dr. Guy Loison's comments on this subject, published in the S.P.C. *Quarterly Bulletin* of October 1953, are as follows: "Here I was particularly impressed by the role of the women's committees I saw at work in Western Samoa. The rivalry between villages, the number of mothers who brought their children for inspection, the festive yet ceremonial air about the consultations, the pertinent questions asked by the mothers, the discussions of diseases which had made their appearance in the village and of plans for the improvement of rural hygiene, all these showed the success of an organization which is effectively helping the local health service".

⁹ The ceremonial virgin of the village who has specific duties on formal occasions. The marriage of a Taupou was an event of ceremonial or political importance in old Samoa, frequently binding new alliances between villages and districts.

prising individuals with talent for leadership in industry are undermined by their own village people in what amounts to continuing cold war against real and imaginary "upstarts". Some examples of this process are discussed later in this chapter in sections dealing with disincentives in Samoan industry.

To a very large extent the experimental or scientific attitude which is a pre-condition of economic progress is lacking in Samoan village life. The few Samoans with the perspicacity and ability which prompt them to take advantage of improved methods and new opportunities are held back and too often completely discouraged by the fact or fear of the "pulling-down" practices of the envious and conservative among their kinsmen.

(d) *Village Competitive Progress*

Occasionally the advantages of some improvement may appeal strongly to a Samoan village or district as a result of effective persuasion by someone in authority. Considerations of prestige often play a more important role than motives of enlightened group interest. Under these circumstances, a Samoan village or district can mobilize and concentrate its resources for a constructive purpose with great effectiveness and achieve impressive results quite quickly.

A highly-developed competitiveness between villages and districts—a characteristic feature of Samoan social life—plays an important part in most, if not all, of these surges of communal activity. In the recent past the construction of large village churches and pastors' fales have been the communal tasks of sufficient appeal to receive this purposeful approach with regularity.¹⁰ The provision of other social amenities such as water supply facilities and village school and hospital buildings were undertaken occasionally. In one village in Savai'i sustained community effort was being directed in 1953 towards the task of providing "pastor" type permanent fales for all matais as well as for the local pastor.

There is much to suggest that this competitiveness of inter-village rivalry (which now shows itself principally in construction of churches designed for display rather than the actual accommodation of the congregations to be served) is a creative influence of very great potential value if directed into other fields of community welfare. The present Director of Education has shown something of its possibilities in his recent campaign for properly-constructed school buildings in the villages.

(e) *Progress Through Persuasion and Demonstration*

The independence and self-reliance of the Samoan people as a race is clearly demonstrated in events of the past century. Attempts to use compulsion for worthy objectives have been effectively frustrated or actively opposed, but the Samoan people have shown ready willingness to follow impressive example, even where they lack the background knowledge essential for success.

In the economic field this is now shown most obviously in the Samoan urge to acquire and operate trading stores. In the

¹⁰ The following details of the construction of the L.M.S. church at Patamea, an inland village of Savai'i, which was dedicated at the close of the field survey in 1953, gives some idea of the effectiveness of a small community working under these conditions. In addition to the disadvantage of its small size (380 to 400 inhabitants, half under 16 years of age), Patamea was handicapped in that its only link with the coast was an 8½-mile foot-track running across a recent broken-surfaced lava flow. Over 1,000 bags of cement, all the timber and roofing iron, etc., used in constructing and furnishing their impressively-large church, was carried over this route by the people themselves, mostly after darkness. In addition, they manhandled in baskets from nearby rivers all the sand needed in the construction of their 5,000-square-foot (115' x 45' approx.) concrete structure of unreinforced solid design. (The present roadway to Patamea came too late to enable transport by truck to assist the construction of the church.) Under the supervision of a Samoan tradesman from Apia, the people of Patamea provided the unskilled labour required for the construction period—April 1950 to August 1953, excluding all 1951, when no work was done on the church. At the same time, their production of copra, cocoa and foodstuffs was maintained at a high level to provide a cash surplus for purchase of church building materials at a cost of over £4,000. In August 1953 the only outstanding sum due in respect of this church was an amount of £600 owing to the skilled foreman and his assistant.

territory success in trading tends to present itself to the Samoans as the road to social and political eminence. Apparently the achievements of those citizens associated with commercial plantations are rather less impressive in Samoan eyes than those of the successful man of commerce.

During recent years the Government of the territory has developed a comprehensive policy and provided clear leadership for village progress in child welfare, public health and education. In these fields the village people have gained a knowledge of the methods and objectives of the Government; they have learned by participation and personal experience the benefits to be secured, and taking their cue from those in authority they have developed an enthusiasm for continuing progress. In health and education the Samoan people in the outer districts are now foremost in pressing claims for improvement and are usually willing to contribute themselves in meeting the additional expense involved.

(f) *Government Influence and Village Economics*

In economic development the Government's influence for progress in the villages during recent years has been directed principally towards the provision of roads, bridges, domestic water supplies, the extension of the banana export trade, produce inspection and pest control. As described elsewhere in this report, the example of the New Zealand Government-owned Reparation Estates and the commercial planters and traders has provided a form of practical education and a stimulus for progressive change. In general, however, a lack of both sustained guidance and of special facilities for improvement has restrained general progress in village agriculture.

Among Samoan leaders there is apparent unanimity on the need for supporting future political and social progress in Western Samoa on a firm foundation of economic development in the territory as a whole. The methods most frequently recommended by Samoan spokesmen are based, more or less exclusively, on changes in the form and direction of the education of their young people. There is as yet little recognition that growing desires for progress and knowledge of the methods of improvement are certain to be frustrated unless the social, legal and political organizations of the Samoan people are favourable to changes in the interest of efficiency.

An important part of the price of economic progress in Western Samoa will reside in the Samoan people's own willingness to modify their social and legal institutions to provide encouragement and protection for the industrious and thrifty. Samoan custom provides no status, no special encouragement or protection for those who seek to improve their position by sustained effort or take advantage of favourable opportunities as they arise. Even today few Samoans in authority realize that in the saving habits of the community lie much of the way of opportunity to the forms of progress they seek for their people. Only by deliberately setting aside part of their current incomes for long-term improvement of plantations and the acquisition of equipment can Samoan producers improve their productive efficiency and permanently increase their standard of living. Decisions of this kind are discouraged now because the institutions and usage of Samoan custom are based on traditional standards of a semi-feudalistic society where wealth was accumulated, not for security or as a means of obtaining additional income for a higher standard of living, but for prestige reasons, for ceremonial use or developing goodwill and influence by the distribution of gifts.

The non-material institutions and attitudes of fa'a Samoa are still a dominant influence in the economic life of the people in the villages. Some aspects of Samoan custom, particularly those relating to land tenure, have been criticised adversely in public for their effects on production, including the discouragement of potential producers. During recent years, notwithstanding misgivings and official expressions of concern, there has been no comprehensive investigation of those aspects of Samoan custom which handicap or preclude economic progress.

About thirty years ago action was taken to legislate against a widely-practised traditional custom then considered to be undesirable on economic grounds. For a period of three years "malagas"¹¹ for the presentation of "fine mats" were prohibited by resolution of the Fono of Faipules with the object of curtailing the impoverishment of Samoan village communities through excessive feasting and the distribution of gifts associated with this practice. About the same time, too, regulations were introduced to provide lifetime leases on a usehold basis for adult male Samoans at the time of marriage, under a voluntary scheme designed to provide greater security of tenure for family group cultivators. Unfortunately the intentions and the results of these measures were obscured when the innovations came under political attack in the Mau disorders on the grounds of their "unnecessary and improper interference with ancient customs of the Samoans".

In 1937 the present Lands and Titles Court was established to deal with disputes over Samoan lands and succession to matai titles in accordance with powers conferred by an earlier Land and Titles Protection Ordinance. This Court is required to give legally-binding decisions "in conformity with Samoan usage and custom", notwithstanding the fact that these aspects of fa'a Samoa have not been codified for purposes of law. Referring to its operations, Professor Stanner in his recent book¹² points out that this Court "tried positively to preserve fa'a Samoa in all matters relating to land-holdings and titles. And at some point or other practically everything of importance in active Samoan life is involved with land, or titles, or both. Yet the attitude of other departments (of the Samoan Government service) did not reflect so keen a realization of this fact and were not enthusiastic about conservation."

The concluding sentence of this quotation suggests something of the present dilemma of the Government and the Samoan people on the question of economic progress. For valid reasons of social cohesion, efforts have been made and are being made to preserve Samoan traditional life and culture. At the same time, for equally valid reasons it has been the practice of the Government to encourage Samoans to modify or remove those features of Samoan custom which impede economic, social and political development. While the judges and officials associated with the Lands and Titles Court are working actively to preserve intact those key institutions of Samoan traditional culture which were evolved in the non-materialist social environment of former times, specialist officers of the Departments of Agriculture, Health and Education, for instance, are challenging traditional ideas and practices and replacing them with modern concepts of progress and efficiency based on international scientific experience.

The Government has not yet defined its policy where the diverse way of tradition and progress come into open conflict. In fact, at risk of some over-simplification, it may be stated that in its current administrative practice the Government is endeavouring to support both sides in a conflict of basically incompatible cultures.

The need for some effective compromise in this conflict is usually mentioned in important policy statements. All too frequently, however, the need is expressed in rather vague general terms. Not infrequently these exhortations to the Samoan people take the simple form of a plea to "support what is good in your own culture and adopt what is best in European civilization", without any indication of the tests to be made in the selection process. There is usually reluctance to deal with the problem more specifically for the following reasons:

- (i) The recollections of hostile political reactions in 1926

¹¹ These malagas were traditional journeys of large parties of matais and untitled men for ceremonial mat presentations involving feasting and return gifts to donors. In practice these malagas often initiated a competitive cycle of lavish entertainment, subsequent impoverishment and sometimes neglect of production.

¹² *The South Seas in Transition*; W. E. H. Stanner, 1953, Australasian Publishing Company, Sydney.

to well-meaning attempts on the part of the local administration to provide positive leadership for the Samoan people in the economic field.

- (ii) A genuine belief that, as time goes on, the inherent capacity of the Samoan people for orderly adaptation of the social behaviour to new concepts will provide a satisfactory solution to looming problems in the economic field. This belief is based principally on the capacity that the Samoan people have shown already in assimilating Christianity and medical and educational reform without social disruption.
- (iii) Although the subject is topical, its premises are not widely understood and factual information is lacking.

3: LAND TENURE PROBLEMS

The main problems of economic progress associated with land tenure in Western Samoa revolve around the fact that the traditional Samoan concept of land ownership makes no provision for individual use and development of land. Under Samoan custom areas of land are recognized as belonging to extended family or kinship groups—usually in some sort of physical possession of the areas held. Traditionally these areas are each administered by the head of the family concerned, the matai, for the benefit of all members of aiga who live thereon and "serve the matai". By tradition, too, the matai's authority extends to the distribution of the proceeds of all work performed on lands associated with his title.

(a) *Security of Tenure for Samoan Cultivators*

Under the impact of the money economy these traditional relationships are becoming modified and a form of peasant agriculture is emerging on a household basis as energetic Samoans establish banana and/or cocoa plantations for the purpose of increasing personal incomes. In some progressive areas where this movement is supported by the village authorities, the matai and the taulelea depart somewhat from the traditional pattern of village organization as far as much of their economic life is concerned. When this occurs traditional "pule" (authority) over the land is relaxed to the extent of providing an informal and rather insecure type of "usehold" title to a household group directly concerned with actual or prospective cultivation of a given area. Included in this movement is a growing practice among keen cultivators to establish their main living quarters in the midst of their plantations, returning to the village at week-ends or for social occasions. The Hon. Anapu described such a situation at a meeting of the Select Committee on Currency and Banking in September 1953 as follows:

There are certain families in the territory where the matai has already subdivided their communal land among the various branches of the family and such branches could come and obtain a loan to improve that land without any interference from their matai. Should Mr. Stace be available to visit our place I could point out to him certain areas in which I do not interfere because such portions of our land have been allocated to other branches of the family. The people are now trying, without any interference from me, the matai of the family, to cultivate the land.

I do not know when the District and Village Government Board Bill will be passed, but I think that within a few years there will be new settlements of the Samoans right in the bush because they will try with the assistance of such loans to improve and cultivate further.

This change is dependent on the outlook of the matai and the maintenance of harmony within the aiga. The cultivator who is not the matai in paramount authority has no security of tenure in any plantations he has developed in such circumstances. The Director of Agriculture (Mr. H. S. Newton) stated that one of his problems in building up the Banana Scheme was his inability to counter the actions of a few matais who arbitrarily dispossessed "untitled" contractors from developed plantations for personal advantage or for disciplinary reasons within the aiga. Although relatively rare, these dispossessions attracted quite wide attention and tended to discourage

pioneering enterprise among taulelea in general.

Even important chiefs with "pule" over specific areas of land cultivated as Samoan commercial ventures are handicapped by insecurity of tenure. Some with high status have been forced to resist repeated attempts from within their aiga or from other groups to oust them from developed plantations. In settling land disputes the Land and Titles Court is required to rule "in conformity with Samoan usage and custom", and since these customary precedents were established when the economic life of the villages was based on shifting cultivation for sustenance, present-day exponents of fixed plantation agriculture find little support in fa'a Samoa for their economically desirable, but unorthodox, commercial enterprises. The taulelea seeking to oppose the instructions of his matai and remain in possession of his cultivated plot has no traditional support in Samoan usage and custom. In a recent case a matai¹³, although successful in his defence before the Land and Titles Court, subsequently felt so insecure that he developed the practice of deliberately investing his entire cash savings from some 60 acres of cocoa, coffee and food crops in real estate in New Zealand.

(b) Leases for Land Development

Prior to World War I a good deal of Samoan land was leased to European planters for terms of up to 40 years. Since New Zealand has been administering authority under international agreements the only leases of Samoan lands approved are those covering small areas for trading store sites and church purposes.

As pressure of population increases it may be assumed that more attention will be paid to the advantages of improving existing cultivations or "opening up" the remote, sparsely-populated areas of Savai'i (and possibly Upolu) under some system of leasehold tenure. It seems reasonably certain that the current survey of land resources will reveal quite large tracts of fertile land that are unlikely to be brought into cultivation by their Samoan owners for the simple reason that family groups concerned own more land than they require for present and foreseeable needs. The anomaly of surplus land holdings in an increasingly "land-hungry" territory can be expected to force the Samoan people and the Government to institute some system of land "sharing" based on either short-term leases, with compensation for improvements, or officially-sanctioned sharecropping agreements.

Under Samoan custom, land is owned by the family kinship group and administered by the matai, with traditional obligations to preserve the heritage intact for the unrestricted use and enjoyment of the family as a whole both now and in the future. The assumption by the group concerned of legal obligations under a lease to an individual (within or outside the aiga) concerning such rights as undisturbed possession, or financial compensation for improvements, is in conflict with traditional ideas and practices associated with Samoan land ownership. It would require something of a revolution in Samoan thinking on this subject to replace traditional ideas, notwithstanding the fact that they are based on former needs of shifting agriculture for sustenance and requirements of family survival that are now inappropriate. The Maori people of New Zealand and the Cook Islands, faced with similar problems, have helped to devise and have adopted land tenure innovations¹⁴ that provide both recognition of traditional family obligations and opportunity for family progress by providing an acceptable tenure arrangement for land improvement.

(c) Inheritance of Established Cultivations

On the death of a Samoan villager with a young family it is the usual practice for the widow to return to her parents'

household with the children, abandoning the use of and all claims to any garden or plantation that the family as a unit may have established for its support. In these circumstances the garden may be completely neglected or may be used by the matai or a member of the husband's aiga. The prospect of giving up the developed gardens under these circumstances is assumed to discourage a good deal of energetic family effort in land development throughout the territory.

Proposals were introduced in 1926 to provide a system of direct inheritance by empowering Samoans "to bequeath their cultivated areas of land to their next-of-kin, or near relatives, in lieu of the present system which provides for the clan or whole of the family selecting a successor to the deceased head of the family, who thereby acquired the control of all family land". These proposals were rejected by the Fono of Faipule. Provision for such land bequests by occupiers to next-of-kin or near relatives would have steadily reduced the power and influence of matais to nominal proportions by eliminating the key functions associated with "pule" over family lands.

It is interesting to note this flat rejection by the Fono of Faipule of an official proposal designed to introduce gradually defined land titles and security of tenure of Samoan land in relation to the voluntary arrangement with the same objective described above by the Hon. Anapu and other schemes of informal "usehold" tenures known to be in operation at the present time in both Savai'i and Upolu.

(d) Samoan Land as Security for Loans

Administrative and legal restrictions on the disposal or charging of Samoan land, and the defects of title and tenure outlined above, preclude development of these lands with the aid of mortgage finance.

The need to modify customary land ownership and conditions of tenure so that land can be pledged as security for financial and material advances has been clearly demonstrated in the case of Maori land development in New Zealand and the citrus re-planting scheme in the Cook Islands. In both cases land-owning families by mutual agreement before the Land Courts have given to selected members of their families secure legal titles to specified plots suitable for development.

Without this willingness to modify traditional usage and custom in land ownership the credit which the New Zealand Government was prepared to advance and the supporting technical instruction and organization could not have been made available, and the two successful schemes would have been completely frustrated.

The situation as it affects Samoan lands was highlighted during the field survey on this project when a prominent chief was unable to borrow some £300 to rehabilitate a neglected cocoa area of high potential worth that had reverted to his "title". The land was Samoan land and he was unable to pledge it and provide acceptable security to an otherwise willing lender. Fortunately it was remembered that the chief concerned owned a small block of freehold land near Apia and this was mortgaged to secure finance for the development of the much-more-valuable plantation area.

The problems arising from inability to pledge Samoan lands as security for development loans are aggravated by the difficulties and restraints on voluntary saving and investment in Samoan communal life outlined in the next section.

4: CAPITAL FORMATION

Economic growth in metropolitan countries is achieved by "ploughing back" as much as twenty per cent. or more of the community's total income into new capital formation. Finance for investment in this continuing flow of new productive capital is secured from voluntary savings, including reinvested profits, and from compulsory savings in the form of taxation and currency inflation¹⁵. To a limited extent some minor forms of

¹³ A Samoan (part Chinese) possessing a high title who through personal industry and hired labour developed virgin bush lands not previously required by his kinship group.

¹⁴ See also column adjoining for further details.

¹⁵ Currency inflation is a disguised form of compulsory levy on all incomes and money balances.

capital formation take place in metropolitan countries outside the money economy as the result of individuals working on their own properties.

In the village communities of Western Samoa only an exceedingly small proportion of total money incomes is set aside for capital formation. The modest extension that occurs in the villagers' capital resources is mainly the result of group and individual spare-time work in extending plantation areas, access roads, etc., and little if any investment is financed from voluntary savings or loans. At the present time some areas are benefiting directly from Government capital formation in the form of roading and piped water supplies financed from taxation collected in part from the people of the villages. A few exceptional cases exist where groups or individual Samoans are using part of their cash resources to purchase trade stores or productive equipment. In general, however, Samoans' money incomes are spent or donated to social activities as they accrue, without regard for consideration of economic progress. Although debt is not a serious social problem, there is some evidence of a fairly general willingness to overspend incomes to the extent that consumer credit is available.

The characteristics of the present situation of savings and investment in the villages are examined in some detail below. Unfortunately this important subject has not yet been investigated thoroughly and this economic stocktaking can do little more than indicate the nature of the problem. It was obvious during the survey, however, that many thoughtful Samoans were aware of their people's general inability to take advantage of the creative opportunities of the money economy and were anxious for help in solving this problem.

(a) *Sharing and Distribution of Wealth*

By tradition and inclination Samoan people are opposed to all forms of hoarding. In their traditional village and family life, wealth of any kind is there to be used. Open-handed sharing of property gives the Samoan matai both satisfaction and social prestige, and by tradition a right to expect reciprocal action on the part of the recipients. When a call for food or other contributions is made, consideration of both status and pleasure require the Samoan matai or taulelea to provide the best that he can offer, irrespective of personal problems that may be involved.

In spite of a growing urge to make progress in production and trade that is expressing itself in many ways throughout the territory, Samoans show little inclination to accept European ideas of individually-owned property.

(b) *Traditional Use of Money*

The traditional "fine mat" currency of Samoa is one of the most interesting forms of "commodity" or "primitive" money remaining in use at the present time. Like other "primitive" moneys such as the whales' teeth ("tambua") of Fiji, the shell moneys of New Guinea and the pig "currency" of New Hebrides, Samoa's "fine mats" serve some of the functions of modern money. To a limited extent, for instance, they are capable of facilitating the exchange of goods and services¹⁶, establishing values and providing a store of wealth.

Unlike modern money, which is usually accumulated for reasons of economic security and spent with the object of maintaining or increasing production and consumption, primitive moneys were (and are) used principally for ceremonial purposes and for requirements of prestige and authority.

The generous giving, the inability to save and the misuse of credit indicated in the previous section are usually seen as a form of racial irresponsibility in European assessments of the Samoan character. There appears to be little recognition of the fact that, notwithstanding their increasing dependence on the money economy and the daily handling of notes and coin, the great majority of the Samoan people use the cash that comes into their possession as they are accustomed to use "fine mats".

¹⁶ The practice of making payment in "fine mats" to village church and fale builders is still the rule rather than the exception in the territory.

In that part of their monetary progress, where experience in marketing provides instruction, Samoans have come some distance in their technical evolution from primitive to modern practices. In the vital field of money management, whether for the individual or the group, the village people tend to follow the only precept they know: "fine mat" usage and custom. Having neither knowledge nor experience in the use of money for increasing productive efficiency, other than that associated with the purchase of the few simple tools for clearing and digging, the village people in general have no appreciation of true social cost of their lavish spending. Although there is resentment and some individual resistance to the ever-present demands on the limited cash incomes of Samoan wage-earners and cultivators, the Samoan people in general appear to be quite unaware that their generous giving costs them a great deal more than they can afford in both material welfare and lasting prestige.

(c) *Spending and Saving*

The Post Office Savings Bank statistics indicate that less than 9,000 Samoans have savings bank accounts, of which about 1,500 use their accounts regularly and have more than £2 to £3 in credit. To some extent this situation is due to absence of convenient facilities for small savings in the rural areas and the lack of campaigning to inculcate ideas on the need for saving.

Some indication of the scope that exists for saving in Samoan communities is to be found in the large sums regularly collected for social and ceremonial occasions in all villages, examples of which are given below. In making these collections, prestige considerations and group pressures are used. Notwithstanding the low incomes of the village people and their scope and willingness to spend in satisfaction of their own domestic needs, the amounts collected are astonishingly high.

For purposes of this survey a Faipule estimated that the people of the villages he was personally concerned with spent about one-third of their total cash receipts on personal and family needs and donated the balance (under varying degrees of pressure) to church, ceremonial and social purposes. This high proportion of gifts to total income could not be confirmed. It was probably an over-statement, but there was much evidence of a supporting character available throughout the territory. For example, the village of Leusoalii was reputed to have commenced building its church with some £200 in hand. Running almost immediately into financial difficulties and presumably tight credit arrangements, a "sa" (i.e. prohibition) was placed on the entire copra production of the village for a period of five years to secure the finance required. For its current spending the village was forced to build up its income from fishing, pigeon hunting and casual labour in Apia, etc. Leusoalii is unfavourably placed as far as cocoa production is concerned, and its supply problems were enhanced by the complete banning of coconut foods for the duration of the "sa".

The people of Sala'ilua were in the news in 1952 when they raised £7,000 (including £5,000 on credit from local merchants) in the form of cash, provisions, as their contribution to the wedding celebration of one of their chiefs. The family and village supporters of the bride on their part presented fourteen hundred fine mats in return.

In October 1953 the village choir of Satupaitea in Savai'i gained the privilege of "opening the door" at the dedication of a cathedral in Apia by contributing £2,240 in a competitive drive for church funds. The whole of this winning contribution was believed to have been provided on credit by three merchants.

This list could be expanded to volume size merely recording ceremonial-giving in the year 1953. The willingness of Samoans, individually and collectively, to maintain or build up their social stature by generous donations at social occasions astounds the visitor from wealthier countries overseas. It seems to the onlooker that nearly every event of importance in family,

village and district life is elevated to a ceremony calling for lavish gifts in money and foodstuffs. The amounts involved in individual donations are usually proclaimed with full publicity, so that spur of ambition and the goad of shame work together to swell the flow of contributions¹⁷.

(d) Facilities for Saving

The impediments to saving in fa'a Samoan attitudes and institutions and in the social pressures for lavish giving have been briefly summarized. The position described to some extent is due to lack of saving facilities and economic education.

In the villages the advocates of lavish spending usually have the field to themselves, and the case for saving and investment, or even prudent spending, remains practically unstated. Some of the donations are, of course, "saved" and "invested" in churches, school buildings, village hospitals and equipment, etc., but these forms of social expenditure are true investment only to the extent to which the amenities concerned contribute to productive efficiency.

The Post Office Savings Bank has deposit facilities in Apia only, and has not yet endeavoured to operate in the villages or in the schools. Its practices are based on systems designed for New Zealand conditions, without modification for Samoan needs or peculiarities. Its surplus funds are virtually "hoarded" as far as the territory is concerned, for they are invariably invested in New Zealand Government securities.

The Mormon Mission in Western Samoa has recently established a "welfare" scheme which, *inter alia*, provides specially-designed incentives and facilities for small savings in some villages.

As indicated in a previous section, the credit facilities available to Samoans are limited almost exclusively to short-term loans from commercial concerns secured by produce marketing commitments. Usually the debts are incurred by village groups for ceremonial expenditure or presentations of foodstuffs, and so repayment is devoid of any element of saving. In most countries a significant proportion of commercial lending is for purchases of capital equipment, and so repayment of commercial credit involves an important element of saving directly associated with investment.

(e) Co-operative Societies

In 1951 legal provision was made for the registration and supervision of co-operative societies. During 1952/3 all applications for registration were held over pending the appointment and arrival of a Registrar of Co-operatives with suitable qualifications and experience¹⁸.

As at October 1953 about twelve unregistered co-operative groups of Samoan planters were operating with the object of improving their production and marketing arrangements, and securing better prices. Some of these groups were also in the process of purchasing or establishing retail trade stores in their home villages.

In addition to the groups in active operation, some six or eight others were known to be in the process of formation, including one seeking help in establishing a co-operative cattle-raising venture.

Seven of the unregistered societies in business were then

¹⁷ Professor Stanner in *The South Seas in Transition* gives an indication of their magnitude as follows: "The balances held on behalf of the village churches of one society in 1946 amounted to £31,000, a sum of four hundred per cent. more than in 1940. Moreover, over this period the adherents of this society had contributed a further £11,000 to foreign missions and no less than £92,000 to a central fund. The All-Samoa totals were not available."

¹⁸ The Registrar of Co-operative Societies took up his appointment in March 1954. By March 1955 four societies had been registered under the ordinance, including one of those in operation as at October 1953, and other groups were being supervised. Of the remaining eleven societies mentioned above, five had ceased operation. In the opinion of the Registrar, the remaining six still functioning (July 1955) were "not yet ready for registration". Their financial status had been weakened seriously by the excessive granting of credit to members and non-members and/or the existence of burdensome, long-outstanding debts to an Apia trading concern.

operating through and under the general supervision of one of the trading firms situated in Apia.

5: PRODUCTION INCENTIVES AND DISINCENTIVES

To one accustomed to think in terms of European experience, the low level of Samoan productivity in agriculture presents apparent contradictions. The Samoan people have an agricultural tradition and obvious skill in the production of their staple foodstuffs. Collectively they have access to large areas of fertile but undeveloped land. They are painstaking and industrious in some occupations and often demonstrate an impressive capacity for hard physical work. They are noted for their pride in some forms of achievement. Why then are they content with such unimpressive performance in their standard of production of cash crops?

There is a tendency in the territory to explain this paradox quite simply by drawing attention to what is considered to be a "characteristic" of the Samoan people—an inability to maintain sustained effort at a given task. It is pointed out in such explanations that Samoans are prone to start new projects with enthusiasm but lose interest rapidly after an initial burst of energy. Actually this reference to an assumed racial characteristic provides no explanation. The rapid loss of interest that occurs so frequently is not a cause but a symptom. It is visible evidence of an underlying condition in the field of economic incentives. As shown below, several important features of traditional village life in Samoa remove or weaken the incentives usually present to stimulate energetic productive effort in other countries.

Of all the incentives that urge men to increase their rate of production the most general and most enduring is expectation of personal gain in close and certain relationship to the additional effort involved. Although this fact of economic life is being recognized increasingly in Samoan villages, where matais, through their understanding or through force of circumstances, are prepared to "unmuzzle the ox that treadeth out the corn", any critical assessment of the general situation must stress the need to develop personal incentives as a pre-requisite to increased efficiency in production in rural areas.

In preceding sections the problems of incentives and disincentives have been dealt with indirectly among various factors in the economic and social life of the village people encouraging or discouraging production. For instance, mention has been made of the effective incentive in relatively quick cash returns from banana cultivation as compared with copra or cocoa. The advantage of payment direct to individual banana contractors and the relative success of "contract" remuneration as compared with daily wages for plantation employees have both been dealt with in some detail also. On the other hand, space has been given to some disincentives such as fear of dispossession in relation to customary land tenure; the traditional right of matais to the proceeds of cash from sales of the produce of the lands under their control, and the ever-present burden on producers for gifts which results in the presentation of a large proportion of incomes to groups and causes for purposes only indirectly associated with the donor's material well-being. The fact that demands on one's purse tend to mount with any known increase in one's capacity to pay is not peculiar to Samoan society, but whereas in most communities the man with resources has a recognized right to refuse or restrict his giving, in Western Samoan villages social and traditional pressures are so effective that the social cost of refusal may often be more onerous than the burden of unstinted distribution.

These demands for gifts and contributions may have their "levelling" effects reinforced in some villages by excessive fines imposed by the fono of chiefs and orators. Samoan tradition and administrative practice permit village authorities to impose even severe fines for offences which may not be actionable under the criminal code as defined at law. For instance, a

family may be fined two cattle beasts, fifteen pigs and two 40-pound tins of biscuits when one of its young men commits adultery. There are sometimes heavy fines imposed for traditional offences such as making provocative remarks or "telling genealogies" and other actions deemed punishable in the interests of good order and village discipline.

At times, however, these fines are imposed harshly in a way that mitigates against economic progress in Samoan society. For instance, in September 1953, after serving a seven-year prison sentence on a manslaughter conviction, a matai (whose family had kept his cocoa plantations in production and accumulated several hundred pounds in cash savings during his absence) lost the bulk of his savings in paying fines imposed fa'a Samoa as a penalty for bringing "shame" to the village. His readmittance to village affairs depended on his willingness to meet these unjust impositions, and his plans to use his capital productively were undermined by the short-sighted action of his own village people, who would have shared in his future prosperity. Similar cases occur from time to time.

It has been a practice in the territory for groups of Samoans to accept employment for the purpose of providing cash contributions for some fund for church or social purposes. The financial arrangements ensure that wages earned are paid directly to some collecting agent. No legal offences are involved and employers co-operate, but do not specifically encourage the practice. There is quite widespread belief that continuing social pressure for cash donations has ensured a flow of labour for the less attractive types of unskilled work, and that consequently the practice has value in the economic life of the territory. It is usually conceded, however, that under these conditions working enthusiasm wanes rapidly, and the employer is forced to rely on the support of village leaders to maintain output. To counter this lack of interest some employers have recently insisted that a small part of the wages earned are paid directly to the taulelea employed, to provide a useful incentive related to individual effort.

The provision of personal incentives is a factor of some importance, too, in roading activities. It has been a practice in the territory to rely on help in the form of unpaid village

labour for new highway construction work during the stage where the people concerned benefit directly from the improved access to be provided. When the road has moved on beyond a given village some of the taulelea formerly working gratuitously may be re-engaged as "day labour", earning ten shillings each per working day. As a result the rather anomalous situation occurs where roading progress is being maintained by paid labour from the village behind and unpaid labour from the village ahead, both building a circum-island highway that quite obviously confers benefits on a much broader pattern than the basis of payment suggests. The "costliness" of unpaid labour in spasmodic effort and the immobilisation of equipment has been discussed in an earlier section.

Unsatisfactory marketing arrangements in Apia for foodstuffs and products other than copra, cocoa and bananas also discourage production. Lacking opportunity to participate in the banana export trade because transport to Upolu is too slow and uncertain, an alternative in growing foodstuffs for sale on local markets had a strong appeal for people in the south-east of Savai'i. A fairly substantial trade was developed by these people during periods of local food shortage in 1951 and 1952, when prices were abnormally high. In view of the trouble and expense to the Savai'i producer in securing truck transport to Palauli or Tuasivi, sea transport to Mulifanua, bus transport to Apia, sending a representative to supervise consignment over the whole route and to arrange disposal, and paying a cash contribution in advance to the "market", as commission on sales; it is not surprising that the trade languished. The periodic "dumping" of reject bananas by the Banana Scheme on the local food market at the uneconomic rate of one shilling per case must also discourage anyone planning production of foodstuffs for sale to townspeople and villages in the urban area.

In discussions with village people on these subjects, it became apparent that, although rewarding prices exerted strong appeal, considerations of money returns were relatively less important than the incentives that could be provided in firm assurances that proceeds would be fairly distributed among producers, and that an enterprise, when established, would not collapse for reasons beyond the producer's control.

XVI: CONCLUSIONS AND RECOMMENDATIONS

This survey was initiated in 1953 with the object of indicating the extent to which the resources of the territory were adequate, or being adequately used, to provide for the maintenance and improvement of living standards for a rapidly-expanding population.

These general terms of reference pose two important questions. The first might well be re-stated as follows:

Is Western Samoa rich enough in natural resources to support a substantial increase in population without reduction in the general standard of living?

On the information available it is possible to answer this question simply and quite positively in the affirmative. Although the basic resources of climate, fertile soil and labour supply in Western Samoa have not yet been surveyed in any comprehensive fashion, the information that is available is definitely reassuring—particularly in regard to the economic potential of Savai'i.

In answer to the second question:

Are these natural resources being adequately used for the maintenance and improvement of living standards?

the findings of this survey indicate that the answer is "no", with an important qualification that it is well within the capacity of the Samoan people to do so.

The two main recommendations in this section deal with the task of preparing the way for greatly-increased efficiency in the use of the land and labour resources of the territory. They are advanced with a sense of urgency, since population growth at a high annual rate—that is, anything over 2 per cent. a year—creates special difficulties of a cumulative character, even under the most favourable environmental conditions. Unfortunately, at present environmental conditions in Western Samoa are not favourable to rapid changes in standards of productivity.

Among the Samoan people there is realistic appreciation that their ambitions in self-government and social advancement will be frustrated unless their economic life is sound and progressive. Unfortunately there is very little evidence that Samoan society generally is yet prepared to provide that support and encouragement to the energetic and thrifty that is the basis of material progress in all modern societies.

Of the physical and institutional difficulties hampering development in the territory the most serious appear to be deficiencies of transport and roading, land tenure complexities, shortcomings in savings, investment and credit, low production incentives, unorganized marketing for local produce, and a bottleneck in technical skills. These weaknesses apply most critically to development on Samoan-owned land, where economic life is in transition from shifting agriculture for sustenance to a predominantly cash crop economy. Although hampered by administrative policy restraints imposed to meet trusteeship obligations and responsibilities to the Samoan people, the "European" commercial and estate economy is reasonably progressive and generally in little need of special assistance.

The following observations and recommendations deal with major problems in the "Samoan" economy as distinct from the "European" economy. This distinction is somewhat arbitrary, for all sectors of the economy are inter-related and inter-dependent.

(a) Mental Attitudes

This "stocktaking" survey would not achieve its main objective if it confined its attention to results and dealt with economic development more or less exclusively in terms of what is being produced and how efficiently productive effort is organized in relation to the scope that is available. Although economic development occurs as the result of changes in capital, labour and techniques, these changes are determined more by thinking and mental attitudes than by physical resources, opportunities or special facilities. Economic development should be viewed therefore as social process, because it depends predominantly on attitudes of mind which affect willingness and ability to work, save and invest. The survey indicates some of the aspects of Samoan usage and custom which preclude or discourage the progressive activities of industrious and thrifty Samoans. It is therefore recommended:

That Samoan custom and traditional attitudes be objectively examined in relation to problems of economic development, and that special assistance be given to the Samoan people in their efforts to modify customary practices in accordance with their known needs and wishes.

Wisely-devised changes resulting from such an investigation could be relied on to strengthen Samoan custom as a key factor in local social integration. During the past century an unusual capacity to modify custom with changing circumstances and to enfold new institutions and concepts within the traditional social framework has been a feature of Samoan social development that has brought rapid progress in religious instruction, public health and education. These modifications and innovations were made voluntarily as Samoan people were persuaded to adopt new ways in place of less-rewarding traditional practices in these fields. Therefore, the problems under investigation and the objectives of the enquiry should be brought before the Samoan people at large. Active Samoan participation should be sought at all stages, and special efforts should be made to seek solutions to these economic problems from within the existing social framework.

(b) Community Development

In Western Samoa more than 85 per cent. of the people live in villages. Small-scale agriculture, at a low level of productive efficiency, is their mainstay and, to an increasing extent, the basis of economic life in the territory as a whole. These village people seek and expect a satisfying place in the modern world that they are becoming to know with increasing awareness.

At present their progress in public health and education is cause for both satisfaction and apprehension. As a result of their high rate of population growth, half the village people are children, acquiring through the village schools ambitions and demands that cannot be fulfilled satisfactorily in the outer dis-

tracts where amenities are few and economic progress is slow or non-existent. The problems of the young Samoan people are the really critical problems of the territory as a whole. These problems are in part the problems of Polynesian people throughout the Pacific, but they have complexities in the field of culture conflict and political development that quite obviously link them with recent social trends in Asia.

In their approach to self-government the Samoan people seek to increase their standards of technical competence in commerce, industry and public administration without undesirable social disturbance. The current development programmes of such countries as India and Ceylon are therefore of special significance for the people of Western Samoa, for the emphasis that is placed on the role of village people in plans for economic advancement. In both these countries the process of using techniques of the Western world through agencies and organizations designed to suit village needs within the framework of local culture and practice has achieved so much, so rapidly, that the development policies in most backward areas are tending to follow their pattern¹. It is therefore recommended:

That the development programme for Western Samoa be modified and expanded into an integrated comprehensive approach to rural and urban betterment on the same lines as that followed in the "regional community development" which is a conspicuous feature of current policy and practice in India and Ceylon.

Applied to Western Samoa, this approach would be designed to co-ordinate the field operation of all the Government's agencies at work in the villages and outer districts. The activities of the Government in public health, education, public works, agricultural extension, co-operatives, labour regulation and law enforcement would be carried out as part of a co-ordinated approach to the main task of helping the Samoan people to help themselves.

The village people should be made aware of their own capacity, when appropriately organized and advised, to solve their problems and supply their own needs. The creative force that now expresses itself in inter-village competitive display and ceremonial activities is available throughout Samoa for diversion into comprehensive community development activities when local leadership and enthusiasm are awakened to the possibilities that Samoan villagers have so readily at hand to secure rapid economic and social advancement.

Already in the villages, pastors, Samoan medical practitioners, district nurses, school inspectors, school teachers and officers of the agricultural services and co-operatives are stimulating interest and organizing limited forms of community development within their specialized fields. At present they work independently, despite the fact that their main functions are but a means to the same end: the improvement of the living conditions in the villages.

A comprehensive programme for economic development was outlined officially in March 1953, but the formulation of methods and priorities to give practical expression to this policy is yet to be done.

(c) Planned Development

The policy statement of March 1953 mentioned above under the heading, *Economic Development*, stated:

This is of prime importance to the territory and, to enable this to be carried forward on sound lines, an economic survey is a necessary pre-requisite. The first stage will be begun next month, and an aerial survey and soil survey are contemplated.

The surveys mentioned in this passage are designed to provide the information that is essential for the proper planning of land use and the carrying out of essential public works projects. These surveys are to provide background information for development planning, but not the plans themselves. In practice, development plans usually take one or other of the following forms:

- (i) A programme for public expenditure extending over any period of from, say, three to ten years;

- (ii) a programme setting production targets for public and private enterprise in terms of output or the allocation of materials, manpower or capital;
- (iii) a programme for allocating available resources among the various branches of the economy.

Of these alternatives, the planning of public expenditure (either total expenditure or merely total public capital formation) is the method usually adopted. Whatever the method, all government agencies, public corporations and sometimes private corporations must look ahead, determine their objectives, determine priorities and submit sectional plans to a central authority. The central authority must then relate the sectional plans to each other and to finance available, to re-determine priorities and produce a draft outline of an integrated plan for official and public enlightenment. The task is complex and requires continuing consultation and study, not only in working out the details of the integrated plan itself, but in the preparation of working arrangements of individual projects in the different fields.

This brief description of the basis of developmental planning is necessary in this concluding section of the economic "stocktaking" for two reasons. First, to draw a dividing line between surveys of resources and plans for the more efficient use of resources. Second, to draw attention to those features of the economic "stocktaking" which tend to impinge directly on the weighting and priority to be given to some important considerations in the planning process.

In addition to assessing the material, capital and human resources of the territory, including the possibilities of augmenting these resources, the surveys are required to indicate those factors which are tending to retard economic development. As pointed out so succinctly by Professor Frankel²:

Development depends not on abstract goals of and the more or less enforced decisions of a cadre of planners, but on the piecemeal adaptation of individuals to goals which emerge slowly and become clearer only as those individuals work with the means at their disposal, and as they themselves become aware, in the process of doing what can and ought to be done next.

Hence the emphasis in this "stocktaking" on social, cultural and institutional restraints on development on Samoan lands and the first recommendation in this section dealing with the problems modifying Samoan custom and usage and awakening thought in the Legislative Assembly and in the villages to the requirements and possibilities of economic progress.

In metropolitan countries, economic development has a momentum that is largely independent of government initiative. In Western Samoa, as in all other economically backward areas, the Government must both initiate and support economic development as a prime responsibility. International experience demonstrates clearly that in an under-developed area, where population pressure and social aspirations call for economic reform, a government's development programme must be integrated, or multi-purpose, if it is to succeed. It must be active in both stirring the imaginations and ambitions of the people it serves and in providing public utilities, marketing and financial facilities and technical instruction where they are needed most, not where they can be provided with little disturbance or effort.

The task is complex and calls for techniques that have no recognized place in the economic development of progressive metropolitan countries. Hence the second recommendation in this concluding section dealing with the need for drawing on experience and special techniques that have been used with much success in two countries facing social, political and economic problems similar in many respects to those of Western Samoa.

The following suggestions also arise from the findings of this "stocktaking" in matters relating to deficiencies in resources or inefficient utilization. The official development programme announced in March 1953 listed several reforms in the economic field which were included for investigation and appropriate

¹ Reference: United Nations Report of the Mission on Community Organization in South East Asia; H. Belshaw and J. B. Grant; December 1953.

² Source: *The Economic Impact on Under-Developed Societies*, by S. H. Frankel. 1953, Blackwell, page 95.

action in the near future. On the basis of information secured in this "stocktaking", the following recommendations are made for consideration at the planning stage in this projected programme:

(d) New Zealand Reparation Estates (Western Samoa Trust Estates)

On page 46 mention is made of an official proposal to convert the Estates into a statutory corporation under the control of a local Board of Directors. This study emphasizes the important part that the Estates play in the economy of the territory and the need to retain the corporation in full production as a sound commercial enterprise.

In addition to the export trade, the wage income and profits that it yields, the Estates are giving the territory as a whole other benefits from the fund of practical experience, technical knowledge and organizing ability that is available within its organization. The territory is in special need of help that the Estates can give in these ways, for the Samoan producers as a whole are poorly organized in their economic life and generally lacking even elementary knowledge of today's techniques in husbandry and processing. The proposed activities of the Estates in the propagation and distribution of high-yielding cocoa plants (page 18) and the coffee demonstration blocks (page 21) are examples of this developmental work of great potential value. Some of these activities are outside the range of commercial enterprise, and if extended could embarrass the organization as a business concern.

There is a very strong case for maintaining the commercial standing of the Estates at the highest possible level, and an equally strong case to use the resources of the organization to the greatest advantage in developing the territory's economy. It would appear therefore, that a reorganization of the Estates to segregate its commercial activities from its experimental and general welfare functions would enable the Estates to develop along both lines and provide increasing support to the economic welfare of the territory. It is suggested that funds could be regularly allocated from the accumulated profits of the commercial activities of the Estates to some form of development trust for use, under the control of the General Manager, on special projects of general benefit to agriculture in Western Samoa. The type of project favoured could perhaps include:

- (i) The foundation of a co-operatively organized coffee industry among Samoan smallholders with centralized transport and processing facilities.
- (ii) The distribution of Estate-bred cattle for herd improvement purposes. This project would initially reduce the Estate's capacity to provide beef for the local market, but the territory's urgent need for better breeding stock should have a priority claim on the Estate's surplus stock. At the present infant stage of the territory's cattle industry, stock of value for herd improvements should be regarded as "seed corn", even if this policy calls for a temporary increase in imports of "freezer" meats.
- (iii) Experimental work with fertilizers to find ways of maintaining productivity in established cocoa plantations where at present production tends to "fall off" in yield from about 16 cwt. (dry weight) per acre to 6 cwt. to 9 cwt. per acre after the first few years of production (see page 17).

(e) Development of Agriculture

The recommendations of the Gerlach Report summarized on page 67 are supported generally and specifically in the findings of this study. The need to support these research and agricultural extension activities with appropriate processing, marketing and credit facilities and the provision of adequate incentives is emphasized in this survey.

(f) Land Tenure

The investigation of practices and standard of Samoan custom outlined in the first recommendation in this concluding

section (page 63) should pay special attention to the need for an objective examination of land tenure problems. The relevance of land title measures adopted in Maori land development schemes in New Zealand and the Cook Islands should be examined, and consideration should also be given to the establishment of some form of plantation register in Western Samoa to record officially some description of cultivators and cultivations as a restraint on abuse of matais' powers over family land of the kind mentioned on page 58.

(g) Co-operative Societies

Of the various forms of economic organizations, co-operatives provide the widest measure of producer participation on a democratic basis. This feature has special advantage in Western Samoa, where economic development among the mass of the people has not advanced as rapidly as their political capacity and institutions.

This economic survey indicates an important role for village co-operatives in encouraging thrift and the investment of savings in productive enterprise.

In addition to technical knowledge, most Samoan producers need special help in the organization of processing and marketing, the development of incentives, and instruction in business methods. Co-operative organization (integrated with agricultural extension services) lends itself to providing this help in a way well suited to Samoan conditions provided the co-operatives are protected from undesirable interference emanating from persons outside the movement, including persons of privilege and authority in Samoan society. The Co-operative Service of the territory could assist in meeting a special need in the villages by securing and demonstrating equipment designed for small-scale operation, such as small hydro-electric generators, timber milling equipment, rubber-tyred carts for light horses, etc., etc.

(h) Internal Marketing

It is recommended that action be taken to establish a market for locally-grown foodstuffs and handcrafts in Apia under the control of the municipality (when it is established) or the Co-operative Service.

The Suva municipal market and the Sigatoka co-operative market of Fiji provide useful examples of successful enterprise in this field under these alternative forms of organization.

(i) Employment and New Industries

The disadvantages arising from lack of information on employment and wage and salary incomes are indicated on page 37 of this survey. It is recommended that monthly or quarterly returns of employment and wage payments be obtained from all employers for statistical use.

To provide essential information on the extent of seasonal or general under-employment in the territory and the dependence of the village people in different localities on wage incomes, it is recommended the economies of rural and urbanised villages be systematically studied.

Of all the territory's economic resources, a fund of under-employed labour is at present most readily at hand for productive use. Under local leadership, stimulated and assisted by the Government within the framework of a co-ordinated community development programme, village people using their own labour could play an important part in providing many of the amenities and services they require to achieve an appreciable advance in their living standards. By organizing and supporting effective self-help in the village, impressive achievements in economic and social betterment could be expected at relatively little cost to the public revenues.

Notwithstanding the scope in the territory for rapid expansion in agricultural production the prospective increase in population numbers and the urban drift tendencies now firmly established emphasize an urgent need for a realistic employment promotion policy based on official encouragement to local processing, manufacturing and servicing industries.

The initiative of the Reparation Estates in prospecting new industries from time to time deserves the highest commendation. It is recommended that the reopening of the desiccated coconut plant at Mulifanua be examined in the light of its importance in local employment and as a source of wages incomes, and that, if necessary, government support or protection be made available to keep the plant in operation. (See page 26.)

As outlined on page 44, import duty concessions on capital equipment and raw materials, limited tariff protection for local manufactures, depreciation allowances and other taxation concessions should be made available to foster local and external private investment in productive industry.

(j) *Capital Formation*

To offset the main deficiencies in the pattern of investment described in various sections of this survey, it is recommended that the Government assume a positive role in generating a flow of savings and capital formation by measures such as:

- (i) Vigorous extension of producer co-operatives;
- (ii) a fiscal policy designed to step up the rate of "compulsory saving" in form of taxation during periods of high export prices to finance investments in agriculture and other industrial activities on a long-term basis;
- (iii) the extension of savings bank facilities and publicity, including co-operative "Credit Unions" on lines similar to those recently formed in Fiji;
- (iv) the issue and sale of debentures of the Government of Western Samoa to the public, the savings bank, and (within limits) to the commercial bank of the territory;
- (v) external borrowing at an appropriate time as indicated on page 44.

(k) *Credit for Agriculture and Industry*

The recommendations of the Select Committee on Currency

and Banking for the establishment of a combined savings bank, trading bank and central bank in the territory (see page 49) are supported by the findings of the survey. Economic development in Western Samoa will be seriously handicapped in the absence of facilities for medium and long-term rural credit. The provision of this credit requires the development of some new techniques and the support of the Government in providing guarantees, security registration and enforcement, and field and accounting supervision through government agencies such as the agricultural extension and the co-operative services.

(l) *Technicians and Specialist Personnel*

The suggested technical training scheme for Public Works employees (outlined on page 49) provides a practical method of solving some of the problems that the territory now faces in its critical shortage of tradesmen and supervisors.

Any programme for accelerated development in Western Samoa would depend primarily for its success on the training, experience and vision of a group of externally-recruited specialists. Their value to the territory would increase steadily with their knowledge of local conditions, and for that reason special efforts should be made to engage and retain well-qualified technicians for minimum periods of from three to six years, or longer.

During 1953 it was apparent in the Western Samoan Public Service that difficulty was being experienced in both obtaining qualified specialists and technicians and in retaining the services of competent employees in this group for more than a few months. To some extent these problems were general and due to an unsatisfied world demand for the services of specialists with qualifications fitting them for developmental work. There was evidence, however, that the very high rate of turnover in senior specialist and technical appointments was due, in part, to factors within the control of the local administration. Quite apart from the costs of high staff turnover in terms of travelling expenses and unproductive use of employees' time, there were high and unnecessary indirect costs to the territory in the delay and inadequate supervision that were also involved.

REFERENCE LIST OF AUTHORITATIVE REPORTS ON WESTERN SAMOA

1. Reports of the Government of New Zealand on the Administration of the Trust Territory of Western Samoa; annually, 1921-1953, Wellington, Government Printer.
2. *The Population of Western Samoa*, United Nations; Department of Social Affairs, Population Division; January 1948, Lake Success, New York.
3. *Population Census, 1951*, Secretariat to the Government of Western Samoa; 1954.
4. *The Geology of Western Samoa*; J. A. Thomson, April 1921, New Zealand Journal of Science and Technology, Vol. IV, No. 2.
5. *The Soils and Agriculture of Western Samoa*, W. M. Hamilton and L. I. Grange, 1938, New Zealand Department of Scientific and Industrial Research, Wellington.
6. *Forestry in Western Samoa*, Colin Marshall and T. S. Thompson, 1950, Government of Western Samoa.
7. *Food and Agriculture in Western Samoa; 1950 Survey*, New Zealand Department of Agriculture, 1953.
8. *The Agricultural Development of Western Samoa*, J. C. Gerlach, 1952. Unpublished.
9. *Education in Western Samoa*, C. E. Beeby, 1st February, 1954. Government Printer, Wellington.
10. *Labour Conditions in Western Samoa*, H. G. Duncan, 1954. New Zealand Department of Labour and Employment.
11. *National Income of Western Samoa*, A. J. L. Catt, 1954. South Pacific Commission, Nouméa.

Appendix I.

WESTERN SAMOA: FORECAST OF POPULATION

In preparing estimates of future population by ages, the "cohort-survival method" is the one customarily used. This is done by making separate allowances for changes in each of its age cohorts resulting from mortality and immigration. Accurate basic statistics of the population (i.e. sex and age-distribution) are required for the commencing point and it is then necessary to make assumptions for survival rates, birth rates, and net immigration rates for future dates. Before making these assumptions it is necessary to analyse available data on past trends. In making a study of available information for Western Samoa, several serious discrepancies have been noted, and in other respects necessary information does not appear to have been compiled.

- (a) The 1945 census population of Western Samoa was 68,197 and the expected total for the 1951 census (i.e. 1945 census + births + arrivals—(deaths + departures) was 83,023. The actual population enumerated was 84,909, a difference of 1,886. It is not possible to say where this discrepancy occurs; it may be in either or both enumerations, in vital statistics, or in migration statistics.

It should be mentioned that Mr. Rivers, Census Enumerator for Western Samoa, was of the opinion that the collection in 1951 was by no means complete. His own estimate was 100,000, and he was confident that the enumerated population of 83,000 was well out. (The figure of 83,000 was later corrected to 84,909.) While a small degree of under-enumeration seems probable, it is unlikely that it would amount to more than a few hundred at the outside.

- (b) No survivorship tables are available for the country and available information would not permit of estimates being prepared.

- (c) Total numbers of arrivals and departures are available, but not age distribution of them.

In view of the lack of basic data it would be impossible to make an estimate of future population according to age-distribution. Even the scanty data available make a forecast of future total population a hazardous undertaking. However, in view of the demand for this information, figures have been compiled showing estimated future population at 5-year intervals commencing with the 1951 census total. As mentioned previously, this figure is suspect regarding accuracy, but as no check is available, it had to be used without adjustment. No great change in natural increase is contemplated and no allowance has been made for epidemic deaths during the period.

Migration movement in the past has not resulted in a large excess of arrivals or of departures and it is assumed that such conditions will continue, consequently no allowance has been made for this factor. It is probable, of course, that in future years more Western Samoans will migrate to New Zealand. This will depend largely on economic conditions in the territory and in New Zealand.

Date	Estimated Future Population of Western Samoa
Census 25.9.51	84,909
Estimate 31.12.55	97,000
" 31.12.60	114,000
" 31.12.65	134,000
" 31.12.70	157,000
" 31.12.75	184,000

The figures quoted include all races.

G. E. WOOD,
Government Statistician.

Census and Statistics Dept.,
Wellington.

20.7.53

Appendix II.

SUMMARY OF THE GERLACH REPORT ON AGRICULTURE IN WESTERN SAMOA

CHAPTER I

The Samoa Archipelago, situated in the Pacific Ocean between longitudes 168° and 173° West and latitudes 13° and 14°35' South, is divided into Western Samoa, a territory under trusteeship of the New Zealand Government, and American Samoa, under control of the United States of America. Western Samoa, consisting of the islands Savai'i and Upolu and a few smaller islands, covers an area of 1,135 square miles.

Upolu has roughly an elliptical form, Savai'i being broader in shape. The topography of both islands is dominated by volcanic ridges, with peaks 6,097 ft. on Savai'i and about 3,600 ft. on Upolu. The coastline is rather irregular, forming several natural harbours, which are often barred, however, by coral reefs. No good topographical map is avail-

able, but it seems that the American Navy made an aerial survey of Upolu during the last war, while plans for an aerial survey of Savai'i by the New Zealand Government are under discussion.

CHAPTER II

The Samoan Islands are built up over fissures in the ocean floor, where eruptions started in early Tertiary time. In Western Samoa these layers of basaltic lava formed in the course of time the group of islands consisting of Upolu and Savai'i, together with Apolima and Manono, situated in the Apolima Strait between the two bigger islands. Barring a few small tuff-islands off the east coast of Upolu, the parent material consists of different types of basalts, mostly porphyritic and frequently in the form of scoriaceous and vesicular basalts. Upolu appears to be older than Savai'i,

as it is more deeply eroded and there is a greater abundance of water. There have been several eruptions in recent times, but only three are known to have occurred in historic times in Savai'i, resulting in two big lava flows covering several villages and thousands of acres of fertile land.

The soils are originally fertile, brownish yellow to dark brown coloured and quite permeable. As visiting scientists in former years have observed quite a few different soil types, and the soil is of fundamental importance to agriculture, a soil reconnaissance is advocated, as a first step to a complete soil survey later on.

A few problems of interest concerning soils and crops are discussed to underline the importance of good management of the soils. As a result of the high percentage of rocks and boulders, mechanization in tilling the soil is not possible. In planting their crops, the Samoans use a crow-bar or a pointed stick to dig a hole for the young plants or shoots.

Continuous occupation of the land, especially in the more densely-populated areas, has already resulted in poor run-out soils of bad structure. Fortunately a rather large part of Samoa is still covered by forest, so that no great damage has been caused yet by erosion.

CHAPTER III

Samoa, situated in the tropical zone, has a rather pleasant and equable sea-climate, characterized by a wet and a dry season and no great differences between maximum and minimum temperatures. A complete analysis of the climate is not possible, as insufficient data are available. Having regard to the fundamental importance of the climate for agriculture, a wider range of meteorological stations is suggested. Although Samoa is situated in the high rainfall belt in the Pacific Ocean, there are surprisingly great local differences, ranging from 90 to 195 inches. On Upolo the area of high rainfall is concentrated along the main mountain-ridge, whereas the north-west and the far eastern end is much drier. On Savai'i a similar trend is apparent, and we see the influence of the E. and S.E. trade winds and the topography on the distribution of the rain in various areas. A short study on amount, distribution and intensity is given as an example of an analysis for agricultural purposes. Relative humidity is not very high, ranging from 69 to 91%, with an average of 83%. The temperature never exceeds 93° F.; the average ranging between 77.8° and 79.5° F., which is not high for a tropical country.

Other factors like sunshine and winds are mentioned in relation to the agriculture. Fortunately Samoa is out of the hurricane belt, and the islands seem to get a fair amount of bright sunshine.

Seeing the great influence climate has on vegetation, this subject is treated briefly in this chapter. A list is added of plants and trees recognized in the field, of which some may be of value, commercially or otherwise.

CHAPTER IV

The earliest historical records date back to 1722, when the Dutch "Three Ships" expedition under the command of Jacob Roggeveen visited the islands. A closer contact with the population was obtained by the English missionary, John Williams, who landed in 1830 and in a short time converted all the Samoans to Christianity. The islands were under German control from 1899 to 1914, when New Zealand took over the administration at the outbreak of World War I.

In 1919 Samoa was officially mandated to New Zealand, and after World War II the United Nations appointed New Zealand trustee of this country in 1946. The Samoans, like the Maoris, are of Polynesian stock. A study of their characteristics and customs is very interesting, especially as they are a very nice and likeable people, kind and hospitable and extremely polite. The agriculture, the way of living, the vocabulary in the language and other character-

istics lead one to the conclusion that they are still in a rather primitive stage of development, compared to other Polynesian people such as the Malayan, Javanese and Sundanese, who have been in longer and closer contact with Asia and the Western world.

Of the many interesting features in Samoan custom, only a few are mentioned in relation to their influence on agriculture. Although some of them, like the land-tenure, do hamper rapid progress and development, a gradual modification of the custom, eliminating the obstacles, will be preferable to rash changes, which would have the effect of distorting normal growth and adaptation to modern life. The establishment of the Aliesa project with 30-50 acre plots leased to individual planters may be considered as an important step in this direction. The unusually high increase in population, and therefore the increase of the pressure of the population on the land, forms another subject of importance, especially where the Samoan is accustomed to eat great quantities, to the extent of 7,000 calories per day. On the other hand the requirements of clothing and housing are simple, and not much is needed to make the Samoan happy.

CHAPTER V

The fundamental factors for an agricultural development of Western Samoa are in general favourable. The volcanic soil is young and fertile, the climate is equable, with sufficient rainfall, and the people are strong and healthy. A fact, however, is that the agriculture and the standard of living are still of a rather low level. Isolation from higher-developed areas and the lack of an incentive are probably the main causes here. A certain fatalism, characteristic of most Asiatic peoples, and the stage of development are the essential points determining the attitude of the Samoans toward primary production.

In order to make progress in agricultural development we have, therefore, to raise the whole level of their requirements. Progress in one branch of a given activity is proportionate to the progress made in all other branches.

Continuous attempts have been made to educate the Samoans and improve their standard of living. The excellent results in the fields of health and education are a clear proof of that, but for a harmonious growth it will be necessary to pay some more attention to agricultural developments.

The fact that Samoa is an agricultural country, depending practically for its whole existence on agricultural production, underlies this point. The re-establishment of the Department of Agriculture in 1949 is a first proof of the Samoan leaders beginning to see the importance of this fact.

The utilization of the land, the amount of arable land available, and the acreage occupied at present are factors for a good development scheme, as they affect not only the standard of living, but ultimately also the very survival of this rapidly-increasing population.

No exact information on these points is available at the moment. An important step toward a better knowledge of the land use was taken by the New Zealand Department of Agriculture in carrying out an agricultural census of Western Samoa in 1950. As the results have to be verified I would prefer not to draw any conclusions beforehand. This information is of such importance that I suggest the investigation be continued by the Department of Agriculture in Samoa as a part of their working programme during the next few years.

There is not much diversity in the crops, while the system of shifting cultivation still applies in parts of the country, characteristic of the simple form of agriculture.

With the increase of the pressure of population on the land the problem of changing to another system of cultivation becomes more stringent, and as any important changes in an agricultural system require at least a generation to be generally accepted by people in a rather primitive stage of development, it will be advisable to start now. A gradual

change in the system of land tenure is desirable, as the present custom is hampering rural progress and forms a deterrent to private enterprise.

The presence of the European plantations, and especially the New Zealand Reparation Estates, form, with their improved system of crop cultivation, an example for the Samoan peoples. A great number have worked on these plantations and received a certain training in this way. There seems to be great need for expert advice on agricultural matters on the plantations.

CHAPTER VI

In the past not much attention has been paid to food production because there was always sufficient. With the increasing population and food shortages occurring in the densely-populated areas, this subject has gained prominence. The staple food of the Samoans consists of roots from the taro, ta'amu, yams and occasionally the sweet potato. The breadfruit and the banana complete this range of starch-containing foods. Rice, sago and tapioca are known, but are of no importance in the diet.

Before introducing new crops (like rice) we should concentrate first on the available ones and try to improve yield and quality. As no exact information exists on the total food requirements of the Samoans, or on yields and characteristics of the food crops, these points should be investigated. Based on this information, experiments can be carried out to obtain exact data. The first steps along this line have already been made by the Department of Agriculture with a variety trial with six ta'amu varieties. Another important problem, retaining or improving the fertility of the soil, was approached by a manurial experiment laid down in 1951 with imported artificial fertilizers and local available manures. Although the results of these trials are not completely reliable, yet an indication is found that local manures are highly valuable.

Starch-containing food forms the bulk of the Samoan diet, while the animal protein requirements are covered by fish and other sea foods, and occasional beef or pig-meat. The consumption, however, of vegetables and fruit is unusually low and unvaried compared with other Polynesian peoples in Indonesia and Malaya. It would be easy to introduce a whole range of valuable vegetables and fruit, but it is doubtful if the Samoans would like all of them. An investigation of available material seems to be worth while. In co-operation with the Department of Health and Education, doubtless some improvement in this respect could be achieved. In this connection the educational value of the boarding school plantations and the Tafaigata Prison farm is obvious.

A better supply of vegetables and fruit on the town market in Apia is possible and should be encouraged.

CHAPTER VII

The bulk of Samoa's export consists of the products of three cash crops—cacao, coconut and banana.

CACAO: The ecological conditions for cacao are in general favourable, resulting in a high production, while the quality, provided it is kept on a high level, will make it the least vulnerable product of the three on the world market.

In Samoa *Criollo-Forestero* hybrids are planted with a wide variation in habits and production. In this respect the discovery by the General Manager of the New Zealand Reparation Estates of a very high-producing tree (the Lafi No. 7) is extremely important, the more so as this tree seems to be highly resistant to one of the worst diseases affecting cacao, the black pod disease (*Phytophthora palmivora*). A horticulturist of the Department of Agriculture in New Zealand is starting now the vegetative propagation of this important tree, and instructing some local people in this propagation, which is to be carried out on a commercial scale. As a monoclonal plantation would be a hazardous proposition, I suggest that the selection should be continued. There are several promising trees in between the oldest block of

seedlings from the Lafi 7. A few interesting problems concerning shading and planting are discussed, while the most important diseases and pests are mentioned, the most serious one being the black pod disease, causing losses up to 50% of the pods in the wettest months.

Good advisory work has been done by the Department of Agriculture in connection with the preparing of the cacao bean, but it will be some time before the Samoan planter will appreciate the value of a properly-spaced and well-kept plantation. Export figures show an increase in production in the last few years and prices are on a high level. Cocoa as a drink is becoming increasingly popular in Samoa.

COCONUT: The majority of coconut plantations are found in the coastal plains around the islands. As type and production of the trees vary considerably, a simple mass-selection combined with nurseries under the direction of the Department of Agriculture is suggested as a first step in a re-planting scheme. The fruitless attempts in the last decades to eradicate the major pest, the coconut beetle, have made it plain that the appointment of an entomologist in the Department of Agriculture will be the only remaining solution to reduce the great damage done by this tough insect. The copra production is safeguarded, at least for the next six years, by a contract with the British Ministry of Food. As with the cacao, the quality of the copra is under strict control by the Department of Agriculture, supported in this work by Government Ordinances.

BANANA: Of the various types and varieties of bananas occurring in Samoa, the Gross Michel is the more important one, being the export banana. Some interesting features of this crop, which is mostly planted mixed with root crops or cacao, are discussed. The present system of transport and handling does not seem to be satisfactory. For this reason a more scientific approach is suggested to solve this problem; a study of the results achieved in Trinidad and other research stations may show the way for a possible application here. The export of bananas has gone down lately from 128,000 cases in 1946 to 63,000 cases in 1951.

As diversity in production will strengthen the economical position of a country, experiments with other crops are suggested, of which a good range is possible, technically. Keeping in mind the possibilities for marketing, labour, capital investments, etc., this number is to be reduced considerably. Tobacco, coffee, pepper and peanuts seem to be feasible as secondary crops to the main production lines. But none of these sidelines should be encouraged before proper experiments have determined the most suitable varieties, system of cultivation, and processing.

CHAPTER VIII

With a few exceptions, most of the Polynesian people have not much interest in breeding animals on a big scale. Therefore animal industry occupies for the most part only a minor place in the agriculture, contrary to such countries as New Zealand. Animal breeding is certainly possible in the tropics, but the two principal factors which reduce interest in this line of production are the difficulty in finding sufficient good food and the risk of capital losses.

Samoa has about 10,000 head of cattle, the progeny of imported Herefords, Black Angus and Jersey, of which about 9,000 are owned by the N.Z.R.E. and the rest by the missions and some European planters. They are kept for beef production, for milk (about 300 head) and to keep the vegetation down in the coconut plantations. The N.Z.R.E. recently imported some Indian Zebu bulls to improve the resistance of the stock to the conditions. The first calves look well, but it is too early to form an opinion about the results of this interesting experiment. The importation of the Santa Gertrudis breed seems worth while considering.

Up till now no clover variety has been found suitable for a good grass-clover pasture in the tropics, so we have to concentrate on grasses, possibly combined maybe with

some other legumes like Kudzu or Desmodium. In this respect valuable selection work on grasses has been done in Fiji. One of these, the Batiki Blue-grass, was introduced recently by the General Manager of the Reparation Estates for a trial. In conjunction with this experiment, a full set of variety-trials with selected grasses compared with the local carpet grass is recommended, with chemical analysis to determine the food value of the products. Plans for a tuberculin-test of the milk herd of Western Samoa and the cattle of American Samoa by a veterinarian officer from the New Zealand Department of Agriculture are in an advanced stage.

Pig-raising is a production line which is of more interest to the Samoan. Improvement in breed and feeding are possible here. An investigation in this respect is recommended.

The most important source of animal proteins is provided by sea food, consisting of fish, crabs, shellfish and also seaweeds, the bulk of it being caught or collected in the shallow waters within the reef. As, according to information, the amount of fish is decreasing, an investigation is recommended, including the possibility of improving the system of catching and gear.

CHAPTER IX

In a brief historical review the development into the present set-up and work of the Department of Agriculture is explained. The establishment of an Agricultural Board in 1952 was an important step toward agricultural development.

At the moment the main work consists of produce inspection carried out by the Director of Agriculture, assisted by a clerical staff and ten officers (conferring one with the rank of Chief Inspector, one Agricultural Officer and eight Inspectors.) There are a further fourteen District Inspectors chosen and appointed by the district. As these men have no agricultural training at all, and they do not come directly under the control of the Director of Agriculture, we cannot expect this institution to effect any real progress in agricultural work. As produce inspecting and the collecting of trespassers of the various Agricultural Ordinances occupies most of the personnel's time, not much is left for research, advisory and extension work, and control of pests and diseases, etc.

Fundamentally the work of the Department of Agriculture is concerned with the utilization of the land, and its primary task is to develop and improve the use of the land in order to obtain the best yields. The handling of the harvested and saleable product should be left to the commercial bodies. It is suggested, therefore, that the Produce Inspection should be handed over to a Board of Trade and Commerce, which could handle all the produce of Samoa, including copra, cocoa and bananas.

As the present situation is unsatisfactory, a reorganization of the Department of Agriculture and the determination of a clearly-defined agricultural policy is suggested. It is recommended in this respect that Samoa should follow in principle the set-up of the New Zealand Department of Agriculture, which has been successfully applied in other countries.

As it is axiomatic that you must reach the farmer before you can teach him, the right approach to the farmer is essential if you are to gain his faith and awaken his interest in improvements. In this matter the instructor has to keep in mind that the aiga is the unit in Samoan society, so that he should make his approach via the head of the aigas. In order to gain faith it is very important that the advice given is correct. Therefore we have first to ensure by checking experimentally that the advice is correct. The establishment of a Central Experimental Station is therefore necessary, to be followed by smaller sub-stations in areas with different ecological conditions. The next step following the experiments is advisory work and demonstrations in the field

according to the saying, "example is the best teacher"; later on to be followed by competitions, agricultural shows, etc., to encourage application of the improvements.

A suggestion is to increase the scientific staff of the Department of Agriculture by a Director, one Senior Agricultural Officer (Assistant Director) head of the Extension Division, one Agricultural Officer for the Research and Experiment Division, one Agricultural Officer for the Animal Industry and Fishery Division, one Entomologist for the control of Plant Disease and Pests, and one Forestry Officer. This scientific staff of academically-trained officers should be assisted by a group of seven District Field Officers with secondary agricultural school or college training, and technicians to carry out field experiments, etc. Later on two Quarantine Officers should be appointed to be trained in New Zealand.

The Field Officers forming the link between the scientific staff and the farmer should preferably be Samoans or part-Samoans, as they will achieve the best contact with the farmer. It will be difficult to recruit the personnel required in Samoa, but the recommended staff should be the aim.

A tentative working programme is suggested for the next three years, covering the main lines of investigation in crops, animal industry, research and experimental work, advisory work and control of pests and disease.

CHAPTER X

If we realize that Western Samoa depends for its existence on agriculture and that the production per head of the population has not increased since 1920, it will be clear that the establishment of an agricultural education is an urgent matter.

Proposals to that purpose made in former years by the present Director of Agriculture fell through because a certain section of the Samoan leaders did not see the necessity for such an education. Recently a new proposal to meet this lack in the educational system was discussed in a meeting of the Agricultural Board. Although here in New Zealand there is an excellent example of what is required, a similar set-up will probably not be feasible at the moment in Samoa. It is suggested, therefore, that the teaching in the two primary Boys' Schools on Upolu and Savai'i (which accommodate 230 pupils and have only an agricultural bias) should be improved. On the farms attached to these schools a proper investigation system with crop rotation should be introduced under the supervision of the Department of Agriculture. Further, the establishment of a secondary Agricultural School with a three-year course is recommended as the next step to bring the boys up to a level from whence they can apply for positions of Agricultural Field Officers, overseers on a plantation, or to go further with their studies at the Agricultural College shortly to be established in Fiji. Education at this College up to University Entrance standard will enable brilliant boys to reach the highest level of agricultural education.

CHAPTER XI

A few aspects of forestry in relation to the agriculture and economy of the country are discussed in this chapter, with reference to the Forestry Reports of C. Marshall and T. S. Thomson.

The shocks needed in Western Samoa for banana cases have to be imported from New Zealand, increasing again the price of bananas in that country. Fiji, however, produces its own cases at 2/6 per case. Cultivation of quick-growing trees like the *Albizia falcata* is recommended, also *Pinus Merkusii*, which was successful in Sumatra. Experiments to enrich the forests with valuable timber like mahogany and cedar would be worth while. Some seedlings of these varieties are planted out in Vailima.

Possibilities of speeding up the re-forestation of the lava

flows could be investigated to hasten the enlargement of the area of arable land.

The appointment of a Forestry Officer temporarily attached to the Department of Agriculture is recommended.

CHAPTER XII

Considering the vast amount of information on agriculture to be collected and the fact that this year an economic survey of Western Samoa will be started by the South Pacific Commission, I decided to concentrate on the more technical agricultural problems. This, in conjunction with the report on the economic survey, will form a more comprehensive outline of Western Samoa; therefore, a few aspects in direct relation to agriculture or to my recommendations are mentioned.

Although the trade balance of Samoa is favourable, it appears that the production per head has not increased since 1920, so that no actual progress in production has been achieved. There is an indication that food production has

decreased. These facts emphasize the urging of improved agriculture. The necessary re-organisation of the Department of Agriculture for this purpose will require a higher budget allotment than 0.8%. The adequate equipment for well-organized transport and trade is important to an exporting country. Apia Harbour is not ideal, but the aerodromes are quite adequate. Plans for improvement and extension of roads around and across the islands are being carried out at the moment.

To strengthen the total basis of the economy of Samoa it will be worth while encouraging some minor industries which seem to have a good market, such as the plaitwork made of pandanus leaves. Hats, bags, etc., manufactured from this material seem to find a ready market in New Zealand and America.

In conclusion, I would mention the Co-operative Society Ordinance, 1951, as a very important item in the development of Western Samoa.

Appendix III.

PERSONNEL OF PUBLIC SERVICE

The numbers of each section of the community employed in the Public Service in December 1954 are given below. As racial status is not a factor taken into account in making appointments to the Service and no record of status is kept, the inclusion of staff members in the racial divisions, although as accurate as possible, is on an arbitrary basis.

	EUROPEANS NOT DOMICILED IN TERRITORY		DOMICILED IN TERRITORY						SUB-TOTALS		TOTALS
	M.	F.	European		Local European		Samoan		M.	F.	
			M.	F.	M.	F.	M.	F.			
Agriculture	1	—	—	—	—	—	22	—	23	—	23
Broadcasting	2	—	—	—	8	2	3	—	13	2	15
Customs and Harbour	—	—	1	—	9	3	3	2	14	5	19
Health	8	7	—	1	11	3	104	231	123	242	365
Justice and Public Trust	2	—	—	—	3	2	6	—	11	2	13
Lands and Survey	2	—	—	—	4	1	4	—	10	1	11
Police (Clerical)	1	—	—	—	1	1	3	—	5	1	6
Post Office	—	—	—	—	15	1	19	1	34	2	36
Public Service Commissioner	1	—	—	—	—	4	1	1	2	5	7
Public Works	8	—	1	—	26	1	29	2	64	3	67
Radio	4	—	—	—	9	—	19	—	32	—	32
Samoan Affairs	—	—	—	—	2	—	7	—	9	—	9
Secretariat	6	—	1	—	7	7	18	2	32	9	41
Treasury	2	—	1	—	6	3	4	3	13	6	19
New Zealand Reparation											
Estates	2	—	6	—	31	4	22	—	61	4	65
Education*	20	10	—	—	8	21	181	199	209	230	439
TOTALS	60	17	10	1	140	53	445	441	655	512	1,167

NOTE: The figures do not include any employees paid on a daily basis.

* Training College Students, of whom there are 169, are not included.

Appendix IV.

RESOURCE ASSESSMENT IN WESTERN SAMOA

Supplementary notes prepared by Dr. E. M. Ojala, Deputy Chairman of the Research Council, South Pacific Commission, to WESTERN SAMOA—AN ECONOMIC SURVEY, by V. D. Stace, and NATIONAL INCOME OF WESTERN SAMOA, by A. J. L. Catt.

ECONOMIC PROGRESS

It is apparent from the examination made by Mr. Stace in his *Western Samoa—An Economic Survey*, and from the forecast attempted by the New Zealand Government Statistician (which Mr. Stace quotes) that a continuation of the rapid increase of the population of Western Samoa may be expected. The indications available suggest a doubling in about twenty years.

The maintenance in the future of the current levels of consumption and investment per head in Western Samoa would itself be an objective difficult enough to achieve. The rising standards of consumption in the territory set a problem in the production of increased material wealth that would tax the determination, discipline, knowledge and intelligence of any commercial western community enjoying the economic momentum gained by a century of participation in the aftermath of the industrial revolution.

When it is realized that the Samoan people are only on the threshold of their industrial revolution and that some features of their traditional social system discourage economic innovations, the size of the task facing Western Samoa can be better appreciated. The impending attainment of self-government will also place upon the people of Western Samoa the full responsibility for grappling with their truly formidable problem of economic development. It was in the context of its own responsibility as trustee that the New Zealand Government approached the South Pacific Commission for assistance with an economic stocktaking as the first stage of a comprehensive economic survey.

The content of this first stage of the work, as defined by the Research Council (Fourth Meeting, Report, paras. 146-148) and approved by the Commission (Tenth Session, Proceedings, para. 48) did not call for detailed recommendations concerning policy and plans for economic development in the territory. These are being progressively formulated by the Administration in the light of its evaluation of all the relevant factors in the local environment.

What this stage of the survey may be expected to do is: to help in giving the Western Samoa people and leaders an informed appreciation of their overall economic situation; to assess the existing state of technical knowledge of the resources of the territory; and to indicate steps that could be taken to obtain additional information required and to utilize in administrative planning the knowledge becoming available.

By arrangement with Mr. Stace, the present paper has been prepared for consideration by the New Zealand and Western Samoa authorities along with the reports submitted by Mr. Stace and Mr. Catt, with a view to completing the discharge of the terms of reference accepted by the Commission.

EMPLOYMENT

The population of Western Samoa is at present engaged in the following main types of economic activity:

- (a) Subsistence production of root crops and tree crops, fish, pigs, and village buildings and amenities;
- (b) commercial production of agricultural crops for export—cocoa, copra, bananas—and of cattle for internal consumption;

(c) industrial production—processing of cocoa for export; manufacture of bread, soap, furniture, boats, ice, cordials, clothing, plaited ware, and developmental and maintenance construction work;

(d) services—trade, commerce, transportation and public service.

The statistics of employment do not show accurately the industrial distribution of the labour force, but the existing pattern of production is predominantly rural and subsistence. It is to the primary industries—agriculture, forestry and fishing—that Western Samoa must look for the principal initial gains in productivity. The economic stocktaking undertaken by Mr. Stace rightly focusses attention upon the natural resources available for primary industry.

RESOURCES

These resources may be enumerated as:

soils—of different types and of varying fertility, developed under and subject to varying combinations of climatic and topographical factors;

forests—of varying types as regards species, density and maturity and qualifying for different uses;

reefs and lagoons;

pelagic waters.

Acquired resources include:

crops—root crops of different species, varieties and strains; tree crops—strains of cocoa, coconuts, bananas, coffee, breadfruit of great variability;

livestock—cattle, pigs and poultry.

SOILS. Thomson, in *The Geology of Western Samoa* (1921) summarized the observations of earlier geologists on the rocks and mineral resources, and added some observations of his own. Stearn (1947) has also described the geology of the Samoan islands. Hamilton and Grange, in *Soils and Agriculture of Western Samoa* (1938), identified and described the principal soil series on the plantation lands, but made no attempt to define and map the soil types.

FORESTS. Marshall and Thompson reported in *Forestry in Western Samoa* (1950) the results of their reconnaissance survey, describing the natural forests as poor in both quality and quantity of timber, and stating that the timber trees that do exist have not been properly investigated or used. They made recommendations concerning a forest policy and the means for implementing it.

CROPS AND LIVESTOCK. A sample census of agriculture was conducted by the authorities in 1950, resulting in the first estimates of national land use under plantation and village agriculture. More recent and additional data are being prepared by the Department of Agriculture.

Urquhart, in *Cocoa Growing in Western Samoa* (1952) reported "a more promising prospect for increasing the output of cocoa in Samoa than is available in any other cocoa-growing country today." He recommended a survey of cocoa estates to find trees of high-yielding capacity combined with other desirable qualities.

Pieris examined the coconut palms and his report on this crop is expected.

Gerlach reported comprehensively on *Agriculture in Western Samoa* and made recommendations regarding policies and plans for development.

FISHERY INDUSTRIES. There has as yet been no technical survey of fishery resources and possibilities.

SECONDARY INDUSTRIES. Mr. Stace states there can be little doubt about the existence of a large reserve of under-employed people in Samoa, particularly in Upolu. Under conditions of increasing productivity in agriculture, the *sine qua non* of economic progress in Western Samoa, it is both inevitable and desirable that some workers will be released from the necessity to engage in subsistence production and become available to specialize in other types of production. With unsatisfied markets for cocoa, coffee, bananas and other crops, and a satisfactory if more uncertain market for copra, these workers could be absorbed for some years in export agricultural production by bringing new land under cultivation. However, Mr. Stace points out that important disincentives operate to delay land development. Avenues for efficient production in non-agricultural pursuits must be found for an increasing proportion of the labour force.

Increased agricultural output will itself provide needs and opportunities for more non-agricultural employment, e.g. the handling of raw materials for agriculture; transport, processing, and commerce; but attention must soon be focussed upon the resources and possibilities for industrial development.

Given the existence of reliable market demands, internal or external, the important resources in this connexion are cheap raw materials; an adequate supply of cheap power; capital; and facilities for trade training.

Danks, after a short visit in 1953, reported on existing secondary industries in the territory, but there has as yet been no technical survey of industrial resources and possibilities.

SERVICING INDUSTRIES. The demand for these industries and services may be expected to increase with the progressive division of labour associated with more efficient production and the expansion of wants as living standards rise further. Health and education services, transportation, trade, commerce and auxiliary services expand with increases in population and production. Their development may be limited by shortage of professional personnel, trained labour, or finance.

ADDITIONAL TYPES OF INFORMATION REQUIRED

—for a more detailed assessment of resources and possible uses.

The investigators who have examined the various resources have in most cases stated their views regarding the additional information required.

POPULATION AND LABOUR FORCE

The Population Division of the United Nations Department of Social Affairs, after an exhaustive study of the data available, stated in a report on *The Population of Western Samoa* (1948):

- (a) Information is needed about age distribution, family relationships, educational status;

- (b) more comprehensive and more accurate data are needed on fertility and mortality, and

their differences among various racial, economic and social groups and in different geographical sections of the islands.

Some of these deficiencies were partly remedied in the census return of 1951, which provided the first detailed set of statistics relating to the population, including for the first time:

- the distribution by orthodox age groupings;
- the marital status of Samoans, by age groups;
- fertility data;
- literacy data;
- the distribution by occupations.

The results are regarded as useful guides or estimates rather than as completely reliable statistics. The 1951 census represents an extremely valuable beginning, and the results of future censuses on similar lines should be progressively more accurate and refined.

As regards the labour force, the first attempt to obtain statistics of occupations was made during the 1951 census. These efforts did not meet with the degree of success they deserved, for reasons which have been set out in the official documents, and the results are defective in some respects. These defects were such that Duncan, investigating in 1953, was unable to assess the importance of paid workers in the labour force and the population as a whole. Some at least of the defects should be remedied in the next census.

Stace has strongly recommended that regular monthly or quarterly returns of employment should be collected from all employers. Such returns could give a picture of the size and trends of the paid labour force.

LAND AND SOILS

The various qualified investigators have been almost unanimous in voicing the need for the following:

- (a) A ground survey of the territory, and the preparation of an accurate outline map. This work has been commenced;
- (b) an aerial survey and the preparation of aerial mosaics with ground control. An aerial survey has been practically completed, air photographs are available and aerial mosaics will be ready shortly, the work being technically directed by the New Zealand Lands and Survey Department. Further field work is being planned in order to provide adequate ground control. Many additional gains in knowledge can be relatively quickly and cheaply obtained once the aerial mosaics are available to field workers;
- (c) an accurate topographical map. Plans for preparation are well advanced in the above department, and the first sheets should be completed in about one year;
- (d) climate maps;
- (e) vegetation map;
- (f) soil map;
- (g) maps of present and potential land use.

The above items are the essential requirements for adequate resource assessment work in Western Samoa and, as indicated, the necessary steps to obtain some of the data have been initiated by the Administration. Armed with this basic information the people and their authorities can make sounder plans for the use of their resources in the immediate or the more long-term future. In the absence of this information the planning of possible uses of resources which must go on, proceeds more or less in the dark and much waste is likely to occur.

The accuracy of the various types of maps mentioned is limited by the availability and reliability of the specialized data required to complete them. For instance, climate maps are useful only if based on actual records of rainfall, temperature, humidity, sunshine, wind, etc., maintained at well-distributed stations over a long period of years. Gerlach's suggestion in favour of a wider range of meteorological stations in the territory, in view of the fundamental importance of climate in agriculture, is supported.

CROP RESOURCES

Cocoa: Urquhart recommended a survey of the cocoa plant resources so that only the best material would be selected for propagation.

Coconuts: Pieris has drawn attention to the need for a survey of the palm resources to identify the high-yielding trees, so that they alone may be selected to contribute to new plantings. This work has been initiated on the New Zealand Reparation Estates.

Root Crops: Studies of the subsistence root crops are required, so that the most productive of the desired varieties and strains may ultimately become the predominant planting material in general use.

Pasture Species: Gerlach has drawn attention to the need for studies of the available species and strains of pasture grasses and legumes, with a view to improving the feed supply for cattle, as providers of meat and milk.

LIVESTOCK RESOURCES

Well-adapted strains of cattle and pigs survive better, and high-producing animals are more economical converters of feeds into human foods. The demands for animal products as food are likely to increase, so that the significance of improvements in the livestock resources will be heightened in the future. Gerlach recommends an investigation of the livestock industry and its potentialities.

It must be recognized that in some instances outside resources of crops and livestock may be superior to the local resources.

FISHERY RESOURCES

A comprehensive assessment of resources in Western Samoa would certainly involve examination of the fisheries. Attention would have to be paid to

- (a) the resources of the reefs and lagoons, which are limited;
- (b) the resources of the deep seas, which are relatively abundant; the limiting factor is usually equipment and technology—an abundance of fish in the sea hardly constitutes a resource unless the fish can be caught and disposed of to some purpose, under conditions that produce a satisfactory reward for the fisherman;
- (c) the possibilities for pond culture of fish.

Reef and lagoon and pelagic resources can be assessed by recording the catch of different species over a period, in relation to the intensity of the fishing effort.

The assessment of pond culture possibilities involves studying the complex of ecological factors that determine the equilibrium between soil and water conditions and the species of fish to be cultivated.

INDUSTRIAL RESOURCES

No economic survey would be complete without information on the raw materials, power supply and labour market in relation to the needs of secondary industry.

ADDITIONAL TYPES OF INFORMATION REQUIRED FOR NATIONAL INCOME ESTIMATES WITH MINIMUM DETAIL

After a preliminary investigation in Apia, Mr. Catt has concluded: "There is no doubt that the compilation of national income estimates, preferably in the form of social accounts, is possible and highly desirable."

Catt states that for satisfactory estimates the following additional types of information would be required:

- (a) Confidential statistical returns in a suitable form in relation to all enterprises engaged in non-village agriculture, manufacturing and service industries. (Regular returns of employment and wage and salary payments are strongly recommended by Stace);
- (b) factual information on economic aspects of village life (as recommended also by Stace);
- (c) the Western Samoa balance of payments, or a summary of all foreign exchange transactions and transactions with New Zealand. This might involve some additional recording by the Apia Branch of the Bank of New Zealand, and the submission of special returns by private enterprises.

Field work for some months by an economic anthropologist or other suitably-trained person would be required to obtain factual economic information for village communities.

To obtain confidential returns from business enterprises, legislative action might be necessary to establish an agency and provide statutory safeguards, following the normal practice in, say, New Zealand.

WAYS IN WHICH THE ADDITIONAL TYPES OF INFORMATION REQUIRED FOR A MORE DETAILED ASSESSMENT OF RESOURCES AND POSSIBLE USES AND FOR NATIONAL INCOME ESTIMATES MAY BE OBTAINED BY THE ADMINISTRATION: AND THE TECHNICAL ASSISTANCE REQUIRED.

From the viewpoint of the Administration, it seems most important to know where are the vital gaps in knowledge which handicap action by the Administration or by private enterprise directed towards promoting rapid increase in output per person; and what are the most urgent steps that should be taken by the Administration, within its immediate possibilities, to improve the situation. The analysis already made provides a basis for this approach.

Cocoa: New planting of cocoa is going on throughout the territory. A practical programme for identifying the high-grade plant material of cocoa available in the territory and ensuring as far as possible that it is used for all new plantings should be a high priority. The methods are known. The means would consist in strengthening the specialist and other staff of the Department of Agriculture, in accordance with a plan in which the New Zealand Reparation Estates may have a large part. A similar programme in relation to the coconut industry is desirable.

Reconnaissance Soil Survey: This should be the first successor of the aerial survey. The services of a specialist soil survey team will be required for the field work. Capable local staff might be recruited to assist the team, so that the further detailed surveys required of particular areas thereafter could be a routine function of the local Department of Agriculture. When the areas of fertile soils have been identified, new roads can be routed through them or new planting directed to them, so that high returns per mile of roading, per acre of land and per labour unit can be gained.

Land Use Survey: There are two approaches, statistical and mapping, which can be followed simultaneously with advantage:

- (a) Maps of current land use;

- (b) maps of potential land use;
- (c) statistics of current land use.

As regards statistics, the good beginning made in the 1950 sample census of agriculture should be followed up by further enumerations and sample surveys with limited objectives, so that the results are constantly being refined and improved in coverage and reliability. A second sample agricultural census of the territory might be planned to coincide with the next population census. The advice of a statistician would be required in Western Samoa at the planning stage and during the sampling, but no further outside assistance should be needed.

For the preparation of maps of current land use the essential raw materials are aerial mosaics, and topographical maps and vegetation maps which may also have been drawn with the aid of mosaics. The classification of land uses is by no means a straight-forward matter, and if such a classification is to be used administratively the viewpoints of the Departments of Agriculture, Forests, Public Works, Samoan Affairs, and Lands should be served. The collection and organization of basic data might well be handled by geographical research workers co-operating with the Administration, if the Departments are not staffed for this work.

It is a very wide step from current to potential land use, but it should be attempted to provide a basis for administrative plans and action. To attempt to take this step without basic data on geology, topography, vegetation, climate and soils, interpreted by specialists in agriculture, forestry and water resources would be unwise. In any case, however, the pattern of potential land use arrived at will not be final, but will be subject to changes, as further knowledge is progressively gained about the resources themselves and the techniques for utilizing them most effectively, and as economic and social pressures grow in the community. A picture of potential land use, provided it is based in all respects on adequate technical knowledge, could be a very important aid in intelligent planning for the optimum use of land in Western Samoa.

Forestry: The reconnaissance survey of forest resources having been completed, the next stage is the permanent engagement by the Administration of a qualified forester. He is required to give local technical advice to the authorities concerning the initiation and administration of a policy of forest management, including forest reserves; to continue the study of the forest resources and their possible use; to promote sound and efficient utilization; to advise on the introduction of new species for timber purposes and to train local staff for forestry work. With agriculture encroaching steadily upon forest lands to meet the food and cash needs of the rapidly-expanding population, and with the ever-extending search for water resources for present and future needs, considerable urgency now attaches to this additional appointment to the public service. If a suitably qualified officer cannot be located for permanent engagement, the possibility of secondment should be explored.

Agriculture: It would be gratuitous to add to the full report and detailed recommendations made by Gerlach in relation to agricultural policy and development, and supported by Stace. Agricultural extension work is the urgent need, but in many parts of the agricultural economy the research basis for extension work is lacking.

The contribution of a Department of Agriculture to resources, knowledge, and utilization lies in:

- (a) Evaluation of the existing crop and livestock resources for both subsistence and commerce, by experimentation, including management studies;
- (b) the controlled introduction and testing of economic plants and livestock from outside, with a view to augmenting the local resources;

- (c) the evaluation of the various soil types and agricultural regions of the territory for the production of various species, varieties and strains of crops, and for the development of various farming systems;
- (d) the protection of agricultural resources, by research and control campaigns, against attacks by pests, diseases and weeds.

The expansion of the Department's contribution, along these and other lines, is urgently needed. It should be met by the engagement of additional regular staff with the necessary qualifications.

The efforts of the Department to obtain a more complete and reliable statistical picture of the trends in agricultural production and land use should be developed and assisted.

Fisheries: An expert reconnaissance survey of the fisheries of the territory is required, so that the case for administrative action can be examined in the light of a technical appraisal. A short visit by a fisheries expert with experience of tropical fisheries would probably suffice in the first instance.

Mineral Resources: The reports of the geologists do not encourage the expenditure of large funds on a search for commercial minerals.

Industrial Development: The expansion of secondary industry is inevitable and desirable in Western Samoa. The experience with industrial development in South Pacific territories is marked with many instances of disappointment and waste of effort and resources. The causes of failure do not as a rule include lack of enterprise, but lack of capital, guidance, cheap power, or schemes for training workers. There is a role for Administrations to assist in various ways with these difficulties and without such assistance the failures are more frequent, especially in the early stages of industrial development. In Western Samoa the stage may soon be reached when government needs to provide regular guidance for industry.

It is apparent that an increasing amount of technical and statistical data about individual resources is becoming available to the Administration of Western Samoa. The task of assessing the data in the light of the functioning of the whole economy, with a view to formulating policy and objectives, thereby becomes more complicated. If the right kind of technical assistance is not available to the Administration at this final stage, less than full value is obtained from the increasingly detailed knowledge about individual industries and sectors of the economy. Two ways in which the Administration might be assisted in this respect relate to land policy and to national income estimation.

Land Policy: The build-up of technical and quantitative information about land in its various aspects, the anticipation of future needs and possibilities and the formulation of plans take place in several departments of the Administration. In addition at least one outside research institution will be examining and reporting on land use in the territory. Data about soils, climate, topography, vegetation, and about uses or possible uses for water reserves, forestry, agriculture, pond culture of fish or public purposes will be accumulating. The formulation and co-ordination of Administration policy in relation to land use is no doubt a function of the central secretariat, and increasing attention will need to be given to it. The assistance of a specially-constituted land-use committee may be found necessary. A close and constant technical liaison with the Lands and Survey Department of New Zealand would be of great value to the territory in this connexion.

National Income Estimation: One of the best modern instruments for aiding economic policy-making is the national income estimate, which gives overall perspective in the form of relative magnitudes and inter-relationships. A reasonably

accurate national income estimate is the end result of much building-up and refining of individual series of statistics. This basic process has been going on in Western Samoa for many years, to the point where Catt has been able to indicate the remaining gaps in information and how they can be filled. If an estimate of high reliability is desired by the Administration along the lines recommended, it might be more convenient to plan it in conjunction with the next population census. Outside assistance would be required to the extent of a national income statistician for planning and supervision, and a suitably-trained person such as an economic anthropologist for a field study of village economy. The latter could be dispensed with if the estimate were planned to

ignore subsistence income, but this would not be desirable.

Ultimately, however, the aim should be for the Administration to provide this service for itself on a continuous basis. This would involve strengthening the existing central statistical service by appointing a full-time statistician and taking the necessary legislative authority to obtain the required returns with full safeguards for confidential data. A statistical officer should be made responsible for safeguarding individual data, even from other government departments. No modern state can adequately discharge its responsibilities to its members without an adequate service of statistics to inform its policy decisions.